ĐẠI HỌC QUỐC GIA
THÀNH PHỐ HỒ CHÍ MINH
TRƯỜNG ĐẠI HỌC QUỐC TẾ

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập – Tự do – Hạnh phúc

CHƯƠNG TRÌNH ĐÀO TẠO KHÓA 2024 – NGÀNH QUẢN LÝ XÂY DỰNG TRÌNH ĐỘ ĐẠI HỌC

(Kèm theo Quyết định số /QĐ-ĐHQT ngày tháng năm 2024 của Hiệu trưởng trường Đại học Quốc tế)

1. Thông tin chung

- Tên ngành đào tạo:
+ Tiếng Việt: Quản lý Xây dựng
+ Tiếng Anh: Construction Management
- Mã ngành đào tạo: 7580302
- Trình độ đào tạo: Đại học
- Loại hình đào tạo: Chính qui
- Thời gian đào tạo: 4,5 năm
- Tên văn bằng sau khi tốt nghiệp:
+ Tiếng Việt: Kỹ sư Quản lý Xây dựng
+ Tiếng Anh: Engineer in Construction Management
- Nơi đào tạo: Trường Đại học Quốc tế, Đại học Quốc gia TP. HCM

2. Thông tin tuyển sinh và kế hoạch đào tạo

a) Đối tượng tuyển sinh

Đối tượng tuyển sinh căn cứ theo quy chế tuyển sinh đại học của Bộ Giáo dục và Đào tạo và Đề án tuyển sinh hàng năm của Đại học Quốc gia TP.HCM và Đề án tuyển sinh của trường Đại học Quốc tế.

b) Hình thức tuyển sinh

Trường Đại học Quốc tế thực hiện tuyển sinh theo Quy chế tuyển sinh Đại học ban hành hàng năm bởi Bộ Giáo dục và Đào tạo, căn cứ theo Đề án tuyển sinh hàng năm của Đại học Quốc gia TP.HCM và Đề án tuyển sinh của trường Đại học Quốc tế.

c) Tổ hợp môn xét tuyển: A00, A01, D01, D07

d) Dự kiến chỉ tiêu tuyển sinh, quy mô đào tạo

Bảng 1. Dự kiến chỉ tiêu tuyển sinh và quy mô đào tạo

Năm	2021	2022	2023	2024	Từ 2025 trở đi
Tuyển sinh mới	40	40	50	50	50
Quy mô đào tạo	40	80	130	180	230

3. Mục tiêu đào tạo

a) Mục tiêu chung

- Đào tạo nguồn nhân lực có các kiến thức cơ bản vững chắc về khoa học, kỹ thuật và quản lý trong lĩnh vực xây dựng hiện đại; có khả năng vận dụng sáng tạo các kiến thức chuyên ngành để giải quyết các vấn đề đa dạng trong lĩnh vực hoạt động của nghề nghiệp.

- Người học có khả năng nắm bắt rõ các vấn đề về môi trường, xã hội, kinh tế, an ninh và luật pháp ảnh hưởng đến quyết định và đạo đức nghề nghiệp. Có phẩm chất chính trị tốt, sống và làm việc tuân theo các quy định của pháp luật nhà nước Việt Nam.

- Người học được trang bị các kỹ năng mềm cần thiết: khả năng làm việc nhóm, khả năng giải quyết vấn đề, khả năng thuyết trình, khả năng lãnh đạo và kỹ năng quản lý. Đặc biệt người học có khả năng giao tiếp và làm việc chuyên môn bằng tiếng Anh trong môi trường trong và ngoài nước.

- Người học nhận thức và hiểu rõ tầm quan trọng của việc không ngừng học tập, trau dồi bản thân và khả năng tự học tập trong suốt quá trình làm việc sau này.

Bảng 2. Sự phù hợp của mục tiêu đào tạo với Tầm nhìn, sứ mạng và Mục tiêu giáo dục của Luật giáo dục đại học.

Mục tiêu đào tạo của CTĐT	**Tầm nhìn**	**Sứ mạng**	**Luật giáo dục**
MT1: Đào tạo nguồn nhân lực có chất lượng cao	*Đại học Quốc tế trở thành một trường đại học định hướng nghiên cứu hàng đầu tại Việt Nam; là cơ sở **đào tạo** nhận được sự hợp tác **tin cậy** của các đối tác giáo dục và nghiên cứu khoa học có **uy tín** trên thế giới, của doanh nghiệp, các địa phương và xã hội ở Việt Nam.*	*Đào tạo ra những **kỹ sư quản lý xây dựng có phẩm chất, kỹ thuật và đạo đức tốt** để phục vụ xã hội và đất nước.*	*Theo điều 2, Luật giáo dục "**phát triển nguồn nhân lực**, bồi dưỡng nhân tài, đáp ứng yêu cầu của sự nghiệp xây dựn"*
MT2: Nhận thức và phẩm chất đạo đức nghề nghiệp		*Đào tạo ra những kỹ sư quản lý xây dựng có **phẩm chất đạo đức** để phụng sự xã hội và đất nước.*	*Theo điều 2, Luật giáo dục "có **đạo đức**, **tri thức**, văn hóa, sức khỏe, thẩm mỹ và nghề nghiệp"*
MT3: Kỹ năng mềm trong công việc		*Cung cấp **kỹ năng và kiến thức nâng cao** về nghiên cứu và quản lý dự án xây dựng cho sinh viên đại học*	*Theo điều 2, Luật giáo dục "**phát triển toàn diện con người** Việt Nam có đạo đức, tri thức, văn hóa, sức khỏe, thẩm mỹ và nghề nghiệp"*
MT4: Nhận thức việc tự học tập và nghiên cứu		*Để thúc đẩy **tư duy sáng tạo và độc đáo** trong tâm trí của các kỹ sư để đối mặt với những thách thức của tương lai.*	*Theo điều 2, Luật giáo dục "phát huy **tiềm năng, khả năng sáng tạo của mỗi cá nhân"***

a) Mục tiêu cụ thể (Program Objectives - POs)

Mục tiêu cụ thể của CTĐT được xác định từ mục tiêu chung, bao gồm 09 mục tiêu, trong đó có 03 mục tiêu về kiến thức, 04 mục tiêu về kỹ năng và 02 mục tiêu về tự chủ và trách nhiệm, được trình bày như sau:

Kiến thức:

- **PO1:** Có kiến thức cơ bản về các vấn đề kỹ thuật – công nghệ liên quan đến xây dựng: cơ học kỹ thuật, sức bền vật liệu, cơ học đất và nền móng, kết cấu công trình, và các kỹ thuật đo đạc, thí nghiệm, phân tích và tổng hợp số liệu phục vụ cho công tác thiết kế, quản lý triển khai các dự án xây dựng.

- **PO2:** Có kiến thức rộng về các vấn đề liên quan đến việc quản lý doanh nghiệp xây dựng và chuyển đổi số trong xây dựng. Người học được trang bị những kiến thức chuyên môn phù hợp, sát với thực tế sẵn sàng đảm nhiệm công tác tổ chức và điều hành hoạt động xây dựng.

- **PO3:** Được trang bị những kiến thức về việc lập kế hoạch, tổ chức thực hiện, kiểm soát và kiểm tra quá trình thực hiện dự án xây dựng. Đánh giá được các hiệu quả kinh tế, tài chính, xã hội của dự án xây dựng. Nhận diện được các vấn đề nảy sinh và đưa ra các quyết định phù hợp trong suốt quá trình quản lý và thực hiện dự án xây dựng.

Kỹ năng:

- **PO5:** Kỹ năng đánh giá tác động của dự án xây dựng đối với môi trường, kinh tế, xã hội.

- **PO6:** Được trang bị những kỹ năng trong việc lập, triển khai và quản lý dự án đầu tư xây dựng công trình. Được trang bị các kỹ năng ra quyết định để có thể đưa ra các quyết định và giải pháp độc lập, logic, thể hiện tư duy phản biện, và phù hợp liên quan đến đảm bảo tiến độ, chất lượng và tài chính trong từng giai đoạn thực hiện dự án.

- **PO7:** Có khả năng giao tiếp và giải quyết các vấn đề chuyên môn bằng tiếng Anh (ở mức độ thành thạo)

- **PO8:** Có khả năng làm việc nhóm, sẵn sàng hợp tác, hỗ trợ, và giúp đỡ đồng nghiệp.

Tự chủ và trách nhiệm

- **PO4:** Có phẩm chất chính trị, đạo đức nghề nghiệp, hiểu biết đúng đắn về đường lối, chính sách của Đảng và Nhà nước; có sức khỏe tốt và có những kỹ năng làm việc tốt trong môi trường xây dựng

- **PO9:** Có năng lực độc lập suy nghĩ, sáng tạo trong các hoạt động nghề nghiệp; có khả năng tự học nâng cao trình độ, tham gia nghiên cứu khoa học, ứng dụng công nghệ mới vào thực tiễn.

4. Chuẩn đầu ra của chương trình đào tạo (Program Learning Outcomes – PLOs)

Sau khi tốt nghiệp chương trình đào tạo, kỹ sư Quản lý Xây dựng đạt được những chuẩn đầu ra (CĐR) như sau:

- **CĐR1**: Hiểu và vận dụng được kiến thức tự nhiên và khoa học xã hội trong việc tiếp thu, lý giải và áp dụng kiến thức, phương pháp trong lĩnh vực Quản lý Xây dựng.

- **CĐR2**: Hiểu và vận dụng được kiến thức cơ bản về quản lý kinh tế và chuyển đổi số trong xây dựng trong thu thập dữ liệu, việc thống kê, phân tích và lý giải các mô hình quản lý xây dựng cũng như các tác động kinh tế qua lại.

- **CĐR3**: Hiểu và vận dụng được các mô hình toán học, phương pháp giải quyết các vấn đề, công việc liên quan đến kỹ thuật và kinh tế, kiến thức chuyên ngành quản lý xây dựng trong việc giải quyết các vấn đề chuyên môn khác nhau của dự án xây dựng.

- **CĐR4**: Hiểu rõ quy trình lập và thẩm định dự án đầu tư xây dựng. Sử dụng thành thạo các kỹ thuật mô phỏng, tối ưu hóa mô hình tài chính, phân tích kinh tế, xã hội trong việc đánh giá, thẩm định các phương án khả thi của dự án đầu tư xây dựng; thực hiện lược khảo nghiên cứu, thu thập và diễn dịch dữ liệu dựa trên các phương pháp nghiên cứu khoa học.

- **CĐR5**: Nắm vững các phương pháp và kỹ thuật trong việc quản lý dự án xây dựng; và khả năng nghiên cứu áp dụng lý thuyết, kết quả mới vào thực tế. Sử dụng tốt các kỹ năng chuyên môn trong việc lập kế hoạch, quản lý chi phí, tiến độ, chất lượng và hợp đồng dự án xây dựng cũng như ứng dụng trí tuệ nhân tạo và hệ thống thông tin công trình để cải tiến kết quả thực hiện quản lý dự án.

- **CĐR6**: Nắm vững kỹ năng nhận dạng, phân tích, đánh giá vấn đề cũng như khả năng tư duy độc lập, logic, phản biện trong việc tìm kiếm giải pháp dưới góc độ tổng thể và tích hợp liên ngành. Bên cạnh đó phát huy khả năng lãnh đạo, phối hợp công việc và kỹ năng làm việc nhóm trong môi trường liên ngành, đa văn hóa.

- **CĐR7**: Am hiểu các kỹ thuật và kỹ năng giao tiếp hiệu quả và chủ động làm việc độc lập hoặc làm việc nhóm cũng như hiểu rõ trách nhiệm của lãnh đạo.

- **CĐR8** Thể hiện tốt khả năng hòa nhập môi trường quốc tế thông qua khả năng am hiểu và giao tiếp bằng tiếng Anh chuyên ngành Quản lý Xây dựng trong công việc bằng các hình thức văn bản, trình bày, thuyết trình cũng như thiết lập các mối quan hệ trong lĩnh vực chuyên môn và liên ngành.

- **CĐR9**: Xác định được các giới hạn, chuẩn mực đạo đức trong hoạt động nghề nghiệp và ứng xử phù hợp với trách nhiệm nghề nghiệp của một người hành nghề xây dựng; và hiểu được tác động của việc ra quyết định tới xã hội.

- **CĐR10**: Xây dựng được ý thức tự học tập, nghiên cứu nâng cao trình độ cũng như chủ động trong việc xây dựng mục tiêu cá nhân, lộ trình phát triển nghề nghiệp trong tương lai và lập kế hoạch thực hiện.

Cụ thể mỗi chuẩn đầu ra bao gồm những tiêu chí nhỏ và được đo lường thể hiện tại Bảng số 3.

Bảng 3. Nội dung chuẩn đầu ra chương trình đào tạo

Tiêu chí	NỘI DUNG CHUẨN ĐẦU RA	Chương trình CLC
1	**Khối kiến thức giáo dục đại cương, cơ sở ngành và chuyên ngành Quản lý Xây dựng**	
1.1	**Kiến thức chung về khoa học tự nhiên- xã hội (PLO1)**	
1.1.1	Hệ thống hóa được kiến thức nền tảng về khoa học tự nhiên và khoa học xã hội	4,0
1.1.2	Liên hệ kiến thức khoa học tự nhiên và khoa học xã hội trong việc lý giải kiến thức chung và kiến thức chuyên ngành Quản lý Xây dựng	4,0
1.1.3	Vận dụng được những kiến thức khoa học cơ bản, công nghệ vào việc tiếp thu và áp dụng kiến thức chuyên ngành Quản lý Xây dựng	4,0
1.2	**Kiến thức cơ bản về quản lý kinh tế (PLO2)**	
1.2.1	Hiểu biết các vấn đề quản lý kinh tế cơ bản và chuyển đổi số trong xây dựng	4,0
1.2.2	Hiểu biết và vận dụng được các công cụ thống kê (bao gồm thu thập dữ liệu) và hiểu được tầm quan trọng trong việc sử dụng thống kê trong kinh tế học nói chung	4,0
1.2.3	Hiểu biết các mô hình quản lý trong doanh nghiệp xây dựng cũng như các tác động kinh tế qua lại tới quản lý	4,0
1.3	**Kiến thức chuyên ngành Quản lý Xây dựng (PLO3)**	
1.3.1	Vận dụng được các công cụ toán học phục vụ giải quyết các bài toán liên quan đến Quản lý Xây dựng.	4,0
1.3.2	Hiểu biết các phương pháp giải quyết các vấn đề liên quan đến việc quản lý kinh tế, tài chính, nhân sự, lãnh đạo, và khả năng phối hợp tổ chức nhằm phục vụ công tác Quản lý Xây dựng.	4,5
1.3.3	Hiểu biết các phương pháp lập kế hoạch, tổ chức thực hiện, kiểm soát và kiểm tra các hoạt động xây dựng, nhận diện được các vấn	4,5

Tiêu chí	NỘI DUNG CHUẨN ĐẦU RA	Chương trình CLC
	để nảy sinh và đưa ra các quyết định phù hợp trong các hoạt động xây dựng.	
1.3.4	Được trang bị các kiến thức đánh giá hiệu quả kinh tế, tài chính, xã hội của dự án; nhận thức đầy đủ về tác động của dự án đối với môi trường, kinh tế và xã hội.	4,5
1.3.5	Được trang bị các kiến thức về tính toán khối lượng, chi phí, lập tiến độ, triển khai đấu thầu, soạn thảo hợp đồng, và quản lý chất lượng dự án	4,5
2	**Kỹ năng chuyên môn về Quản lý Xây dựng**	
2.1	**Kỹ năng lập và thẩm định dự án (PLO4)**	
2.1.1	Kỹ năng xác định mục tiêu, quy mô, sự cần thiết phải đầu tư dự án, căn cứ pháp lý của dự án	4,5
2.1.2	Kỹ năng phân tích, mô phỏng mô hình tài chính nhằm đánh giá hiệu quả kinh tế, tài chính, xã hội của dự án	5,0
2.2	**Kỹ năng quản lý dự án (PLO5)**	
2.2.1	Nghiên cứu áp dụng lý thuyết và kết quả mới vào thực tế dự án xây dựng triển khai.	4,5
2.2.2	Kỹ năng xác định và quản lý khối lượng và chất lượng và chi phí	4,5
2.2.3	Kỹ năng lập và quản lý tiến độ	4,5
2.2.3	Kỹ năng đàm phán và quản lý hợp đồng	4,5
3	**Kỹ năng mềm**	
3.1	**Làm việc nhóm (PLO6)**	
3.1.1	Kỹ năng đặt vấn đề, đánh giá và phân tích vấn đề dưới góc độ tổng thể và tích hợp liên ngành	4,5
3.1.2	Có khả năng làm việc độc lập với tư duy logic, sáng tạo, và phản biện	4,5

Tiêu chí	NỘI DUNG CHUẨN ĐẦU RA	Chương trình CLC
3.1.3	Có khả năng phối hợp công việc và phát huy kỹ năng làm việc nhóm trong môi trường liên ngành, đa văn hóa	4,5
3.2	**Giao tiếp trong công việc (PLO7)**	
3.2.1	Am hiểu kỹ năng giao tiếp bằng văn bản	4,5
3.2.2	Thành thạo kỹ năng thuyết trình	4,5
3.2.3	Kỹ năng trình bày trước đám đông trong những tình huống thực tế khác nhau	5,0
3.2.4	Có khả năng thiết lập các quan hệ nghề nghiệp trong môi trường làm việc liên ngành và đa văn hóa	4,5
3.3	**Kỹ năng ngoại ngữ (PLO8)**	
3.3.1	Nghe, nói, đọc và viết ngoại ngữ tốt (tiếng Anh IELTS 5.5 hoặc tương đương) trong môi trường quốc tế	5,0
3.3.2	Trình bày, sử dụng được tiếng Anh chuyên ngành Quản lý Xây dựng	5,0
4	**Thái độ cá nhân và đạo đức nghề nghiệp**	
4.1	**Đạo đức nghề nghiệp (PLO9)**	
4.1.1	Xác định được các giới hạn, chuẩn mực đạo đức trong hoạt động nghề nghiệp; và nhận thức được tác động của quyết định nghề nghiệp tới môi trường xung quanh	4,5
4.1.2	Ứng xử phù hợp với trách nhiệm nghề nghiệp của một người hành nghề xây dựng, đóng góp vào việc giữ gìn các chuẩn mực đạo đức trong lĩnh vực xây dựng	4,5
4.2	**Khả năng học tập và nâng cao trình độ sau khi ra trường (PLO10)**	
4.2.1	Tự ý thức học tập và nghiên cứu nâng cao trình độ.	4,5
4.2.2	Xây dựng mục tiêu cá nhân đối với việc phát triển nghề nghiệp trong tương lai và lộ trình, kế hoạch thực hiện mục tiêu đó một cách độc lập và tự giác	4,5

Tiêu chí	NỘI DUNG CHUẨN ĐẦU RA	Chương trình CLC
4.2.3	Thực hiện các công trình nghiên cứu khoa học liên quan đến chuyên ngành Quản lý xây dựng	4,5

Các chuẩn đầu ra được đo bằng thang đo Bloom hiệu chỉnh gồm sáu cấp độ: Nhớ (1) - Hiểu (2) – Vận dụng (3) – Phân tích (4) – Đánh giá (5) – Sáng tạo (6). Các chuẩn đầu ra ở mức 4.5 nằm ở vị thế trung gian giữa mức Phân tích và Đánh giá, hàm ý là người học có khả năng phân tích nhưng nhưng chưa đạt tới mức độ toàn diện để làm cơ sở cho hoạt động đánh giá.

5. Ma trận giữa mục tiêu đào tạo và chuẩn đầu ra

Bảng 4. Mối quan hệ giữa CĐR của CTĐT và mục tiêu đào tạo

Mục tiêu (PO) với Chuẩn đầu ra (PLO)		PO 01	PO 02	PO 03	PO 04	PO 05	PO 06	PO 07	PO 08	PO 09
Khối kiến thức giáo dục đại cương, cơ sở ngành và chuyên ngành Quản lý Xây dựng	PLO1	x	x		x					
	PLO2		x	x	x					
	PLO3			x	x	x	x			
Kỹ năng chuyên môn về Quản lý Xây dựng	PLO4			x		x	x	x	x	
	PLO5						x	x	x	x
Kỹ năng mềm trong công việc	PLO6							x	x	
	PLO7							x		
	PLO8								x	
Thái độ cá nhân và đạo đức nghề nghiệp	PLO9				x					x
	PLO10									x

6. Quy trình đào tạo, điều kiện tốt nghiệp

Căn cứ Quyết định số 1342/QĐ-ĐHQG ngày 30 tháng 9 năm 2022 của Giám đốc Đại học Quốc gia Thành phố Hồ Chí Minh về việc ban hành Quy chế đào tạo trình độ đại học.

Căn cứ Quyết định số 719/QĐ-ĐHQT ngày 06 tháng 12 năm 2021 của Hiệu trưởng trường Đại học Quốc tế về việc ban hành Quy chế đào tạo trình độ đại học theo hệ thống tín chỉ tại trường Đại học Quốc tế.

7. Thang điểm (theo thang điểm chính thức của trường)

Trường quy định thang điểm đánh giá kết quả học tập của người học (Quy chế đào tạo trình độ đại học theo hệ thống tín chỉ tại trường Đại học Quốc tế)

Bảng 5: Thang điểm

Xếp loại	Thang điểm 100	Điểm chữ	Thang điểm 4
Xuất sắc	Từ 90 đến 100	A+	4,0
Giỏi	Từ 80 đến cận 90	A	3,5
Khá	Từ 70 đến cận 80	B+	3,0
Trung bình khá	Từ 60 đến cận 70	B	2,5
Trung bình	Từ 50 đến cận 60	C	2,0
Yếu	Từ 40 đến cận 50	D+	1,5
Kém	Từ 30 đến cận 40	D	1,0
	Dưới 30	F	0,0

8. Khối lượng kiến thức toàn khóa

Tổng số tín chỉ: 150 tín chỉ, trong đó phân bổ kiến thức như Bảng 6 (không bao gồm giáo dục thể chất và giáo dục quốc phòng):

Bảng 6. Cấu trúc chương trình đào tạo

TT	Các khối kiến thức	Số tín chỉ
I	**Khối kiến thức giáo dục đại cương**	**47 (31,3%)**
	Các môn lý luận chính trị	11
	Khoa học tự nhiên	13
	Khoa học xã hội và nhân văn, quản trị và kinh tế	15
	Ngoại ngữ	8
	Giáo dục thể chất	0
	Giáo dục quốc phòng	0
II	**Khối kiến thức giáo dục chuyên ngành**	**90 (60,0%)**
	Cơ sở ngành	42
	Chuyên ngành - Bắt buộc: 27 tín chỉ - Tự chọn: 18 tín chỉ	45

	Kiến thức bổ trợ	3
V	**Thực tập, khóa luận/luận văn tốt nghiệp**	**13 (8,7%)**
	Tổng cộng	**150**

9. Nội dung chương trình đào tạo

Bảng 7. Các môn học thuộc CTĐT

STT	Mã MH	Tên MH		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Phòng TN
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
I	**Kiến thức giáo dục đại cương**				**44**			
1	PE015IU	Triết học Mác-Lênin	Philosophy of Marxism and Leninism	Bắt buộc	3	3	0	
2	PE016IU	Kinh tế chính trị Mác-Lênin	Political Economics of Marxism and Leninism	Bắt buộc	2	2	0	
3	PE017IU	Chủ nghĩa xã hội khoa học	Scientific Socialism	Bắt buộc	2	2	0	
4	PE018IU	Lịch sử Đảng Cộng sản Việt Nam	History of Vietnamese Communist Party	Bắt buộc	2	2	0	
5	PE019IU	Tư tưởng Hồ Chí Minh	Ho Chi Minh's Thoughts	Bắt buộc	2	2	0	
6	MA001IU	Toán 1	Calculus 1	Bắt buộc	4	4	0	
7	MA003IU	Toán 2	Calculus 2	Bắt buộc	4	4	0	
8	PH013IU	Vật lý 1	Physics 1	Bắt buộc	2	2	0	
9	BA080IU	Thống kê kinh doanh	Statistics for Business	Bắt buộc	3	3	0	
10	PE021IU	Pháp luật đại cương	General Law	Bắt buộc	3	3	0	

STT	Mã MH	Tên MH		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Phòng TN
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
11	CM309IU	Kinh tế Xây dựng	Construction Economics	Bắt buộc	3	3	0	
12	BA003IU	Nguyên lý Marketing	Principles of Marketing	Bắt buộc	3	3	0	
13	PE022IU	Đạo đức nghề nghiệp và tư duy phản biện	Engineering Ethics and Critical thinking	Bắt buộc	3	3	0	
14	EN007IU	Tiếng Anh chuyên ngành 1 (kỹ năng viết)	Writing AE1	Bắt buộc	2	2	0	
15	EN008IU	Tiếng Anh chuyên ngành 1 (kỹ năng nghe)	Listening AE1	Bắt buộc	2	2	0	
16	EN011IU	Tiếng Anh chuyên ngành 2 (kỹ năng viết)	Writing AE2	Bắt buộc	2	2	0	
17	EN012IU	Tiếng Anh chuyên ngành 2 (kỹ năng nói)	Speaking AE2	Bắt buộc	2	2	0	
II	**Kiến thức giáo dục chuyên nghiệp**							
A	**Kiến thức cơ sở *khối ngành và nhóm ngành***				**47**			
18	CE105IU	Cơ kỹ thuật và sức bền vật liệu	Engineering Mechanics and Mechanics of Materials	Bắt buộc	3	3	0	
19	CE210IU	Vật liệu xây dựng	Construction Materials	Bắt buộc	3	3	0	
20	CE103IU	Vẽ kỹ thuật	Computer-Aided Design and Drafting	Bắt buộc	3	3	0	

STT	Mã MH	Tên MH		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Phòng TN
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
21	CE104IU	Thực hành vẽ kỹ thuật	Computer-Aided Design and Drafting Practice	Bắt buộc	1	0	1	
22	CE106IU	Cơ học đất và nền móng	Soil mechanics and foundation	Bắt buộc	3	3	0	
23	CE209IU	Phân tích kết cấu 1	Structural Analysis 1	Bắt buộc	2	2	0	
24	CE304IU	Kết cấu bê tông cốt thép 1	Reinforced Concrete 1	Bắt buộc	3	3	0	
25	CE305IU	Kết cấu thép	Steel structures	Bắt buộc	3	3	0	
26	CE307IU	Trắc địa	Surveying	Bắt buộc	2	2	0	
27	CM205IU	Quản lý xây dựng nhập môn	Introduction to Construction Management	Bắt buộc	2	2	0	
28	CM203IU	Đồ án quản lý xây dựng	Construction Management Project	Bắt buộc	1	0	1	
29	BA168IU	Phân tích định lượng trong kinh doanh	Quantitative method for business	Bắt buộc	3	3	0	
30	BA156IU	Quản lý nhân sự	Human Resource Management	Bắt buộc	3	3	0	
31	CM301IU	Quản lý vận hành trong xây dựng	Operation Management in Construction	Bắt buộc	3	3	0	
32	CM308IU	Lập và thẩm định dự án đầu tư xây dựng	Project Feasibility Study and Appraisal	Bắt buộc	3	3	0	

STT	Mã MH	Tên MH		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Phòng TN
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
33	CM311IU	Quản lý dự án xây dựng (phần mở rộng PMBOK)	Construction project management (PMBOK extension)	Bắt buộc	3	3	0	
34	BA161IU	Phương pháp nghiên cứu	Business Research Methods	Bắt buộc	3	3	0	
35	CE217IU	Trí tuệ nhân tạo trong Kỹ thuật và Quản lý Xây dựng	Artificial Intelligence in Civil Engineering and Construction Management	Bắt buộc	3	3	0	
B	**Kiến thức ngành và chuyên ngành**				**24**			
36	BA098IU	Lãnh đạo	Leadership	Bắt buộc	3	3	0	
37	BA171IU	Quản lý rủi ro	Risk Management	Bắt buộc	3	3	0	
38	CM303IU	Hoạch định và tiến độ xây dựng	Construction Planning and Scheduling	Bắt buộc	3	3	0	
39	CM307IU	Đồ án hoạch định và tiến độ xây dựng	Construction Planning and Scheduling Project	Bắt buộc	1	0	1	
40	CM202IU	Đo bóc khối lượng và ước tính chi phí xây dựng	Construction Measurement and Cost Estimating	Bắt buộc	3	3	0	
41	CM304IU	Đồ án đo bóc khối lượng và ước tính chi phí xây dựng	Construction measurement and Cost Estimating Project	Bắt buộc	1	0	1	

STT	Mã MH	Tên MH		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Phòng TN
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
42	CM305IU	Quản lý chi phí xây dựng	Construction Cost Management	Bắt buộc	3	3	0	
43	CM302IU	Đấu thầu và mua sắm	Construction Procurement and Tendering	Bắt buộc	3	3	0	
44	CM310IU	Hệ thống quản lý thông tin công trình	Building Information Modeling	Bắt buộc	3	3	0	
45	CM312IU	Đồ án hệ thống quản lý thông tin công trình	Building Information Management Project	Bắt buộc	1	0	1	
C	**Kiến thức chuyên sâu của chuyên ngành quản lý dự án xây dựng**				**6**			
46	CM402IU	Quản lý thi công công trường	Construction Jobsite Management	Bắt buộc	3	3	0	
47	CM404IU	Quản lý hợp đồng – Hợp đồng FIDIC	Contract Management – FIDIC contracts	Bắt buộc	3	3	0	
D	**Kiến thức chuyên sâu của chuyên ngành quản lý xây dựng**				**6**			
48	CM403IU	Kỹ thuật giá trị	Value Engineering	Bắt buộc	3	3	0	
49	CE311IU	Kỹ thuật thi công	Construction Engineering	Bắt buộc	3	3	0	
E	**Kiến thức chuyên ngành tự chọn**				**16**			
IU Elective Courses - List C (Select two of the following courses - 6 credits)								
50	BA130IU	Hành vi tổ chức	Organizational Behavior	Tự chọn	3	3	0	

STT	Mã MH	Tên MH		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Phòng TN
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
51	BA120IU	Kỹ năng vi tính kinh doanh	Business Computing Skills	Tự chọn	3	3	0	
52	BA005IU	Kế toán tài chính	Financial Accounting	Tự chọn	3	3	0	
CM Elective - <u>List A</u> **(Select three of the following courses - 9 credits)**								
53	CM405IU	Quản lý thông tin dự án	Project communication Management	Tự chọn	3	3	0	
54	CM406IU	Quản lý chất lượng thi công	Construction Quality Management	Tự chọn	3	3	0	
55	CM407IU	Quản lý tích hợp dự án	Project Integration Management	Tự chọn	3	3	0	
56	CM408IU	Quản lý tài chính trong xây dựng	Construction Financial Management	Tự chọn	3	3	0	
57	CM403IU	Kỹ thuật giá trị	Value Engineering	Tự chọn	3	3	0	
58	CE311IU	Kỹ thuật thi công	Construction Engineering	Tự chọn	3	3	0	
59	CM404IU	Quản lý hợp đồng – Các	Contract Management – FIDIC contracts	Tự chọn	3	3	0	

STT	Mã MH	Tên MH		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Phòng TN
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
		loại hợp đồng FIDIC						
60	BA006IU	Thông tin kinh doanh	Business Communications	Tự chọn	3	3	0	
61	BA016IU	Quản lý tài chính cơ bản	Fundamental of Financial Management	Tự chọn	3	3	0	
62	BA018IU	Quản lý chất lượng	Quality Management	Tự chọn	3	3	0	
63	BA115IU	Nhập môn quản trị kinh doanh	Introduction to Business Administration	Tự chọn	3	3	0	
64	CE412IU	Trí tuệ nhân tạo nâng cao trong Kỹ thuật và Quản lý Xây dựng	Advanced Artificial Intelligence in Civil Engineering and Construction Management	Tự chọn	3	3	0	
65	CE310IU	Bê tông cốt thép 2	Reinforced Concrete 2	Tự chọn	3	3	0	
66	CE407IU	Nhà nhiều tầng	Tall Buildings	Tự chọn	3	3	0	
67	CE415IU	Xây dựng bền vững	Sustainable Construction	Tự chọn	3	3	0	
CM Elective - <u>List B</u> **(Select one of the following courses - 1 credit)**								

STT	Mã MH	Tên MH		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Phòng TN
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
68	CE403IU	Đồ án kỹ thuật thi công	Construction Project	Tự chọn	1	0	1	
69	CM401IU	Đồ án lập và thẩm định dự án đầu tư	Feasibility Study and Appraisal Project	Tự chọn	1	0	1	
III	**Thực tập tốt nghiệp và làm khoá luận**				**13**			
70	CM306IU	Thực tập	Internship	Bắt buộc	3	0	3	
71	CM420IU	Luận văn tốt nghiệp	Graduation Thesis	Bắt buộc	10	0	10	
	Tổng số (tín chỉ)				**150**			

10. Dự kiến kế hoạch giảng dạy *(phân bổ các môn học theo từng học kỳ)*

Tùy vào trình độ tiếng Anh của người học đạt trình độ AE1, IE2, IE1 và IE0, kế hoạch giảng dạy các môn học được cụ thể tương ứng được trình bày trong các Bảng 8, Bảng 9, Bảng 10 và Bảng 11.

10.1. Trình độ AE1

Bảng 8. Kế hoạch giảng dạy đối với người học đạt trình độ AE1

HK	Mã MH	Tên môn học (MH)		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Môn học (Tiên quyết /Trước/ Song hành)
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
HKI (17 tín chỉ)	EN007IU	Tiếng Anh chuyên ngành 1 (kỹ năng viết)	Writing AE1	Bắt buộc	2	2	0	
	EN008IU	Tiếng Anh chuyên ngành 1 (kỹ năng nghe)	Listening AE1	Bắt buộc	2	2	0	
	MA001IU	Toán 1	Calculus 1	Bắt buộc	4	4	0	
	PH013IU	Vật lý 1	Physics 1	Bắt buộc	2	2	0	
	CE105IU	Cơ kỹ thuật và sức bền vật liệu	Engineering Mechanics and Mechanics of Materials	Bắt buộc	3	3	0	
	CE103IU	Vẽ kỹ thuật	Computer-Aided Design and Drafting	Bắt buộc	3	3	0	MH song hành CE104IU
	CE104IU	Thực hành vẽ kỹ thuật	Computer-Aided Design and Drafting Practice	Bắt buộc	1	0	1	MH song hành CE103IU
HKII (17 tín chỉ)	EN011IU	Tiếng Anh chuyên ngành 2 (kỹ năng viết)	Writing AE2	Bắt buộc	2	2	0	
	EN012IU	Tiếng Anh chuyên ngành 2 (kỹ năng nói)	Speaking AE2	Bắt buộc	2	2	0	
	CM205IU	Quản lý xây dựng nhập môn	Introduction to Construction Management	Bắt buộc	2	2	0	
	PE015IU	Triết học Mác-Lênin	Philosophy of Marxism and Leninism	Bắt buộc	3	3	0	
	CE209IU	Phân tích kết cấu 1	Structural Analysis 1	Bắt buộc	2	2	0	MH trước CE105IU
	CE210IU	Vật liệu xây dựng	Construction Materials	Bắt buộc	3	3	0	MH trước CE105IU
	PT001IU	Giáo dục thể chất 1	Physical Training 1	Bắt buộc	3	0	3	
HK Hè 1 (6 tín chỉ)	MA003IU	Toán 2	Calculus 2	Bắt buộc	4	4	0	
	PE016IU	Kinh tế chính trị Mác-Lênin	Political Economics of Marxism and Leninism	Bắt buộc	2	2	0	
	CE305IU	Kết cấu thép	Steel structures	Bắt buộc	3	3	0	MH trước CE209IU

HK	Mã MH	Tên môn học (MH)		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Môn học (Tiên quyết /Trước/ Song hành)
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
HKIII (17 tín chỉ)	CE304IU	Kết cấu bê tông cốt thép 1	Reinforced Concrete 1	Bắt buộc	3	3	0	MH trước CE209IU
	CM301IU	Quản lý vận hành trong xây dựng	Operation Management in Construction	Bắt buộc	3	3	0	MH trước CM205IU
	PT002IU	Giáo dục thể chất 2	Physical Training 2	Bắt buộc	3	0	3	
	CM203IU	Đồ án quản lý xây dựng	Construction Management Project	Bắt buộc	1	0	1	MH trước CM205IU
	PE018IU	Lịch sử Đảng Cộng sản Việt Nam	History of Vietnamese Communist Party	Bắt buộc	2	2	0	
	PE017IU	Chủ nghĩa xã hội khoa học	Scientific Socialism	Bắt buộc	2	2	0	
HKIV (17 tín chỉ)	CE106IU	Cơ học đất và nền móng	Soil mechanics and foundation	Bắt buộc	3	3	0	
	CM309IU	Kinh tế Xây dựng	Construction Economics	Bắt buộc	3	3	0	
	PE019IU	Tư tưởng Hồ Chí Minh	Ho Chi Minh's Thoughts	Bắt buộc	2	2	0	
	PE021IU	Pháp luật đại cương	General Law	Bắt buộc	3	3	0	
	CM202IU	Đo bóc khối lượng và ước tính chi phí xây dựng	Construction Measurement and Cost Estimating	Bắt buộc	3	3	0	MH trước CE210IU, CM205IU MH song hành CE304IU
	PE022IU	Đạo đức nghề nghiệp và tư duy phản biện	Engineering Ethics and Critical Thinking	Bắt buộc	3	3	0	
HK Hè 2	MP001IU	Giáo dục quốc phòng	Military Training	Bắt buộc				
HKV (16 tín chỉ)	CM310IU	Hệ thống quản lý thông tin công trình	Building Information Modelling	Bắt buộc	3	3	0	
	CM303IU	Hoạch định và tiến độ xây dựng	Construction Planning and Scheduling	Bắt buộc	3	3	0	MH trước CM202IU
	CM304IU	Đồ án đo bóc khối lượng và ước tính chi phí xây dựng	Construction measurement and Cost Estimating Project	Bắt buộc	1	0	1	MH trước CM202IU

HK	Mã MH	Tên môn học (MH)		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Môn học (Tiên quyết /Trước/ Song hành)
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
	CM305IU	Quản lý chi phí xây dựng	Construction Cost Management	Bắt buộc	3	3	0	MH trước CM202IU
	CM302IU	Đấu thầu và mua sắm	Construction Procurement and Tendering	Bắt buộc	3	3	0	MH trước CM202IU
	CE217IU	Trí tuệ nhân tạo trong Kỹ thuật và Quản lý Xây dựng	Artificial Intelligence in Civil Engineering and Construction Management	Bắt buộc	3	3	0	
HK VI (16 tín chỉ)	CM307IU	Đồ án hoạch định và tiến độ xây dựng	Construction Planning and Scheduling Project	Bắt buộc	1	0	1	MH trước CM303IU
	CE307IU	Trắc địa	Surveying	Bắt buộc	2	2	0	
	BA080IU	Thống kê kinh doanh	Statistics for Business	Bắt buộc	3	3	0	
	CM308IU	Lập và thẩm định dự án đầu tư xây dựng	Project Feasibility Study and Appraisal	Bắt buộc	3	3	0	MH trước CM303IU
	CM312IU	Đồ án hệ thống quản lý thông tin công trình	Building Information Management Project	Bắt buộc	1	0	1	MH trước CM310IU
	BA156IU	Quản lý nhân sự	Human Resource Management	Bắt buộc	3	3	0	
	BA003IU	Nguyên lý Marketing	Principles of Marketing	Bắt buộc	3	3	0	
HK Hè 3 (3 tín chỉ)	CM306IU	Thực tập tốt nghiệp	Internship	Bắt buộc	3	0	3	
HK VII (16 tín chỉ)	BA161IU	Phương pháp nghiên cứu	Business Research Methods	Bắt buộc	3	3	0	
	CM311IU	Quản lý dự án xây dựng (phần mở rộng PMBOK)	Construction project management (PMBOK extension)	Bắt buộc	3	3	0	MH trước CM305IU, CM303IU
	CM……_	Môn tự chọn CM 1 (list A)	CM Elective 1 (list A)	Tự chọn	3	3	0	
	CM……_	Môn tự chọn CM 2 (list A)	CM Elective 2 (list A)	Tự chọn	3	3	0	

HK	Mã MH	Tên môn học (MH)		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Môn học (Tiên quyết /Trước/ Song hành)
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
	CM……_	Môn tự chọn CM 3 (list A)	CM Elective 3 (list A)	Tự chọn	3	3	0	
	CM……_	Môn tự chọn CM 4 (list B)	CM Elective 4 (list B)	Tự chọn	1	0	1	
HK VIII (18 tín chỉ)	BA171IU	Quản lý rủi ro	Risk Management	Bắt buộc	3	3	0	
	BA168IU	Phân tích định lượng trong kinh doanh	Quantitative method for Business	Bắt buộc	3	3	0	
	…….. IU	Môn tự chọn IU 1 (list C)	IU Elective 1 (list C)	Tự chọn	3	3	0	
	……. IU	Môn tự chọn IU 2 (list C)	IU Elective 2 (list C)	Tự chọn	3	3	0	
	Construction Project Management Minor							
	CM402IU	Quản lý thi công công trường	Construction Jobsite Management	Bắt buộc	3	3	0	
	CM404IU	Quản lý hợp đồng – Hợp đồng FIDIC	Contract Management – FIDIC contracts	Bắt buộc	3	3	0	MH trước CM302IU
	Construction Management Minor							
	CM403IU	Kỹ thuật giá trị	Value Engineering	Bắt buộc	3	3	0	MH trước CM305IU
	CE311IU	Kỹ thuật thi công	Construction Engineering	Bắt buộc	3	3	0	MH trước CE304IU
HK IX (13 tín chỉ)	BA098IU	Lãnh đạo	Leadership	Bắt buộc	3	3	0	
	CM420IU	Luận văn tốt nghiệp	Graduation Thesis	Bắt buộc	10	0	10	MH trước BA161IU, CM306IU
	Tổng			**156**				

*Tổng số tín chỉ: 150 tín chỉ (không bao gồm giáo dục thể chất và tiếng Anh tăng cường)

10.2. Trình độ IE2

Bảng 9. Kế hoạch giảng dạy đối với người học đạt trình độ IE2

Học kỳ	Mã MH	Tên môn học (MH)		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Môn học (Tiên quyết/ Trước/ Song hành)
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
HKI (20 tín chỉ)	ENTP02	Tiếng Anh tăng cường IE2	IE2	Bắt buộc	13	13	0	
	MA001IU	Toán 1	Calculus 1	Bắt buộc	4	4	0	
	PE015IU	Triết học Mác-Lênin	Philosophy of Marxism and Leninism	Bắt buộc	3	3	0	
HKII (16 tín chỉ)	EN007IU	Tiếng Anh chuyên ngành 1 (kỹ năng viết)	Writing AE1	Bắt buộc	2	2	0	
	EN008IU	Tiếng Anh chuyên ngành 1 (kỹ năng nghe)	Listening AE1	Bắt buộc	2	2	0	
	PE016IU	Kinh tế chính trị Mác-Lênin	Political economics of Marxism and Leninism	Bắt buộc	2	2	0	
	CM205IU	Quản lý xây dựng nhập môn	Introduction to Construction Management	Bắt buộc	2	2	0	
	CE105IU	Cơ kỹ thuật và sức bền vật liệu	Engineering Mechanics and Mechanics of Materials	Bắt buộc	3	3	0	
	PH013IU	Vật lý 1	Physics 1	Bắt buộc	2	2	0	
	PT001IU	Giáo dục thể chất 1	Physical Training 1	Bắt buộc	3	0	3	
HK Hè 1 (10 tín chỉ)	PE017IU	Chủ nghĩa xã hội khoa học	Scientific Socialism	Bắt buộc	2	2	0	
	PE018IU	Lịch sử Đảng Cộng sản Việt Nam	History of Vietnamese Communist Party	Bắt buộc	2	2	0	
	PE019IU	Tư tưởng Hồ Chí Minh	Ho Chi Minh's Thoughts	Bắt buộc	2	2	0	
	MA003IU	Toán 2	Calculus 2	Bắt buộc	4	4	0	
HK III (16 tín chỉ)	EN011IU	Tiếng Anh chuyên ngành 2 (kỹ năng viết)	Writing AE2	Bắt buộc	2	2	0	
	EN012IU	Tiếng Anh chuyên ngành 2 (kỹ năng nói)	Speaking AE2	Bắt buộc	2	2	0	

Học kỳ	Mã MH	Tên môn học (MH)		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Môn học (Tiên quyết/ Trước/ Song hành)
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
	CE209IU	Phân tích kết cấu 1	Structural Analysis 1	Bắt buộc	2	2	0	MH trước CE105IU
	CE210IU	Vật liệu xây dựng	Construction Materials	Bắt buộc	3	3	0	MH trước CE105IU
	CM301IU	Quản lý vận hành trong xây dựng	Operation Management in Construction	Bắt buộc	3	3	0	MH trước CM205IU
	CE103IU	Vẽ kỹ thuật	Computer-Aided Design and Drafting (CADD)	Bắt buộc	3	3	0	MH song hành CE104IU
	CE104IU	Thực hành vẽ kỹ thuật	Practice CADD	Bắt buộc	1	0	1	MH song hành CE103IU
HK IV(19 tín chỉ)	CE106IU	Cơ học đất và nền móng	Soil mechanics and foundation	Bắt buộc	3	3	0	MH trướcCE105 IU
	CE217IU	Trí tuệ nhân tạo trong Kỹ thuật và Quản lý Xây dựng	Artificial Intelligence in Civil Engineering and Construction Management	Bắt buộc	3	3	0	
	CM309IU	Kinh tế Xây dựng	Construction Economics	Bắt buộc	3	3	0	
	CE304IU	Kết cấu bê tông cốt thép 1	Reinforced concrete 1	Bắt buộc	3	3	0	MH trước CE209IU
	BA003IU	Nguyên lý Marketing	Principles of Marketing	Bắt buộc	3	3	0	
	CM203IU	Đồ án quản lý xây dựng	Construction Management Project	Bắt buộc	1	0	1	MH trước CM205IU
	PT002IU	Giáo dục thể chất 2	Physical Training 2	Bắt buộc	3	3	3	
HK Hè 2	MP001IU	Giáo dục quốc phòng	Military Training	Bắt buộc				
HK V (17 Tín chỉ)	PE021IU	Pháp luật đại cương	General Law	Bắt buộc	3	3	0	
	CE305IU	Kết cấu thép	Steel Structures	Bắt buộc	3	3	0	MH trước CE209IU
	CM202IU	Đo bóc khối lượng và ước tính chi phí xây dựng	Construction Measurement and Cost Estimating	Bắt buộc	3	3	0	MH trước CE210IU, CM205IU MH song hành CE304IU

Học kỳ	Mã MH	Tên môn học (MH)		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Môn học (Tiên quyết/ Trước/ Song hành)
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
	CE307IU	Trắc địa	Surveying	Bắt buộc	2	2	0	
	CM310IU	Hệ thống quản lý thông tin công trình	Building Information Modelling	Bắt buộc	3	3	0	
	…….. IU	Môn tự chọn IU 1 (list C)	IU Elective 1 (list C)	Tự chọn	3	3	0	
HK VI (17 tín chỉ)	BA080IU	Thống kê kinh doanh	Statistics for Business	Bắt buộc	3	3	0	
	BA161IU	Phương pháp nghiên cứu	Business Research Methods	Bắt buộc	3	3	0	
	CM305IU	Quản lý chi phí xây dựng	Construction Cost Management	Bắt buộc	3	3	0	MH trước CM202IU
	CM303IU	Hoạch định và tiến độ xây dựng	Construction Planning and Scheduling	Bắt buộc	3	3	0	MH trước CM202IU
	PE022IU	Đạo đức nghề nghiệp và tư duy phản biện	Engineering Ethics and Critical Thinking	Bắt buộc	3	3	0	
	CM312IU	Đồ án hệ thống quản lý thông tin công trình	Building Information Management Project	Bắt buộc	1	0	1	MH trước CM310IU
	CM304IU	Đồ án đo bóc khối lượng và ước tính chi phí xây dựng	Construction measurement and Cost Estimating Project	Bắt buộc	1	0	1	MH trước CM202IU
HK Hè 3	CM306IU	Thực tập tốt nghiệp	Internship		3	0	3	
HK VII (18 tín chỉ)	CM308IU	Lập và thẩm định dự án đầu tư xây dựng	Project Feasibility Study and Appraisal	Bắt buộc	3	3	0	MH trước CM303IU
	CM302IU	Đấu thầu và mua sắm	Construction Procurement and Tendering	Bắt buộc	3	3	0	MH trước CM202IU
	CM311IU	Quản lý dự án xây dựng (phần mở rộng PMBOK)	Construction project management (PMBOK extension)	Bắt buộc	3	3	0	MH trước CM305IU, CM303IU
	CM……_	Môn tự chọn CM 1 (list A)	CM Elective 1 (list A)	Tự chọn	3	3	0	

Học kỳ	Mã MH	Tên môn học (MH)		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Môn học (Tiên quyết/ Trước/ Song hành)
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
	CM……_	Môn tự chọn CM 2 (list A)	CM Elective 2 (list A)	Tự chọn	3	3	0	
	CM……_	Môn tự chọn CM 3 (list A)	CM Elective 3 (list A)	Tự chọn	3	3	0	
HK VIII (17 tín chỉ)	BA171IU	Quản lý rủi ro	Risk Management	Bắt buộc	3	3	0	
	BA156IU	Quản lý nhân sự	Human Resource Management	Bắt buộc	3	3	0	
	BA168IU	Phân tích định lượng trong kinh doanh	Quantitative method for Business	Bắt buộc	3	3	0	
	CM307IU	Đồ án hoạch định và tiến độ xây dựng	Construction Planning and Scheduling Project	Bắt buộc	1	0	1	MH trước CM303IU
	CM……_	Môn tự chọn CM 4 (list B)	CM Elective 4 (list B)	Tự chọn	1	0	1	
	Construction Project Management Minor							
	CM402IU	Quản lý thi công công trường	Construction Jobsite Management	Bắt buộc	3	3	0	
	CM404IU	Quản lý hợp đồng – Hợp đồng FIDIC	Contract Management – FIDIC contracts	Bắt buộc	3	3	0	MH trước CM302IU
	Construction Management Minor							
	CM403IU	Kỹ thuật giá trị	Value Engineering	Bắt buộc	3	3	0	MH trước CM305IU
	CE311IU	Kỹ thuật thi công	Construction Engineering	Bắt buộc	3	3	0	MH trước CE304IU
HK IX (16 tín chỉ)	……. IU	Môn tự chọn IU 2 (list C)	IU Elective 2 (list C)	Tự chọn	3	3	0	
	BA098IU	Lãnh đạo	Leadership	Bắt buộc	3	3	0	
	CM420IU	Luận văn tốt nghiệp	Graduation Thesis	Bắt buộc	10	0	10	MH trước BA161IU, CM306IU

*Tổng số tín chỉ: 150 tín chỉ (không bao gồm giáo dục thể chất và tiếng Anh tăng cường)

10.3. Trình độ IE1

Bảng 10. Kế hoạch giảng dạy đối với người học đạt trình độ IE1

Học kỳ	Mã MH	Tên môn học (MH)		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Môn học (Tiên quyết/ Trước/ Song hành)
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
HKI (30 tín chỉ)	ENTP01	Tiếng Anh tăng cường IE1	IE1	Bắt buộc	17	17	0	
	ENTP02	Tiếng Anh tăng cường IE2	IE2	Bắt buộc	13	13	0	
HKII (19 tín chỉ)	EN007IU	Tiếng Anh chuyên ngành 1 (kỹ năng viết)	Writing AE1	Bắt buộc	2	2	0	
	EN008IU	Tiếng Anh chuyên ngành 1 (kỹ năng nghe)	Listening AE1	Bắt buộc	2	2	0	
	PE015IU	Triết học Mác-Lênin	Philosophy of Marxism and Leninism	Bắt buộc	3	3	0	
	CE105IU	Cơ kỹ thuật và sức bền vật liệu	Engineering Mechanics and Mechanics of Materials	Bắt buộc	3	3	0	
	CM205IU	Quản lý xây dựng nhập môn	Introduction to Construction Management	Bắt buộc	2	2	0	
	MA001IU	Toán 1	Calculus 1	Bắt buộc	4	4	0	
	PT001IU	Giáo dục thể chất 1	Physical Training 1	Bắt buộc	3	0	3	
HK Hè 1 (9 tín chỉ)	PH013IU	Vật lý 1	Physics 1	Bắt buộc	2	2	0	
	MA003IU	Toán 2	Calculus 2	Bắt buộc	4	4	0	
	PT002IU	Giáo dục thể chất 2	Physical Training 2	Bắt buộc	3	3	3	
HK III (17 tín chỉ)	PE016IU	Kinh tế chính trị Mác-Lênin	Political economics of Marxism and Leninism	Bắt buộc	2	2	0	
	EN011IU	Tiếng Anh chuyên ngành 2 (kỹ năng viết)	Writing AE2	Bắt buộc	2	2	0	
	EN012IU	Tiếng Anh chuyên ngành 2 (kỹ năng nói)	Speaking AE2	Bắt buộc	2	2	0	
	CM301IU	Quản lý vận hành trong xây dựng	Operation Management in Construction	Bắt buộc	3	3	0	MH trước CM205IU
	CE307IU	Trắc địa	Surveying	Bắt buộc	2	2	0	

Học kỳ	Mã MH	Tên môn học (MH)		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Môn học (Tiên quyết/ Trước/ Song hành)
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
	PE017IU	Chủ nghĩa xã hội khoa học	Scientific Socialism	Bắt buộc	2	2	0	
	PE019IU	Tư tưởng Hồ Chí Minh	Ho Chi Minh's Thoughts	Bắt buộc	2	2	0	
	CE209IU	Phân tích kết cấu 1	Structural Analysis 1	Bắt buộc	2	2	0	MH trước CE105IU
HK IV (19 tín chỉ)	CE106IU	Cơ học đất và nền móng	Soil mechanics and foundation	Bắt buộc	3	3	0	
	CE217IU	Trí tuệ nhân tạo trong Kỹ thuật và Quản lý Xây dựng	Artificial Intelligence in Civil Engineering and Construction Management	Bắt buộc	3	3	0	
	CM309IU	Kinh tế Xây dựng	Construction Economics	Bắt buộc	3	3	0	
	PE022IU	Đạo đức nghề nghiệp và tư duy phản biện	Engineering Ethics and Critical Thinking	Bắt buộc	3	3	0	
	CE304IU	Kết cấu bê tông cốt thép 1	Reinforced concrete 1	Bắt buộc	3	3	0	MH trước CE209IU
	CE210IU	Vật liệu xây dựng	Construction Materials	Bắt buộc	3	3	0	MH trước CE105IU
	CM203IU	Đồ án quản lý xây dựng	Construction Management Project	Bắt buộc	1	0	1	MH trước CM205IU
HK Hè 2	MP001IU	Giáo dục quốc phòng	Military Training	Bắt buộc				
HK V (19 Tín chỉ)	BA098IU	Lãnh đạo	Leadership	Bắt buộc	3	3	0	
	CM202IU	Đo bóc khối lượng và ước tính chi phí xây dựng	Construction Measurement and Cost Estimating	Bắt buộc	3	3	0	MH trước CE210IU, CM205IU MH song hành CE304IU
	CE305IU	Kết cấu thép	Steel Structures	Bắt buộc	3	3	0	MH trước CE209IU
	PE021IU	Pháp luật đại cương	General Law	Bắt buộc	3	3	0	
	CM310IU	Hệ thống quản lý thông tin công trình	Building Information Modelling	Bắt buộc	3	3	0	

Học kỳ	Mã MH	Tên môn học (MH)		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Môn học (Tiên quyết/ Trước/ Song hành)
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
	CE103IU	Vẽ kỹ thuật	Computer-Aided Design and Drafting (CADD)	Bắt buộc	3	3	0	MH song hành CE104IU
	CE104IU	Thực hành vẽ kỹ thuật	Practice CADD	Bắt buộc	1	0	1	MH song hành CE103IU
HK VI (17 tín chỉ)	BA080IU	Thống kê kinh doanh	Statistics for Business	Bắt buộc	3	3	0	
	CM305IU	Quản lý chi phí xây dựng	Construction Cost Management	Bắt buộc	3	3	0	MH trước CM202IU
	CM302IU	Đấu thầu và mua sắm	Construction Procurement and Tendering	Bắt buộc	3	3	0	CM202IU
	CM303IU	Hoạch định và tiến độ xây dựng	Construction Planning and Scheduling	Bắt buộc	3	3	0	MH trước CM202IU
	CM304IU	Đồ án đo bóc khối lượng và ước tính chi phí xây dựng	Construction measurement and Cost Estimating Project	Bắt buộc	1	0	1	MH trước CM202IU
	CM312IU	Đồ án hệ thống quản lý thông tin công trình	Building Information Management Project	Bắt buộc	1	0	1	MH trước CM310IU
	…….. IU	Môn tự chọn IU 1 (list C)	IU Elective 1 (list C)	Tự chọn	3	3	0	
HK Hè 3 (3 tín chỉ)	CM306IU	Thực tập tốt nghiệp	Internship		3	0	3	
HK VII (17 tín chỉ)	BA161IU	Phương pháp nghiên cứu	Business Research Methods	Bắt buộc	3	3	0	
	CM308IU	Lập và thẩm định dự án đầu tư xây dựng	Project Feasibility Study and Appraisal	Bắt buộc	3	3	0	MH trước CM303IU, CM305IU
	CM307IU	Đồ án hoạch định và tiến độ xây dựng	Construction Planning and Scheduling Project	Bắt buộc	1	0	1	MH trước CM303IU
	CM……_	Môn tự chọn CM 1 (list A)	CM Elective 1 (list A)	Tự chọn	3	3	0	
	CM……_	Môn tự chọn CM 2 (list A)	CM Elective 2 (list A)	Tự chọn	3	3	0	

Học kỳ	Mã MH	Tên môn học (MH)		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Môn học (Tiên quyết/ Trước/ Song hành)
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
	CM……_	Môn tự chọn CM 3 (list A)	CM Elective 3 (list A)	Tự chọn	3	3	0	
	CM……_	Môn tự chọn CM 4 (list B)	CM Elective 4 (list B)	Tự chọn	1	0	1	
HK VIII (18 tín chỉ)	BA171IU	Quản lý rủi ro	Risk Management	Bắt buộc	3	3	0	
	BA156IU	Quản lý nhân sự	Human Resource Management	Bắt buộc	3	3	0	
	BA003IU	Nguyên lý Marketing	Principles of Marketing	Bắt buộc	3	3	0	
	BA168IU	Phân tích định lượng trong kinh doanh	Quantitative method for Business	Bắt buộc	3	3	0	
	Construction Project Management Minor							
	CM402IU	Quản lý thi công công trường	Construction Jobsite Management	Bắt buộc	3	3	0	
	CM404IU	Quản lý hợp đồng – Hợp đồng FIDIC	Contract Management – FIDIC contracts	Bắt buộc	3	3	0	MH trước CM302IU
	Construction Management Minor							
	CM403IU	Kỹ thuật giá trị	Value Engineering	Bắt buộc	3	3	0	MH trước CM305IU
	CE311IU	Kỹ thuật thi công	Construction Engineering	Bắt buộc	3	3	0	MH trước CE304IU
HK Hè 4 (3 tín chỉ)	PE018IU	Lịch sử Đảng Cộng sản Việt Nam	History of Vietnamese Communist Party	Bắt buộc	2	2	0	
HK IX (16 tín chỉ)	CM311IU	Quản lý dự án xây dựng (phần mở rộng PMBOK)	Construction project management (PMBOK extension)	Bắt buộc	3	3	0	MH trước CM305IU, CM303IU
	……. IU	Môn tự chọn IU 2 (list C)	IU Elective 2 (list C)	Tự chọn	3	3	0	
	CM420IU	Luận văn tốt nghiệp	Graduation Thesis	Bắt buộc	10	0	10	MH trước BA161IU, CM306IU

*Tổng số tín chỉ: 150 tín chỉ (không bao gồm giáo dục thể chất và tiếng Anh tăng cường)

10.4. Trình độ IE0

Bảng 11. Kế hoạch giảng dạy đối với người học đạt trình độ IE0

Học kỳ	Mã MH	Tên môn học (MH)		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Môn học (Tiên quyết/ Trước/ Song hành)
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
HKI (34 tín chỉ)	ENTP00	Tiếng Anh tăng cường IE0	IE0	Bắt buộc	17	17	0	
	ENTP01	Tiếng Anh tăng cường IE1	IE1	Bắt buộc	17	17	0	
HKII (21 tín chỉ)	ENTP02	Tiếng Anh tăng cường IE2	IE2	Bắt buộc	13	13	0	
	PE015IU	Triết học Mác-Lênin	Philosophy of Marxism and Leninism	Bắt buộc	3	3	0	
	PE016IU	Kinh tế chính trị Mác-Lênin	Political economics of Marxism and Leninism	Bắt buộc	2	2	0	
	PT001IU	Giáo dục thể chất 1	Physical Training 1	Bắt buộc	3	0	3	
HK Hè 1 (11 tín chỉ)	EN007IU	Tiếng Anh chuyên ngành 1 (kỹ năng viết)	Writing AE1	Bắt buộc	2	2	0	
	EN008IU	Tiếng Anh chuyên ngành 1 (kỹ năng nghe)	Listening AE1	Bắt buộc	2	2	0	
	PT002IU	Giáo dục thể chất 2	Physical Training 2	Bắt buộc	3	3	3	
	MA001IU	Toán 1	Calculus 1	Bắt buộc	4	4	0	
HK III (18 tín chỉ)	EN011IU	Tiếng Anh chuyên ngành 2 (kỹ năng viết)	Writing AE2	Bắt buộc	2	2	0	
	EN012IU	Tiếng Anh chuyên ngành 2 (kỹ năng nói)	Speaking AE2	Bắt buộc	2	2	0	
	PH013IU	Vật lý 1	Physics 1	Bắt buộc	2	2	0	
	PE021IU	Pháp luật đại cương	General Law	Bắt buộc	3	3	0	
	MA003IU	Toán 2	Calculus 2	Bắt buộc	4	4	0	
	CE105IU	Cơ kỹ thuật và sức bền vật liệu	Engineering Mechanics and Mechanics of Materials	Bắt buộc	3	3	0	

Học kỳ	Mã MH	Tên môn học (MH)		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Môn học (Tiên quyết/ Trước/ Song hành)
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
	CM205IU	Quản lý xây dựng nhập môn	Introduction to Construction Management	Bắt buộc	2	2	0	
HK IV (19 tín chỉ)	PE017IU	Chủ nghĩa xã hội khoa học	Scientific Socialism	Bắt buộc	2	2	0	
	PE022IU	Đạo đức nghề nghiệp và tư duy phản biện	Engineering Ethics and Critical Thinking	Bắt buộc	3	3	0	
	CE106IU	Cơ học đất và nền móng	Soil mechanics and foundation	Bắt buộc	3	3	0	MH trước CE105IU
	CM301IU	Quản lý vận hành trong xây dựng	Operation Management in Construction	Bắt buộc	3	3	0	MH trước CM205IU
	CE217IU	Trí tuệ nhân tạo trong Kỹ thuật và Quản lý Xây dựng	Artificial Intelligence in Civil Engineering and Construction Management	Bắt buộc	3	3	0	
	CE209IU	Phân tích kết cấu 1	Structural Analysis 1	Bắt buộc	2	2	0	MH trước CE105IU
	CE210IU	Vật liệu xây dựng	Construction Materials	Bắt buộc	3	3	0	MH trước CE105IU
HK Hè 2	MP001IU	Giáo dục quốc phòng	Military Training	Bắt buộc				
HK V (19 tín chỉ)	CM310IU	Hệ thống quản lý thông tin công trình	Building Information Modelling	Bắt buộc	3	3	0	
	CE304IU	Kết cấu bê tông cốt thép 1	Reinforced concrete 1	Bắt buộc	3	3	0	MH trước CE209IU
	CE305IU	Kết cấu thép	Steel Structures	Bắt buộc	3	3	0	MH trước CE209IU
	CE103IU	Vẽ kỹ thuật	Computer-Aided Design and Drafting (CADD)	Bắt buộc	3	3	0	MH song hành CE104IU
	CE104IU	Thực hành vẽ kỹ thuật	Practice CADD	Bắt buộc	1	0	1	MH song hành CE103IU
	BA161IU	Phương pháp nghiên cứu	Business Research Methods	Bắt buộc	3	3	0	
	…….. IU	Môn tự chọn IU 1 (list C)	IU Elective 1 (list C)	Tự chọn	3	3	0	

Học kỳ	Mã MH	Tên môn học (MH)		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Môn học (Tiên quyết/ Trước/ Song hành)
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
HK VI (19 tín chỉ)	BA080IU	Thống kê kinh doanh	Statistics for Business	Bắt buộc	3	3	0	
	BA098IU	Lãnh đạo	Leadership	Bắt buộc	3	3	0	
	BA156IU	Quản lý nhân sự	Human Resource Management	Bắt buộc	3	3	0	
	CM202IU	Đo bóc khối lượng và ước tính chi phí xây dựng	Construction Measurement and Cost Estimating	Bắt buộc	3	3	0	MH trước CE210IU, CM205IU MH song hành CE304IU
	CM309IU	Kinh tế Xây dựng	Construction Economics	Bắt buộc	3	3	0	
	CE307IU	Trắc địa	Surveying	Bắt buộc	2	2	0	
	CM203IU	Đồ án quản lý xây dựng	Construction Management Project	Bắt buộc	1	0	1	MH trước CM205IU
	CM312IU	Đồ án hệ thống quản lý thông tin công trình	Building Information Management Project	Bắt buộc	1	0	1	MH trước CM310IU
HK Hè 3 (3 tín chỉ)	CM306IU	Thực tập tốt nghiệp	Internship		3	0	3	
HK VII (20 tín chỉ)	CM303IU	Hoạch định và tiến độ xây dựng	Construction Planning and Scheduling	Bắt buộc	3	3	0	MH trước CM202IU
	CM305IU	Quản lý chi phí xây dựng	Construction Cost Management	Bắt buộc	3	3	0	MH trước CM202IU
	CM302IU	Đấu thầu và mua sắm	Construction Procurement and Tendering	Bắt buộc	3	3	0	CM202IU
	CM304IU	Đồ án đo bóc khối lượng và ước tính chi phí xây dựng	Construction measurement and Cost Estimating Project	Bắt buộc	1	0	1	MH trước CM202IU
	CM……_	Môn tự chọn CM 1 (list A)	CM Elective 1 (list A)	Tự chọn	3	3	0	
	CM……_	Môn tự chọn CM 2 (list A)	CM Elective 2 (list A)	Tự chọn	3	3	0	
	CM……_	Môn tự chọn CM 3 (list A)	CM Elective 3 (list A)	Tự chọn	3	3	0	

Học kỳ	Mã MH	Tên môn học (MH)		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Môn học (Tiên quyết/ Trước/ Song hành)
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
	CM……_	Môn tự chọn CM 4 (list B)	CM Elective 4 (list B)	Tự chọn	1	0	1	
HK VIII (19 tín chỉ)	CM308IU	Lập và thẩm định dự án đầu tư xây dựng	Project Feasibility Study and Appraisal	Bắt buộc	3	3	0	MH trước CM303IU
	BA171IU	Quản lý rủi ro	Risk Management	Bắt buộc	3	3	0	
	BA003IU	Nguyên lý Marketing	Principles of Marketing	Bắt buộc	3	3	0	
	BA168IU	Phân tích định lượng trong kinh doanh	Quantitative method for Business	Bắt buộc	3	3	0	
	CM307IU	Đồ án hoạch định và tiến độ xây dựng	Construction Planning and Scheduling Project	Bắt buộc	1	0	1	MH trước CM202IU
	Construction Project Management Minor							
	CM402IU	Quản lý thi công công trường	Construction Jobsite Management	Bắt buộc	3	3	0	
	CM404IU	Quản lý hợp đồng – Hợp đồng FIDIC	Contract Management – FIDIC contracts	Bắt buộc	3	3	0	MH trước CM302IU
	Construction Management Minor							
	CM403IU	Kỹ thuật giá trị	Value Engineering	Bắt buộc	3	3	0	MH trước CM305IU
	CE311IU	Kỹ thuật thi công	Construction Engineering	Bắt buộc	3	3	0	MH trước CE304IU
HK Hè 4 (4 tín chỉ)	PE018IU	Lịch sử Đảng Cộng sản Việt Nam	History of Vietnamese Communist Party	Bắt buộc	2	2	0	
	PE019IU	Tư tưởng Hồ Chí Minh	Ho Chi Minh's Thoughts	Bắt buộc	2	2	0	
HK IX (16 tín chỉ)	CM311IU	Quản lý dự án xây dựng (phần mở rộng PMBOK)	Construction project management (PMBOK extension)	Bắt buộc	3	3	0	MH trước CM305IU, CM303IU
	……. IU	Môn tự chọn IU 2 (list C)	IU Elective 2 (list C)	Tự chọn	3	3	0	

Học kỳ	Mã MH	Tên môn học (MH)		Loại MH (bắt buộc/ tự chọn)	Tín chỉ			Môn học (Tiên quyết/ Trước/ Song hành)
		Tiếng Việt	Tiếng Anh		Tổng cộng	Lý thuyết	Thực hành/ Thí nghiệm	
	CM420IU	Luận văn tốt nghiệp	Graduation Thesis	Bắt buộc	10	0	10	MH trước BA161IU, CM306IU

*Tổng số tín chỉ: 150 tín chỉ (không bao gồm giáo dục thể chất và tiếng Anh tăng cường)

***Môn học tự chọn sử dụng cho 04 cấp độ AE, IE2, IE1 và IE0**

Môn tự chọn CM (danh sách A)

Mã môn học	Tên môn học	Số tín chỉ
CM405IU	Quản lý thông tin dự án Project communication Management	3
CM406IU	Quản lý chất lượng thi công Construction Quality Management	3
CM407IU	Quản lý tích hợp dự án Project Integration Management	3
CM408IU	Quản lý tài chính trong xây dựng Construction Financial Management	3
CM403IU	Kỹ thuật giá trị Value Engineering	3
CE311IU	Kỹ thuật thi công Construction Engineering	3
CM404IU	Quản lý hợp đồng – Các loại hợp đồng FIDIC Contract Management – FIDIC contracts	3
BA006IU	Thông tin kinh doanh Business Communications	3
BA016IU	Quản lý tài chính cơ bản Fundamental of Financial Management	3
BA018IU	Quản lý chất lượng Quality Management	3
BA115IU	Nhập môn quản trị kinh doanh Introduction to Business Administration	3
CE412IU	Trí tuệ nhân tạo nâng cao trong Kỹ thuật và Quản lý Xây dựng Advanced Artificial Intelligence in Civil Engineering and Construction Management	3
CE310IU	Bê tông cốt thép 2 Reinforced Concrete 2	3

Mã môn học	Tên môn học	Số tín chỉ
CE407IU	Nhà nhiều tầng Tall Buildings	3
CE415IU	Sustainable Construction Xây dựng bền vững	3

Môn tự chọn CM (danh sách B)

Mã môn học	Tên môn học	Số tín chỉ
CE403IU	Đồ án kỹ thuật thi công Construction Project	1
CM401IU	Đồ án lập và thẩm định dự án đầu tư Feasibility Study and Appraisal Project	1

Môn tự chọn IU (danh sách C)

Mã môn học	Tên môn học	Số tín chỉ
BA130IU	Hành vi tổ chức Organizational Behavior	3
BA120IU	Kỹ năng vi tính kinh doanh Business Computing Skills	3
BA005IU	Kế toán tài chính Financial Accounting	3

11. Ma trận các môn học và chuẩn đầu ra (kỹ năng)

Mức độ đóng góp của các môn học vào chuẩn đầu ra của CTĐT ngành Quản lý Xây dựng. được trình bày như Bảng 12.

Bảng 12. Đóng góp của các môn học vào CĐR của CTĐT

Học kỳ	Tên môn học	PLO 01	PLO 02	PLO 03	PLO 04	PLO 05	PLO 06	PLO 07	PLO 08	PLO 09	PLO 10
Học kỳ I	Tiếng Anh chuyên ngành 1 (kỹ năng viết)							M	M		
	Tiếng Anh chuyên ngành 1 (kỹ năng nghe)							M	M		
	Toán 1	M									
	Vật lý 1	M									
	Cơ kỹ thuật và sức bền vật liệu	M		M							
	Vẽ kỹ thuật	M						M			

Học kỳ	Tên môn học	PLO 01	PLO 02	PLO 03	PLO 04	PLO 05	PLO 06	PLO 07	PLO 08	PLO 09	PLO 10
	Thực hành vẽ kỹ thuật	M						M			
Học kỳ II	Tiếng Anh chuyên ngành 2 (kỹ năng viết)							M	M		
	Tiếng Anh chuyên ngành 2 (kỹ năng nói)							M	M		
	Quản lý xây dựng nhập môn	L	L			L			L		
	Triết học Mác-Lênin	M									
	Phân tích kết cấu 1	M		M							
	Vật liệu xây dựng	M		M							
	Giáo dục thể chất 1	L									
Học kỳ hè 1	Kinh tế chính trị Mác-Lênin	M	M								
	Toán 2	M									
Học kỳ III	Kết cấu thép	M		M			M				
	Kết cấu bê tông cốt thép 1	M		M			M				
	Quản lý vận hành trong xây dựng		M	M		M					
	Giáo dục thể chất 2	L									
	Đồ án quản lý xây dựng	M	M			L			L		
	Lịch sử Đảng Cộng sản Việt Nam	M									
	Chủ nghĩa xã hội khoa học	M									
Học kỳ IV	Cơ học đất và nền móng	M		M			M				
	Tư tưởng Hồ Chí Minh	M								M	
	Pháp luật đại cương	M					M			M	
	Đo bóc khối lượng và ước tính chi phí xây dựng		M	M		M	M				
	Kinh tế Xây dựng		M	M		M	M				

Học kỳ	Tên môn học	PLO 01	PLO 02	PLO 03	PLO 04	PLO 05	PLO 06	PLO 07	PLO 08	PLO 09	PLO 10
	Đạo đức nghề nghiệp và tư duy phản biện	M					M	M		M	
Học kỳ hè 2	Giáo dục quốc phòng	M									
Học kỳ V	Hệ thống quản lý thông tin công trình		M	M		M	M				
	Hoạch định và tiến độ xây dựng		M	H		M	M				
	Đồ án đo bóc khối lượng và ước tính chi phí xây dựng		M	H		M	M				
	Quản lý chi phí xây dựng		M	H		M	M				
	Trí tuệ nhân tạo trong Kỹ thuật và Quản lý Xây dựng		H	M	M	M					M
	Đấu thầu và mua sắm			M		M		M			
Học kỳ VI	Đồ án hoạch định và tiến độ xây dựng		M	H		M	M				
	Quản lý nhân sự	M						M			
	Lập và thẩm định dự án đầu tư xây dựng		M	M	H		M				
	Nguyên lý Marketing	M									
	Đồ án hệ thống quản lý thông tin công trình		M	H		M	M				
	Thống kê kinh doanh	M			M		M				M
	Trắc địa	M									
Học kỳ hè 3	Thực tập tốt nghiệp		M	H		H	M	M	H	M	
Học kỳ VII	Phương pháp nghiên cứu		M	M	M		H				M
	Quản lý dự án xây dựng (phần mở rộng PMBOK)	M	H			M			M	M	

Học kỳ	Tên môn học	PLO 01	PLO 02	PLO 03	PLO 04	PLO 05	PLO 06	PLO 07	PLO 08	PLO 09	PLO 10
	Môn tự chọn CM 1 (list A)		M			H					
	Môn tự chọn CM 2 (list A)		M			H					
	Môn tự chọn CM 3 (list A)		M			H					
	Môn tự chọn CM 4 (list B)		M			H					
Học kỳ VIII	Quản lý rủi ro			M		M					
	Phân tích định lượng trong kinh doanh		M	H		M					
	Môn tự chọn IU 1 (list C)		M								
	Môn tự chọn IU 2 (list C)		M								
	Chuyên ngành Quản lý dự án xây dựng										
	Quản lý thi công công trường		M			M	M				
	Quản lý hợp đồng – Hợp đồng FIDIC		M			M					
	Chuyên ngành Quản lý xây dựng										
	Kỹ thuật giá trị		M			M					
	Kỹ thuật thi công		M			M					
Học kỳ IX	Nghệ thuật lãnh đạo		M								
	Luận văn tốt nghiệp	M	H	H	M	H	M	M	M		M

12. Mô tả vắn tắt nội dung và khối lượng các môn học

12.1. Triết học Mác-Lênin (Philosophy of Marxism and Leninism)

Mã môn học: PE015IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Môn học cung cấp những nội dung cơ bản về thế giới quan và phương pháp luận của chủ nghĩa Mác-Lênin.

12.2. Kinh tế chính trị Mác-Lênin (Political economics of Marxism and Leninism)

Mã môn học: PE016IU

Số tín chỉ: 2 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả vắn tắt nội dung: Môn học trang bị cho sinh viên những nội dung cốt lõi của Kinh tế chính trị Mác – Lênin, bao gồm: Hàng hóa, thị trường và vai trò của các chủ thể trong nền kinh tế thị trường; sản xuất giá trị thặng dư trong nền kinh tế thị trường; cạnh tranh và độc quyền trong nền kinh tế thị trường; kinh tế thị trường định hướng xã hội chủ nghĩa và các quan hệ lợi ích kinh tế ở Việt Nam; công nghiệp hóa, hiện đại hóa và hội nhập kinh tế quốc tế ở Việt Nam.

12.3. Chủ nghĩa xã hội khoa học (Scientific Socialism)

Mã môn học: PE017IU

Số tín chỉ: 2 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: Triết học Mác-Lênin, Kinh tế chính trị Mác-Lênin

Mô tả nội dung môn học: Nội dung chủ yếu của môn học là cung cấp cho sinh viên những hiểu biết cơ bản có hệ thống của chủ nghĩa xã hội khoa học.

12.4. Tư tưởng Hồ Chí Minh (Ho Chi Minh's Thoughts)

Mã môn học: PE019IU

Số tín chỉ: 2 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: Triết học Mác-Lênin, Kinh tế chính trị Mác-Lênin, Chủ nghĩa xã hội khoa học

Mô tả nội dung môn học: Môn học trang bị cho sinh viên những kiến thức cơ bản về: Đối tượng, phương pháp nghiên cứu và ý nghĩa học tập môn tư tưởng Hồ Chí Minh; về cơ sở, quá trình hình thành và phát triển tư tưởng Hồ Chí Minh; về độc lập dân tộc và chủ nghĩa xã hội; về Đảng Cộng sản và Nhà nước Việt Nam; về đại đoàn kết dân tộc và đoàn kết quốc tế; về văn hóa, đạo đức, con người.

12.5. Lịch sử Đảng Cộng Sản Việt Nam (History of Vietnamese Communist Party)

Mã môn học: PE018IU

Số tín chỉ: 2 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: Triết học Mác-Lênin, Kinh tế chính trị Mác-Lênin, Chủ nghĩa xã hội khoa học

Mô tả nội dung môn học: Cung cấp những tri thức có tính hệ thống, cơ bản về sự ra đời của Đảng Cộng sản Việt Nam (1920-1930), sự lãnh đạo của Đảng đối với cách mạng Việt Nam trong thời kỳ đấu tranh giành chính quyền (1930-1945), trong hai cuộc kháng chiến chống thực dân Pháp và đế quốc Mỹ xâm lược (1945-1975), trong sự nghiệp xây dựng, bảo vệ tổ quốc thời kỳ cả nước quá độ lên chủ nghĩa xã hội, tiến hành công cuộc đổi mới (1975-2018).

12.6. Toán 1 (Calculus 1)

Mã môn học: MA001IU

Số tín chỉ: 4 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Hàm số, Giới hạn, Tính liên tục, Đạo hàm, Đạo hàm cho các hàm cơ bản, Qui tắc tính đạo hàm, Ứng dụng của đạo hàm, Quy tắc L'hospitail, Tối ưu, Phương pháp Newton, Tích phân, Tích phân xác định, Các định lý cơ bản của giải tích, kỹ thuật tính tích phân.

12.7. Toán 2 (Calculus 2)

Mã môn học: MA003IU

Số tín chỉ: 4 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: MA001IU. Toán 1

Mô tả nội dung môn học: Dãy và chuỗi; Kiểm tra sự hội tụ; Chuỗi mũ; Chuỗi Taylor và Maclaurin; Hệ tọa độ Cartesian; Đường thẳng, Mặt và Mặt phẳng; Đạo hàm và tích phân của hàm Véctơ; Chiều dài đường cong; Mặt phẳng tham số; Mặt tiếp xúc; Véctơ Gradient; Cực trị; Nhân tử Lagrange; Tích phân bội: tích phân hai lớp, tích phân ba lớp, những kỹ thuật tính tích phân; Trường Véctơ, tích phân đường, tích phân mặt.

12.8. Vật lý 1 (Physics 1)

Mã môn học: PH013IU

Số tín chỉ: 2 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Khảo sát động học, động lực học, năng lượng học của chuyển động của chất điểm và của vật rắn.

12.9. Thống kê kinh doanh (Statistics for Business)

Mã môn học: BA080IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: Không

Mô tả nội dung môn học: Khóa học này giúp sinh viên bao quát hầu hết các lý thuyết và ứng dụng Thống kê trong Kinh doanh và Kinh tế

12.10. Pháp luật đại cương (General Law)

Mã môn học: PE021IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Khóa học này cung cấp cho sinh viên kiến thức chung, các khái niệm cơ bản, nguyên tắc, các ngành pháp lý chính phục vụ nền tảng của hệ thống pháp luật Việt Nam. Trong suốt khóa học, sinh viên cũng sẽ được làm quen với ngôn ngữ pháp lý; tham gia vào tư duy phê phán; và tiếp xúc với các kỹ năng lý luận và giải quyết vấn đề pháp lý để phát triển khả năng của học sinh, ứng dụng chúng vào các tình huống thực tế.

12.11. Kinh tế xây dựng (Construction economics)

Mã môn học: CM309IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Môn học này nhằm cung cấp cho sinh viên những kiến thức tổng quát về kinh tế vi mô và vĩ mô bao gồm: cơ chế hoạt động của thị trường, lý thuyết cung – cầu, cấu trúc thị trường của ngành xây dựng, các mục tiêu của kinh tế vĩ mô, các công cụ chính sách của nhà nước, lạm phát. Tác động của kinh tế vi mô và vĩ mô đối với ngành xây dựng cũng được đề cập trong môn học này.

12.12. Nguyên lý marketing (Principles of Marketing)

Mã môn học: BA003IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Khóa học là một giới thiệu về ngôn ngữ và các vấn đề tiếp thị với trọng tâm là học cách phát triển các chiến lược tiếp thị đáp ứng nhu cầu của khách hàng. Khóa học tập trung vào các khái niệm tiếp thị cơ bản, vai trò của tiếp thị trong tổ chức và vai trò của tiếp thị trong xã hội. Các chủ đề bao gồm phân khúc thị trường, phát triển sản phẩm, quảng bá, phân phối và giá cả. Các chủ đề khác, sẽ được đưa vào khóa học, bao gồm tác động của môi trường bên ngoài (kinh tế, chính trị, chính phủ và tự nhiên), nghiên cứu tiếp thị, thông tin tiếp thị. tiếp thị quốc tế/toàn cầu liên quan đến đa dạng văn hóa, đạo đức, tác động của công nghệ đối với tiếp thị.

12.13. Đạo đức nghề nghiệp và tư duy phản biện (Engineering Ethics and Critical Thinking)

Mã môn học: PE022IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Môn học này cung cấp cho sinh viên những kiến thức liên quan đến đạo đức nghề nghiệp. Sinh viên sẽ nghiên cứu các vấn đề về giá trị con người, giá trị của tổ chức, các khuynh hướng đạo đức xã hội và đạo đức nghề nghiệp liên quan đến việc ra quyết định của một tổ chức. Sinh viên cũng sẽ được trang bị các lý thuyết cơ bản về đạo đức, giá trị xã hội và vai trò của kỹ sư đối với hành vi tổ chức và xã hội.

12.14. Tiếng Anh chuyên ngành 1 - kỹ năng viết (Writing AE1)

Mã môn học: EN007IU

Số tín chỉ: 2 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Môn học nhằm nâng cao kỹ năng viết trình độ tiền nâng cao (pre-advanced). Chương trình tập trung vào việc xây dựng bài luận dựa trên các kỹ năng viết như: làm dàn bài, viết câu luận đề, kết nối và sắp xếp trình tự các đoạn, dung từ và cụm từ nối để tạo sự mạch lạc cho bài văn. Các thể loại bao gồm: miêu tả người, đồ vật,

qui trình, trình bày ý kiến, so sánh và đối chiếu, nguyên nhân – kết quả, nêu vấn đề - giải pháp, nghị luận

12.15. Tiếng Anh chuyên ngành 1 - kỹ năng nghe (Listening AE1)

Mã môn học: EN008IU

Số tín chỉ: 2 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Những kỹ năng nghe tiếng Anh học thuật, ghi chú, và thảo luận sẽ giúp sinh viên làm quen với những khó khăn trong việc học tiếng Anh ở đại học. Sinh viên sẽ học các kỹ năng cần thiết cho sinh viên Đại học quốc tế, bao gồm: nghe bài giảng chủ động, ghi chú hiệu quả, tham gia thảo luận tự tin. Cùng với các kỹ năng nghe, sinh viên cũng sẽ trau giồi thêm vốn từ vựng học thuật.

12.16. Tiếng Anh chuyên ngành 2 - kỹ năng viết (Writing AE2)

Mã môn học: EN011IU

Số tín chỉ: 2 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: tiếng Anh chuyên ngành 1 (kỹ năng viết)

Mô tả nội dung môn học: Khóa học nhằm cung cấp một cách tổng quát cấu trúc của một bài viết báo cáo nghiên cứu, từng bước giúp sinh viên hoàn tất một bài viết cụ thể trong lĩnh vực của mình. Nội dung của khóa học bao gồm: các thành phần của bài báo cáo, kỹ năng chọn và giới hạn đề tài, viết câu luận đề, làm dàn bài, tìm và dẫn chứng tài liệu, ghi chú, viết mở bài, nội dung chính và kết luận, viết và sửa chữa bản nháp. Sinh viên sẽ thực hành trên các đề tài liên quan đến môn học của mình.

12.17. Tiếng Anh chuyên ngành 2 - kỹ năng nói (Speaking AE2)

Mã môn học: EN012IU

Số tín chỉ: 2 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: tiếng Anh chuyên ngành 1 (kỹ năng nghe)

Mô tả nội dung môn học: Môn học cung cấp cho sinh viên các chiến lược thiết thực sử dụng trong việc thuyết trình. Ngoài ra, sinh viên được giúp đỡ hình thành kỹ năng lắng nghe, nhận xét và nêu ý kiến phản hồi đối với các bài thuyết trình khác trong lớp.

12.18. Cơ kỹ thuật và sức bền vật liệu (Engineering Mechanics and Mechanics of Materials)

Mã môn học: CE105IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Sự phân loại hệ lực và hợp lực; các điều kiện hình học và phân tích cho sự cân bằng của hệ lực, khung và giàn; ma sát, trọng tâm, tải trọng phân bố, mômen quán tính, biểu đồ nội lực trong dầm.

12.19. Vật liệu xây dựng (Construction Materials)

Mã môn học: CE210IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: Cơ kỹ thuật và sức bền vật liệu

Mô tả nội dung môn học: Các khái niệm và tính chất cơ bản của các loại vật liệu xây dựng. Các đặc tính hóa, lý và ứng xử cơ học và phi cơ học của các vật liệu xây dựng; các phương pháp thiết kế cấp phối vật liệu bê tông xi măng poocland, vữa xây, cốt liệu, bê tông nhựa đường.

12.20. Vẽ kỹ thuật (Computer Aided Design and Drafting)

Mã môn học: CE103IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Các nguyên lý trong vẽ thiết kế dựa vào sự trợ giúp máy tính; các thực thể đồ họa, các mẫu tô, lớp, tạo file và trích thông tin. Soạn thảo 2D và vẽ hình dùng hệ CADD. Giới thiệu về mô phỏng 3D và xoay bề mặt. Ứng dụng CADD trong kỹ thuật xây dựng.

12.21. Thực hành vẽ kỹ thuật (Computer Aided Design and Drafting Practice)

Mã môn học: CE104IU

Số tín chỉ: 1 thực hành

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Các nguyên lý trong vẽ thiết kế dựa vào sự trợ giúp máy tính; các thực thể đồ họa, các mẫu tô, lớp, tạo file và trích thông tin. Soạn thảo 2D và vẽ hình dùng hệ CADD. Giới thiệu về mô phỏng 3D và xoay bề mặt. Ứng dụng CADD trong kỹ thuật xây dựng.

12.22. Cơ học đất và nền móng (Soil Mechanics and foundation)

Mã môn học: CE106IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: Cơ kỹ thuật và sức bền vật liệu

Mô tả nội dung môn học: Môn học cung cấp cho sinh viên những kiến thức về đặc trưng cơ học của đất bao gồm: ứng suất trong đất; tính nén lún, cố kết và độ lún; sức kháng cắt; áp lực đất ngang; ổn định mái dốc; và khả năng chịu lực. Môn học cũng cung cấp những khái niệm cơ bản về phân tích và thiết kế nền móng.

12.23. Phân tích kết cấu 1 (Structural Analysis 1)

Mã môn học: CE209IU

Số tín chỉ: 2 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: Cơ kỹ thuật và sức bền vật liệu

Mô tả nội dung môn học: Phân tích các kết cấu tĩnh định như dàn, khung, cáp và vòm. Tính toán độ võng của dàn và khung phẳng. Đường ảnh hưởng của dầm và dàn. Giới thiệu về kết cấu siêu tĩnh.

12.24. Kết cấu bê tông cốt thép 1 (Reinforced Concrete 1)

Mã môn học: CE304IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: Phân tích kết cấu 1

Mô tả nội dung môn học: Nghiên cứu về ứng xử và thiết kế cấu kiện bê tông cốt thép theo yêu cầu của Tiêu chuẩn ACI cho dầm, sàn, cột, khung và móng.

12.25. Kết cấu thép (Steel Structures)

Mã môn học: CE305IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: Phân tích kết cấu 1

Mô tả nội dung môn học: Môn học giới thiệu về phương pháp thiết kế kết cấu thép dựa vào nguyên lý thiết kế hệ số tải trọng và sức chịu tải (LRFD). Môn học trình bày những chủ đề cơ bản liên quan đến cấu kiện chịu kéo, cột, dầm, dầm-cột, và liên kết đơn giản.

12.26. Trắc địa (Surveying)

Mã môn học: CE307IU

Số tín chỉ: 2 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Khái niệm về bản đồ địa hình; Độ chính xác của tỷ lệ bản đồ; Cách biểu diễn địa hình và địa vật. Sai số trong trắc địa, các trị số đo. Dụng cụ và Phương pháp đo góc, đo dài, đo cao. Lưới tọa độ: Lưới cao độ; Phương pháp bình sai. Đo vẽ và sử dụng bản đồ, mặt cắt địa hình: phương pháp đo chi tiết bằng máy toàn đạc điện tử. Bố trí công trình: Chuẩn bị số liệu; Chuyển góc và độ dài; Chuyển điểm; Chuyển độ cao và mặt phẳng; Chuyển đường cong ra hiện trường. Giới thiệu về Viễn thám, về hệ thống thông tin địa lý GPS.

12.27. Quản lý Xây dựng nhập môn (Introduction to Construction Management)

Mã môn học: CM205IU

Số tín chỉ: 2 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Môn học cung cấp cho sinh viên những kiến thức cơ bản về quản lý xây dựng. Các kiến thức bao gồm giới thiệu về ngành công nghiệp xây dựng, các chức năng cơ bản của quản lý xây dựng, kỹ thuật lập tiến độ, ước tính chi phí, quản lý hợp đồng, quản lý thiết bị, chất lượng và năng suất, và quản lý an toàn lao động …

12.28. Đồ án quản lý xây dựng (Construction Management Project)

Mã môn học: CM203IU

Số tín chỉ: 1 thực hành

Điều kiện: Môn học tiên quyết: không. Môn học trước: Quản lý xây dựng nhập môn (CM205IU)

Mô tả nội dung môn học: Môn học giúp sinh viên ứng dụng những kiến thức cơ bản về quản lý xây dựng. Các kiến thức bao gồm giới thiệu về ngành công nghiệp xây dựng, các chức năng cơ bản của quản lý xây dựng, kỹ thuật lập tiến độ, ước tính chi phí, quản lý hợp đồng, quản lý thiết bị, chất lượng và năng suất, và quản lý an toàn lao động …

12.29. Phân tích định lượng trong kinh doanh (Quantitative method for business)

Mã môn học: BA168IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Khóa học này cung cấp các công cụ định lượng cần thiết để phân tích và mô hình các vấn đề trong quá trình ra quyết định. Môn học bao gồm nhiều công cụ: lý thuyết trò chơi, kỹ thuật phân tích rủi ro, quy hoạch tuyến tích, quy hoạch mục tiêu, kỹ thuật ra quyết định đa tiêu chuẩn, phân tích tầng bậc, mạng lưới, lý thuyết xếp hàng và mô phỏng.

12.30. Quản lý nhân sự (Human Resource Management)

Mã môn học: BA156IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Khóa học kiểm tra chủ yếu là lý thuyết và thực hành quản lý nguồn nhân lực. Nó nhằm mục đích cung cấp một cái nhìn tổng quan về bộ phận nhân sự, cả các chủ trương chiến lược và hàng ngày, để cho phép doanh nghiệp có thể có đúng người cho các hoạt động suôn sẻ trong ngắn hạn và dài hạn. Các chủ đề chính của nghiên cứu bao gồm: môi trường nguồn nhân lực chiến lược; nhân sự và tổ chức; tăng cường động lực và hiệu suất; đền bù và khen thưởng cho lực lượng lao động; và quản lý sự nghiệp và môi trường làm việc và quan hệ lao động. Nói chung, khóa học trình bày cho sinh viên quy trình quản lý nhân sự tiêu chuẩn và một số thực tiễn tốt nhất để thực hiện nhiệm vụ một cách hiệu quả.

12.31. Quản lý vận hành trong xây dựng (Operation Management in Construction)

Mã môn học: CM301IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: CM205IU. Introduction to Construction Management

Mô tả nội dung môn học: Môn học được thiết kế nhằm cung cấp cho sinh viên những kiến thức liên quan đến việc quản lý vận hành các dự án xây dựng. Sinh viên sẽ nắm rõ việc tổ chức công trường, lập kế hoạch ký kết hợp đồng, tiến hành nghiên cứu định mức công việc. Sinh viên cũng được trang bị các kiến thức về an toàn lao động, quản lý rác thải, vật liệu và kho bãi, chuỗi cung ứng, và chất lượng trên công trường xây dựng.

12.32. Lập và thẩm định dự án xây dựng (Project Feasibility Study and Appraisal)

Mã môn học: CM308IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: CM303IU.Construction Planning and Scheduling

Mô tả nội dung môn học: Môn học được thiết kế nhằm cung cấp cho sinh viên những kiến thức liên quan đến lập và thẩm định dự án xây dựng. Các yêu cầu của một dự án đầu tư bao gồm: phân tích nhu cầu, mục tiêu, quy mô, pháp lý, kỹ thuật phân tích tài chính và kinh tế… được giới thiệu trong môn học này. Sinh viên còn được trang bị các công cụ và kỹ thuật bao gồm các kỹ thuật hệ thống, phân tích SWOT, phân tích chiến lược, rủi ro … để thẩm định và đánh giá mức độ khả thi của các dự án xây dựng.

12.33. Quản lý rủi ro (Risk Management)

Mã môn học: BA171IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Khóa học này là một nghiên cứu về quy trình quản lý rủi ro, tập trung vào bảo hiểm. Khóa học cung cấp cho người học kiến thức cần thiết về các khái niệm và thuật ngữ chính được sử dụng đặc biệt trong ngành Bảo hiểm và Quản lý rủi ro. Người học sẽ học các phương pháp và kỹ thuật có thể được sử dụng để đối phó với các loại rủi ro khác nhau. Các chính sách bao gồm cả Bảo hiểm nhân thọ và Tài sản và Bảo hiểm tai nạn được phân tích. Người học sẽ hiểu sâu hơn về Bảo hiểm nhân thọ, Bảo hiểm y tế, Bảo hiểm xã hội, Bảo hiểm tài sản, Bảo hiểm ô tô, ... Khóa học cũng đề cập đến công việc Quản lý rủi ro và các chức năng của mình tại công ty, có thể tạo cơ hội cho một số người học trong việc lựa chọn nghề nghiệp của họ trong tương lai.

12.34. Quản lý dự án xây dựng (phần mở rộng PMBOK) (Construction project management (PMBOK extension))

Mã môn học: CM311IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: CM305IU. Construction Cost Management; và CM303IU. Construction Planning and Scheduling

Mô tả nội dung môn học: Môn học này cung cấp những kiến thức tổng quát về quản lý dự án xây dựng bao gồm cả các vấn đề: quản lý tích hợp, quản lý mục tiêu, quản lý tiến độ, quản lý chi phí, quản lý chất lượng, ...

12.35. Đo bóc khối lượng và ước tính chi phí xây dựng (Construction Measurement and Cost Estimating)

Mã môn học: CM202IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: Vật liệu xây dựng, Nhập môn Quản lý Xây dựng. Môn học song hành: Bê tông cốt thép

Mô tả nội dung môn học: Môn học cung cấp cho sinh viên những kiến thức cơ bản về đo bóc, tính toán khối lượng và ước tính chi phí các công tác thi công xây dựng. Các khối lượng được sử dụng để ước tính chi phí và triển khai hồ sơ hợp đồng và kế hoạch mua sắm, đấu thầu.

12.36. Hoạch định và tiến độ xây dựng (Construction Planning and Scheduling)

Mã môn học: CM303IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: Đo bóc khối lượng và ước tính chi phí xây dựng

Mô tả nội dung môn học: Môn học được thiết kế nhằm cung cấp cho sinh viên những kiến thức liên quan đến quản lý tiến độ của các dự án xây dựng. Quản lý tiến độ là một trong những vấn đề quan trọng của quản lý xây dựng. Sinh viên được cung cấp các kiến thức và ứng dụng của các chức năng của hoạch định, các kỹ thuật lập tiến độ: sơ đồ ngang, tiến độ mạng, PERT, … Sinh viên cũng được giới thiệu các ứng dụng và thực hành phần mềm MS Project.

12.37. Đồ án hoạch định và tiến độ xây dựng (Construction Planning and Scheduling Project)

Mã môn học: CM307IU

Số tín chỉ: 1 thực hành

Điều kiện: Môn học tiên quyết: không. Môn học trước: CM303IU. Construction Planning and Scheduling; và CM202IU. Construction Measurement and Cost Estimating.

Mô tả nội dung môn học: Môn học được thiết kế nhằm giúp cho sinh viên ứng dụng những kiến thức liên quan đến quản lý tiến độ của các dự án xây dựng đã được học ở môn Hoạch định và tiến độ xây dựng.

12.38. Đồ án đo bóc khối lượng và ước tính chi phí xây dựng (Construction Measurement and Cost Estimating Project)

Mã môn học: CM304IU

Số tín chỉ: 1 thực hành

Điều kiện: Môn học tiên quyết: không. Môn học trước: Đo bóc khối lượng và ước tính chi phí xây dựng

Mô tả nội dung môn học: Môn học giúp cho sinh viên ứng dụng những kiến thức cơ bản về đo bóc, tính toán khối lượng và ước tính chi phí các công tác thi công xây dựng đã

được học trong môn Đo bóc khối lượng và ước tính chi phí xây dựng. Các khối lượng được sử dụng để ước tính chi phí và triển khai hồ sơ hợp đồng và kế hoạch mua sắm, đấu thầu.

12.39. Quản lý chi phí xây dựng (Construction Cost Management)

Mã môn học: CM305IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: Đo bóc khối lượng và ước tính chi phí.

Mô tả nội dung môn học: Môn học được thiết kế nhằm cung cấp cho sinh viên những kiến thức liên quan đến quản lý chi phí của các dự án xây dựng. Quản lý chi phí thực hiện từ giai đoạn tiền đấu thầu, đấu thầu, ký kết hợp đồng, hậu đấu thầu để đảm bảo ngân sách dự án theo qui mô và chất lượng của dự án

12.40. Đấu thầu và mua sắm (Construction Procurement and Tendering)

Mã môn học: CM302IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không

Môn học trước:CM202IU. Construction Measurement and Cost Estimating

Mô tả nội dung môn học: Môn học được thiết kế nhằm cung cấp cho sinh viên những kiến thức liên quan đến các phương pháp đấu thầu và mua sắm trong các dự án xây dựng. Sinh viên sẽ nắm vững các ưu nhược điểm, quy trình và phạm vi áp dụng của các phương pháp đấu thầu và mua sắm khác nhau. Quy trình chuẩn bị và tiến hành đấu thầu và mua sắm cũng được giới thiệu trong môn học.

12.41. Hệ thống quản lý thông tin công trình (Building Information Management)

Mã môn học: CM310IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Môn học này cung cấp cho sinh viên những kiến thức cơ bản của Hệ thống quản lý thông tin công trình và các ứng dụng của nó trong ngành xây dựng tương ứng với từng đối tượng hoạt động (chủ đầu tư, tư vấn, nhà thầu, …) trong ngành xây dựng.

12.42. Quản lý thi công công trường (Construction Jobsite Management)

Mã môn học: CM402IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Môn học này cung cấp cho sinh viên những kiến thức về vai trò, trách nhiệm, và quyền lợi của các bên tham gia dự án xây dựng. Sinh viên cũng sẽ được nghiên cứu cách thức quản lý các bên tham gia, vật tư-thiết bị, an toàn lao động, chất thải, và môi trường. Thiết kế, bố trí, và kiểm soát mặt bằng công trường cũng là nội dung

của môn học này.

12.43. Quản lý hợp đồng – Hợp đồng FIDIC (Contract Management – FIDIC contracts)

Mã môn học: CM404IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: CM302IU. Construction Procurement and Tendering

Mô tả nội dung môn học: Môn học này cung cấp cho sinh viên những kiến thức về quản lý hợp đồng xây dựng, các hợp đồng FIDIC và các vấn đề liên quan.

12.44. Đồ án lập và thẩm định dự án đầu tư (Feasibility study and appraisal project)

Mã môn học: CM401IU

Số tín chỉ: 1 thực hành

Điều kiện: Môn học tiên quyết: không. Môn học trước: Lập và thẩm định dự án đầu tư

Mô tả nội dung môn học: Môn học được thiết kế nhằm giúp sinh viên áp dụng những kiến thức đã được học trong môn Lập và thẩm định dự án đầu tư để lập một dự án đầu tư bao gồm các nội dung: nhu cầu, mục tiêu, quy mô, pháp lý, kỹ thuật, tổng mức đầu tư, tài chính, kinh tế, môi trường.

12.45. Đồ án hệ thống quản lý thông tin công trình (Building Information Management Project)

Mã môn học: CM312IU

Số tín chỉ: 1 thực hành

Điều kiện: Môn học tiên quyết: không. Môn học trước: Hệ thống quản lý thông tin công trình (CM310IU)

Mô tả nội dung môn học: Môn học được thiết kế nhằm cung cấp kỹ năng cần thiết cho sinh viên về cách thực hiện việc xây dựng mô hình thông tin cho một dự án thực tế. Dựa trên những kiến thức đã học và kỹ năng, sinh viên hiểu được khả năng ứng dụng của các mô hình BIM trong ngành xây dựng.

12.46. Trí tuệ nhân tạo trong Kỹ thuật và Quản lý Xây dựng (Artificial Intelligence in Civil Engineering and Construction Management)

Mã môn học: CE217IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: Không

Mô tả nội dung môn học: Môn học được thiết kế nhằm giúp sinh viên hiểu được cách thức áp dụng trí tuệ nhân tạo trong kỹ thuật xây dựng và quản lý xây dựng. Một số vấn đề điển hình của trí tuệ nhân tạo ứng dụng trong CE và CM được giới thiệu bao gồm

hồi quy, phân loại, phân đoạn, phát hiện bất thường trong dữ liệu thực nghiệm, dữ liệu giám sát, v.v.

12.47. Kỹ thuật giá trị (Value Engineering)

Mã môn học: CM403IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: CM305IU. Construction Cost Management

Mô tả nội dung môn học: Môn học được thiết kế nhằm cung cấp cho sinh viên những kiến thức về kỹ thuật giá trị. Kỹ thuật giá trị là một quy trình nhằm xác định các cơ hội để loại bỏ các chi phí không cần thiết nhưng vẫn đảm bảo chất lượng, độ tin cậy, năng suất và những yếu tố khác mà khách hàng kỳ vọng.

12.48. Kỹ thuật thi công (Construction Engineering)

Mã môn học: CE311IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Môn học giới thiệu những khái niệm cơ bản về thi công các công trình, bao gồm các công tác đất, thi công móng, thi công các công trình kết cấu gỗ, bê tông, gạch đá và thép.

12.49. Đồ án kỹ thuật thi công (Construction Project)

Mã môn học: CE403IU

Số tín chỉ: 1 thực hành

Điều kiện: Môn học tiên quyết: không

Môn học trước: CE311IU. Construction Engineering

Mô tả nội dung môn học: Môn học được thiết kế nhằm giúp sinh viên áp dụng những kiến thức đã được học trong môn Kỹ thuật thi công để lập biện pháp thi công bao gồm thiết kế cốp pha cột, dầm, sàn, thi công cọc và lập tiến độ thi công công trường.

12.50. Lãnh đạo (Leadership)

Mã môn học: BA098IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Khóa học này chuẩn bị cho sinh viên cho vai trò lãnh đạo trong cộng đồng và trong ngành nghề của họ. Nó sẽ cung cấp cho sinh viên những kiến thức, kỹ năng và yêu cầu để trở thành một nhà lãnh đạo hiệu quả. Sinh viên sẽ nắm rõ những yếu tố để lãnh đạo thành công. Sinh viên cũng sẽ nắm được lý thuyết và những ứng dụng thực tế để thành công trong cả cuộc sống cá nhân và nghề nghiệp của mình.

12.51. Quản lý thông tin dự án (Project communication Management)

Mã môn học: CM405IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: CM311IU.Construction project management (PMBOK extension)

Mô tả nội dung môn học: Môn học này cung cấp cho sinh viên những kiến thức về quản lý thông tin dự án và các tài liệu liên quan đến dự án.

12.52. Quản lý chất lượng công trình xây dựng (Construction quality management)

Mã môn học: CM406IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: CM311IU.Construction project management (PMBOK extension)

Mô tả nội dung môn học: Môn học này cung cấp cho sinh viên những lý thuyết về quản lý chất lượng và lập kế hoạch để đảm bảo chất lượng và kiểm soát chất lượng. Những yêu cầu và lưu ý của việc đảm bảo và kiểm soát chất lượng thi công cũng được đề cập trong môn học này.

12.53. Quản lý tích hợp dự án (Project Integration management)

Mã môn học: CM407IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: CM311IU.Construction project management (PMBOK extension)

Mô tả nội dung môn học: Môn học này cung cấp cho sinh viên những kiến thức về quản lý tích hợp trong suốt vòng đời dự án.

12.54. Quản lý tài chính dự án (Construction financial management)

Mã môn học: CM408IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: CM311IU.Construction project management (PMBOK extension)

Mô tả nội dung môn học: Môn học này cung cấp cho sinh viên những kiến thức tổng quát về quản lý tài chính dự án bao gồm những khái niệm về các chỉ số tài chính, chỉ số nợ trên vốn chủ sở hữu, vốn sở hữu, tài sản, doanh thu, lợi nhuận, … Sinh viên cũng được cung cấp những kiến thức quản lý liên quan đến chi phí, dòng tiền và những công cụ hỗ trợ cho việc ra các quyết định tài chính.

12.55. Giao tiếp kinh doanh (Business Communication)

Mã môn học: BA006IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Khóa học này cung cấp cho sinh viên một cái nhìn toàn diện về truyền thông, phạm vi và tầm quan trọng của nó trong kinh doanh và vai trò của truyền thông trong việc thiết lập thuận lợi bên ngoài môi trường vững chắc, cũng như một chương trình truyền thông nội bộ hiệu quả. Các loại phương tiện truyền thông kinh doanh được bảo hiểm. Khóa học này cũng phát triển nhận thức về tầm quan trọng của biểu hiện bằng văn bản cô đọng đối với giao tiếp kinh doanh hiện đại.

12.56. Quản lý tài chính cơ bản (Fundamental of Financial Management)

Mã môn học: BA016IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Mục đích của khóa học này là để cho sinh viên tiếp cận và làm quen với các khung lý thuyết và các vấn đề thực tế của quản lý tài chính. Nội dung môn học bao gồm: giới thiệu về quản lý tài chính; giá trị thời gian của tiền; kỹ thuật định giá các công cụ tài chính như trái phiếu và cổ phiếu; đánh giá các dự án lớn; mối quan hệ giữa rủi ro và lợi nhuận; giới thiệu về Mô hình định giá tài sản vốn (CAPM) và lý thuyết danh mục đầu tư; và chi phí vốn và cấu trúc vốn.

12.57. Quản lý chất lượng (Quality Management)

Mã môn học: BA018IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Khóa học này giới thiệu các nguyên tắc quản lý chất lượng, tập trung vào giải quyết vấn đề chức năng chéo; cung cấp một sự hiểu biết cơ bản về triết lý, khung khái niệm và các công cụ của Quản lý chất lượng toàn diện.

12.58. Trí tuệ nhân tạo nâng cao trong Kỹ thuật và Quản lý Xây dựng (Advanced Artificial Intelligence in Civil Engineering and Construction Management)

Mã môn học: CE412IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: Trí tuệ nhân tạo trong Kỹ thuật và Quản lý Xây dựng (CE217IU)

Mô tả nội dung môn học: Khóa học này cung cấp cho sinh viên kiến thức nâng cao về học máy (ML) và các công cụ phân tích cùng với các ứng dụng của chúng trong kỹ thuật dựng và quản lý xây dựng. Khóa học sẽ nhấn mạnh vào 1) các thuật toán được giám sát truyền thống như máy vectơ hỗ trợ, 2) các thuật toán học máy bao gồm đóng gói và tăng cường, 3) thuật toán học sâu, 4) nguyên tắc cơ bản của các công cụ được sử dụng để xử lý dữ liệu quy mô lớn và 5) các công cụ được sử dụng để xử lý các thuật toán ML.

12.59. Dẫn nhập quản trị kinh doanh (Introduction to Business Administration)

Mã môn học: BA115IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Mục tiêu khóa học giới thiệu cho sinh viên những khía cạnh phức tạp và đa chiều của việc kinh doanh. Môn học giúp cho sinh viên quen với những kiến thức về những nội dung cốt lõi: Tiếp thị, quản lý, nhân sự. Môn học cũng nhằm tăng cường những hiểu biết của sinh viên về các vấn đề quốc tế.

12.60. Hành vi tổ chức (Organizational Behavior)

Mã môn học: BA130IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Khóa học này muốn kiểm tra các lý thuyết và cách ứng dụng chúng như thế nào và tại sao các tổ chức, doanh nghiệp lại hành xử theo cách đó. Ngoài ra, khóa học còn phân tích các yếu tố gây ra những hành vi cụ thể trong một tổ chức, và trình bày những sơ đồ hỗ trợ cho khái niệm liên quan để chỉ ra hành vi ảnh hưởng đến việc đưa ra quyết định và tính hiệu quả của tổ chức như thế nào. Các chủ đề chính bao gồm: Các động thái của cá nhân và tổ chức, quản lý truyền thông, hệ thống xã hội và văn hóa tổ chức, chế độ đãi ngộ, lãnh đạo và việc nâng cao vị thế, thái độ và những hệ quả đi kèm, hành vi của cá nhân và nhóm, xây dựng đội ngũ, quản lý thay đổi, stress và tư vấn giảm stress.

12.61. Kỹ năng vi tính trong kinh doanh (Business Computing Skills)

Mã môn học: BA120IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Khóa học này nhằm cung cấp hướng dẫn kỹ lưỡng về các ứng dụng khác nhau của máy tính, các phụ kiện quan trọng, các nguyên tắc mạng. Ngoài ra, sinh viên sẽ được giới thiệu các kỹ năng, kiến thức và thuộc tính giới thiệu cần thiết để thực hiện một loạt các nhiệm vụ và thủ tục thông thường trong một văn phòng sử dụng máy tính. Hơn nữa, khóa học này nhằm mục đích cung cấp cho những người tham gia yêu cầu đào tạo lại các ứng dụng được vi tính hóa cho các nghề nghiệp văn thư với phần giới thiệu về tối thiểu một gói phần mềm được sử dụng trong văn phòng.

12.62. Kế toán tài chính (Financial Accounting)

Mã môn học: BA005IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Môn học này cung cấp cho sinh viên những nguyên lý cơ bản của hệ thống kế toán tài chính và các vấn đề liên quan đến việc quản trị hệ thống kế toán tài chính doanh nghiệp.

12.63. Phương pháp nghiên cứu (Business Research Methods)

Mã môn học: BA161IU

Số tín chỉ: 3 lý thuyết

Điều kiện: Môn học tiên quyết: không. Môn học trước: Thống kê kinh doanh

Mô tả nội dung môn học: Khóa học này cung cấp các chủ đề quan trọng liên quan đến phương pháp nghiên cứu. Nó giới thiệu toàn bộ quá trình nghiên cứu, từ xây dựng các câu hỏi nghiên cứu đến thiết kế nghiên cứu và kết thúc bằng việc viết báo cáo. Nội dung khóa học nhấn mạnh vào hai cách tiếp cận chính của thiết kế nghiên cứu: định tính và định lượng, nó cũng cung cấp các kỹ thuật cho phương pháp thu thập dữ liệu, thiết kế dụng cụ và đo lường, và sàng lọc, chuẩn bị và phân tích dữ liệu. Khóa học cũng đề cập đến các vấn đề đạo đức trong nghiên cứu.

12.64. Bê tông cốt thép 2

Mã môn học: CE310IU

Số tín chỉ: 3

Điều kiện: Môn học tiên quyết: không. Môn học trước: Bê tông cốt thép 1

Mô tả nội dung môn học: Phân tích và thiết kế kết cấu bêtông dự ứng lực; dầm; sàn. Phân tích và thiết kế sàn composite. Tiêu chuẩn xây dựng EC2 được được sử dụng trong khóa học này

12.65. Nhà nhiều tầng

Mã môn học: CE407IU

Số tín chỉ: 3

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Các khái niệm thiết kế cơ bản của nhà cao tầng: hiệu ứng gió và tải trọng gió: phân tích ảnh hưởng của động đất và thiết kế; hệ thống chịu tải trọng đứng cho kết cấu thép, bê tông và composite: sự ổn định của các tòa nhà cao tầng; co ngót và hiệu ứng nhiệt độ; phương pháp thiết kế và phân tích; tường chịu cắt và thiết kế tường lõi thang máy.

12.66. Xây dựng bền vững

Mã môn học: CE415IU

Số tín chỉ: 3

Điều kiện: Môn học tiên quyết: không. Môn học trước: không

Mô tả nội dung môn học: Khóa học này cung cấp cho sinh viên kiến thức về công trình xanh, bao gồm các nguyên tắc cơ bản về công trình xanh, đánh giá công trình xanh, thiết kế công trình xanh và triển khai công trình xanh.

12.67. Thực tập (Internship)

Mã môn học: CM306IU

Số tín chỉ: 3 thực hành

Điều kiện: Môn học tiên quyết: không. Môn học trước: Hoạch định và tiến độ xây dựng, Quản lý chi phí xây dựng

Mô tả nội dung môn học: Thực tập cung cấp cho sinh viên cơ hội để áp dụng thực tế kiến thức thu được trong quá trình học tập. Sinh viên sẽ thực tập tại các công ty xây dựng nước ngoài, các doanh nghiệp hoặc cơ quan nhà nước và các ngành doanh nghiệp tư nhân. Sinh viên làm việc dưới sự giám sát của đơn vị thực tập và giảng viên IU. Vai trò của người giám sát tại công ty là giám sát và tư vấn cho sinh viên trong suốt thời gian thực tập. Người giám sát và cố vấn sẽ hoàn thành một mẫu đánh giá hiệu suất khi kết thúc thực tập. Học sinh sẽ trình bày các kinh nghiệm thực tập thông qua các báo cáo hàng tuần và thảo luận trực tiếp.

12.68. Luận văn tốt nghiệp (Graduation Thesis)

Mã môn học: CM420IU

Số tín chỉ: 10 thực hành

Điều kiện: Môn học tiên quyết: không. Môn học trước: Tích lũy ít nhất 120 tín chỉ, Thực tập, Phương pháp nghiên cứu.

Mô tả nội dung môn học: Trong luận văn, sinh viên thực hiện thiết kế biện pháp thi công, soạn thảo các hồ sơ liên quan bao gồm: hồ sơ mời thầu, chỉ dẫn kỹ thuật, hợp đồng cho các cấu kiện móng, cột, dầm, sàn, tổng mặt bằng. Sinh viên cũng có thể áp dụng kiến thức đã học để thực hiện các đề tài nghiên cứu liên quan đến quản lý xây dựng.

TRƯỞNG KHOA	**KT. HIỆU TRƯỞNG** **PHÓ HIỆU TRƯỞNG**
Nguyễn Hoài Nghĩa	**Đinh Đức Anh Vũ**

ĐẠI HỌC QUỐC GIA
THÀNH PHỐ HỒ CHÍ MINH
TRƯỜNG ĐẠI HỌC QUỐC TẾ

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập – Tự do – Hạnh phúc

Phụ lục 1
NỘI DUNG ĐIỀU CHỈNH CHƯƠNG TRÌNH ĐÀO TẠO
NGÀNH QUẢN LÝ XÂY DỰNG KHÓA 2024 SO VỚI KHÓA 2023

(Kèm theo Quyết định số /QĐ-ĐHQT ngày tháng năm 2024
của Hiệu trưởng trường Đại học Quốc tế)

1. Các môn học loại bỏ khỏi chương trình đào tạo

Không có.

2. Các môn học bổ sung vào chương trình đào tạo

- Bổ sung môn tự chọn CE310IU – Reinforced Concrete 2 – 3 tín chỉ (3LT+ 0TH)
- Bổ sung môn tự chọn CE407IU – Tall Buildings – 3 tín chỉ (3LT + 0TH)
- Bổ sung môn tự chọn CE415IU - Sustainable Construction – 3 tín chỉ (3LT + 0TH)

3. Các điều chỉnh khác

Nội dung thay đổi	Cập nhật mới	Lý do thay đổi
Chỉnh sửa đề cương môn học CE210IU - Construction Materials – 3 tín chỉ (3LT + 0TH)	Đề cương môn học CE210IU - Construction Materials - 3 tín chỉ (3LT +0TH)	Bổ sung nội dung "sustainability"
Chỉnh sửa đề cương môn học CE209IU - Structural Analysis 1 – 2 tín chỉ (2LT + 0TH)	Đề cương môn học CE209IU - Structural Analysis 1 – 2 tín chỉ (2LT + 0TH)	Bổ sung nội dung lập trình nhằm đáp ứng nhu cầu thực tiễn trong xây dựng
Chỉnh sửa đề cương môn học CE304IU - Reinforced Concrete 1 - 3 tín chỉ (3LT + 0TH)	Đề cương môn học CE304IU - Reinforced Concrete 1 - 3 tín chỉ (3LT + 0TH)	
Chỉnh sửa đề cương môn học CE305IU - Steel Structures - 3 tín chỉ (3LT +0TH)	Đề cương môn học CE305IU - Steel Structures 3 tín chỉ (3LT + 0TH)	

4. Hướng xử lý cho các sinh viên khóa cũ khi chưa học các môn học bị loại bỏ khỏi chương trình đào tạo

Không có.

ĐẠI HỌC QUỐC GIA
THÀNH PHỐ HỒ CHÍ MINH
TRƯỜNG ĐẠI HỌC QUỐC TẾ

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập – Tự do – Hạnh phúc

Phụ lục 2
ĐỀ CƯƠNG CHI TIẾT CÁC MÔN HỌC

(Kèm theo Quyết định số /QĐ-ĐTĐH ngày tháng năm 2024 của Hiệu trưởng Trường Đại học Quốc tế)

(Sắp xếp đúng thứ tự môn học theo Bảng 9 - Nội dung CTĐT)

PHILOSOPHY OF MARXISM AND LENINISM

1. General Information

- Course Title:
  - Vietnamese: Triết học Mác-Lênin
  - English: Philosophy of Marxism and Leninism
- Course ID: PE015IU
- Course type

☑ General
☐ Specialization (required)
☐ Project/ Internship/ Thesis
☐ Fundamental
☐ Specialization (elective)
☐ Others : ……

- Number of credits: 3
  - Lecture: 3
  - Laboratory: 0
- Prerequisites:
- Parallel Course:
- Course standing in curriculum: Year 1

2. Course Description

Môn học cung cấp những nội dung cơ bản về thế giới quan và phương pháp luận của chủ nghĩa Mác-Lênin.

3. Textbooks and References

Textbooks: #

1. Bộ Giáo dục và Đào tạo (2019), Giáo trình Triết học Mác – Lênin, NXB Chính trị quốc gia, Hà Nội.
2. Bộ Giáo dục và Đào tạo (2012), Giáo trình Những nguyên lý cơ bản của Chủ nghĩa Mác – Lênin, NXB Chính trị quốc gia, Hà Nội.
3. Hội đồng Trung ương (2008), Giáo trình Triết học Mác – Leenin, NXB Chính trị quốc gia, Hà Nội

References:

4. Course Objectives

- Môn học trang bị cho sinh viên những nội dung cơ bản về thế giới quan, phương pháp luận triết hoc Mác – Lênin.
- Giúp cho sinh viên vận dụng những tri thức về thế giới quan, phương pháp luận triết học Mác – Lênin một cách sáng tạo trong hoạt động nhận thức và thực tiễn, nhằm giải quyết những vấn đề mà đời sống xã hội của đất nước, của thời đại đang đặt ra.

5. Learning Outcomes

Learning Outcome Codes	Course Learning Outcomes	Program Learning Outcomes (*)
L.O.1	Hiểu biết những lý luận cơ bản nhất của Chủ nghĩa Mác-Lênin	d, g
L.O.2	Có thế giới quan, nhân sinh quan và phương pháp luận chung nhất làm nền tảng để tiếp thu các kiến thức chuyên ngành quản lý xây dựng	d, g

(*) Refer to ABET student outcomes

(a) an ability to identify, formulate, and solve engineering and management related problems by applying principles of engineering, science, and mathematics which are necessary for engineers of construction management.

(b) an ability to apply engineering and management to produce construction project feasibility study and appraisal that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

(c) an ability to communicate effectively with a range of audiences

(d) an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering and management solutions in global, economic, environmental, and societal contexts

(e) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(f) an ability to develop and conduct appropriate construction management research, analyze and interpret data, and use engineering judgment to draw conclusions

(g) an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

6. Course Assessment

Assessment Component	Assessment form	Percentage %
A1. Process assessment	Quiz, attendance	30
A2. Midterm assessment	Midterm exam	20
A3. Final assessment	Final exam	50

7. Course Outlines

Theo quy đinh của Bộ Giáo Dục và Đào Tạo

Theory

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
1-5	Triết học và vai trò của triết học trong đời sống xã hội	L.O.1	Lecture Class discussion	Quiz
6-8	Chủ nghĩa duy vật biện chứng	L.O.1	Lecture Class discussion	Quiz
9	**MIDTERM EXAM**			Written exam
10-11	Chủ nghĩa duy vật biện chứng	L.O.1	Lecture Class discussion	Quiz
12-16	Chủ nghĩa duy vật lịch sử	L.O.1, L.O.2	Lecture Class discussion	Quiz

8. Course Policy

Class Participation: A minimum attendance of 80 % is compulsory for the class sessions and 100% is compulsory for the laboratory sessions. Students will be assessed on the basis of their class participation. Questions and comments are strongly encouraged.

Academic Honesty and Plagiarism: Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade. For this class, all assignments are to be completed by the individual student unless otherwise specified. Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for preparation, research, drafting, and the proper referencing of sources in preparing all assessment items.

POLITICAL ECONOMICS OF MARXISM AND LENINISM

1. General Information

- Course Title:
  - Vietnamese: Kinh tế chính trị Mác-Lênin
  - English: Political economics of Marxism and Leninism
- Course ID: PE016IU
- Course type

☑ General
☐ Specialization (required)
☐ Project/ Internship/ Thesis
☐ Fundamental
☐ Specialization (elective)
☐ Others : ……

- Number of credits: 2
  - Lecture: 2
  - Laboratory: 0
- Prerequisites:
- Parallel Course:
- Course standing in curriculum: Year 1

2. Course Description

Môn học trang bị cho sinh viên những nội dung cốt lõi của Kinh tế chính trị Mác – Lênin, bao gồm: Hàng hóa, thị trường và vai trò của các chủ thể trong nền kinh tế thị trường; sản xuất giá trị thặng dư trong nền kinh tế thị trường; cạnh tranh và độc quyền trong nền kinh tế thi trường; kinh tế thị trường định hướng xã hội chủ nghĩa và các quan hệ lợi ích kinh tế ở Việt Nam; công nghiệp hóa, hiện đại hóa và hội nhập kinh tế quốc tế ở Việt Nam.

3. Textbooks and References

Textbooks: #

1. Bộ Giáo dục và Đào tạo (2019), Giáo trình Kinh tế chính trị Mác – Lênin dành cho bậc đại học không chuyên kinh tế chính trị. NXB. Chính trị quốc gia. Hà Nội.

References: #

1. Robert, J.R. và Robert F. H. (2003), Lịch sử các học thuyết kinh tế, Bản tiếng Việt, NXB Thống kê.

4. Course Objectives

- Trang bị cho sinh viên những kiến thức cơ bản, cốt lõi của Kinh tế chính trị Mác – Lênin trong bối cảnh phát triển kinh tế của đất nước và thế giới ngày nay. Đảm bảo tính cơ bản, hệ thống, khoa học, cập nhật tri thức mới, gắn với thực tiễn, tính sáng tạo, kỹ năng, tư duy, phẩm chất người học.
- Hình thành tư duy, kỹ năng phân tích, đánh giá và nhận diện bản chất của các quan hệ lợi ích kinh tế trong phát triển kinh tế - xã hội của đất nước góp phần giúp sinh viên xây dựng trách nhiệm xã hội phù hợp, xây dựng lập trường, ý thức hệ tư tưởng Mác – Lênin đối với sinh viên.

5. Learning Outcomes

Learning Outcome Codes	Course Learning Outcomes	Program Learning Outcomes (*)
L.O.1	Hiểu biết những kiến thức cơ bản, cốt lõi của Kinh tế chính trị Mác – Lênin trong bối cảnh phát triển kinh tế của đất nước và thế giới ngày nay. Đảm bảo tính cơ bản, hệ thống, khoa học, cập nhật tri thức mới, gắn với thực tiễn, tính sáng tạo, kỹ năng, tư duy, phẩm chất người học	a, d, g

Learning Outcome Codes	Course Learning Outcomes	Program Learning Outcomes (*)
L.O.2	Hình thành tư duy, kỹ năng phân tích, đánh giá và nhận diện bản chất của các quan hệ lợi ích kinh tế trong phát triển kinh tế - xã hội của đất nước góp phần giúp sinh viên xây dựng trách nhiệm xã hội phù hợp, xây dựng lập trường, ý thức hệ tư tưởng Mác – Lênin	a, d, g

(*) Refer to ABET student outcomes

(a) an ability to identify, formulate, and solve engineering and management related problems by applying principles of engineering, science, and mathematics which are necessary for engineers of construction management.

(b) an ability to apply engineering and management to produce construction project feasibility study and appraisal that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

(c) an ability to communicate effectively with a range of audiences

(d) an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering and management solutions in global, economic, environmental, and societal contexts

(e) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(f) an ability to develop and conduct appropriate construction management research, analyze and interpret data, and use engineering judgment to draw conclusions

(g) an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

6. Course Assessment

Assessment Component	Assessment form	Percentage %
A1. Process assessment	Quiz, attendance	30
A2. Midterm assessment	Midterm exam	20
A3. Final assessment	Final exam	50

7. Course Outlines

Theo quy định của Bộ Giáo dục và Đào tạo

Theory

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
1	Đối tượng, phương pháp nghiên cứu và chức năng của Kinh tế chính trị Mác - Lênin	L.O.1, L.O.2	Lecture Class discussion	Quiz
2-4	Hàng hóa, thị trường và vai trò của các chủ thể tham gia thị trường	L.O.1	Lecture Class discussion	Quiz
5-7	Giá trị thặng dư của nền kinh tế thị trường	L.O.1, L.O.2	Lecture Class discussion	Quiz
8	Cạnh tranh và độc quyền trong nền kinh tế thị trường	L.O.1, L.O.2	Lecture Class discussion	Quiz
9	**MIDTERM**			Written exam
10-11	Cạnh tranh và độc quyền trong nền kinh tế thị trường	L.O.1, L.O.2	Lecture Class discussion	Quiz
12-14	Kinh tế thị trường định hướng xã	L.O.1,	Lecture	Quiz

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
	hội chủ nghĩa và các quan hệ lợi ích kinh tế ở Việt Nam	L.O.2	Class discussion	
15-16	Công nghiệp hóa, hiện đại hóa và hội nhập kinh tế quốc tế của Việt Nam	L.O.1, L.O.2, L.O.3		

8. Course Policy

- Phải nghiên cứu giáo trình, chuẩn bị các ý kiến hỏi, đề xuất khi nghe giảng. Chuẩn bị thảo luận và đọc, sưu tầm các tư liệu có liên quan đến nội dung của chương.
- Dành thời gian cho việc nghiên cứu trước bài giảng dưới sự hướng dẫn của giảng viên.
- Tham dự các buổi thảo luận, các buổi lên lớp theo quy định.

9. Course Coordinator/ Lecturer

- Department of Civil Engineering:
- Course Coordinator/ Lecturer:
- Email:

SCIENTIFIC SOCIALISM

1. General Information

- Course Title:
  - Vietnamese: Chủ nghĩa xã hội khoa học
  - English: Scientific Socialism
- Course ID: PE017IU
- Course type

☑ General
☐ Specialization (required)
☐ Project/ Internship/ Thesis
☐ Fundamental
☐ Specialization (elective)
☐ Others : ……

- Number of credits: 2
  - Lecture: 2
  - Laboratory: 0
- Previous Course: PE015IU (Philosophy of Marxism and Leninism), PE016IU (Political economics of Marxism and Leninism)
- Parallel Course:
- Course standing in curriculum: Year 2

2. Course Description

Nội dung chủ yếu của môn học là cung cấp cho sinh viên những hiểu biết cơ bản có hệ thống cuả chủ nghĩa xã hội khoa học.

3. Textbooks and References

Textbooks: #

1. Bộ Giáo dục và Đào tạo (2019), Giáo trình Chủ nghĩa xã hội khoa học, NXB Chính trị quốc gia, Hà Nội.
2. Bộ Giáo dục và Đào tạo (2012), Giáo trình Những nguyên lý cơ bản của Chủ nghĩa Mác – Lênin, NXB Chính trị quốc gia, Hà Nội.
3. Hội đồng Trung ương (2008), Giáo trình Chủ nghĩa xã hội khoa học, NXB Chính trị quốc gia, Hà Nội

References:

4. Course Objectives

- Môn học cung cấp những nội dung cơ bản cuả chủ nghĩa xã hội khoa học.
- Giúp sinh viên vận dụng những tri thức cơ bản của chủ nghĩa xã hội khoa học một cách sáng tạo trong hoạt động nhận thức và thực tiên, nhằm giải quyết những vấn đề mà đời sống xã hội của đất nước, của thời đại đặt ra.

5. Learning Outcomes

Learning Outcome Codes	Course Learning Outcomes	Program Learning Outcomes (*)
L.O.1	Hiểu biết những lý luận cơ bản nhất của chủ nghĩa xã hội khoa học	d, g
L.O.2	Có thể vận dụng những tri thức cơ bản của chủ nghĩa xã hội khoa học một cách sáng tạo trong hoạt động nhận thức và thực tiên, nhằm giải quyết những vấn đề mà đời sống xã hội của đất nước, của thời đại đặt ra.	d, g

(*) Refer to ABET student outcomes

(a) an ability to identify, formulate, and solve engineering and management related problems by applying principles of engineering, science, and mathematics which are necessary for engineers of construction management.

(b) an ability to apply engineering and management to produce construction project feasibility study and appraisal that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

(c) an ability to communicate effectively with a range of audiences

(d) an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering and management solutions in global, economic, environmental, and societal contexts

(e) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(f) an ability to develop and conduct appropriate construction management research, analyze and interpret data, and use engineering judgment to draw conclusions

(g) an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

6. Course Assessment

Assessment Component	Assessment form	Percentage %
A1. Process assessment	Quiz, attendance	30
A2. Midterm assessment	Midterm exam	20
A3. Final assessment	Final exam	50

7. Course Outlines

Theo quy đinh của Bộ Giáo Dục và Đào Tạo

Theory

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
1	Nhập môn chủ nghĩa xã hội khoa học	L.O.1	Lecture Class discussion	Quiz
2-4	Sứ mệnh lịch sử của giai cấp công nhân	L.O.1	Lecture Class discussion	Quiz
5-7	Chủ nghĩa xã hội và thời kỳ quá độ lên chủ nghĩa xã hội	L.O.1	Lecture Class discussion	Quiz
8	Dân chủ xã hội chủ nghĩa và nhà nước xã hội chủ nghĩa	L.O.1, L.O.2	Lecture Class discussion	Quiz
9	**MIDTERM EXAM**			Written exam
10	Dân chủ xã hội chủ nghĩa và nhà nước xã hội chủ nghĩa	L.O.1, L.O.2	Lecture Class discussion	Quiz
11-12	Cơ cấu xã hội – giai cấp và liên minh giai cấp, tầng lớp trong thời kỳ quá độ lên chủ nghĩa xã hội	L.O.1, L.O.2	Lecture Class discussion	Quiz
13-14	Vấn đề dân tộc và tôn giáo trong thời kỳ quá độ lên chủ nghĩa xã hội	L.O.1, L.O.2	Lecture Class discussion	Quiz
15-16	Vấn đề gia đình trong thời kỳ quá độ lên chủ nghĩa xã hội	L.O.1, L.O.2	Lecture Class discussion	Quiz

8. Course Policy

Class Participation: A minimum attendance of 80 % is compulsory for the class sessions and 100% is compulsory for the laboratory sessions. Students will be assessed on the basis of their class participation. Questions and comments are strongly encouraged.

Academic Honesty and Plagiarism: Instances of academic dishonesty will not be tolerated.

Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade. For this class, all assignments are to be completed by the individual student unless otherwise specified. Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for preparation, research, drafting, and the proper referencing of sources in preparing all assessment items.

9. Course Coordinator/ Lecturer

- Department of Civil Engineering:
- Course Coordinator/ Lecturer:
- Email:

HISTORY OF VIETNAMESE COMMUNIST PARTY

1. General Information

- Course Title:
  - Vietnamese: Lịch sử Đảng Cộng Sản Việt Nam
  - English: History of Vietnamese Communist Party
- Course ID: PE018IU
- Course type

☑ General
☐ Specialization (required)
☐ Project/ Internship/ Thesis
☐ Fundamental
☐ Specialization (elective)
☐ Others : ……

- Number of credits: 2
  - Lecture: 2
  - Laboratory: 0
- Previous Course: PE015IU (Philosophy of Marxism and Leninism), PE016IU (Political economics of Marxism and Leninism), PE017IU (Scientific Socialism)
- Parallel Course:
- Course standing in curriculum: Year 2

2. Course Description

Cung cấp những tri thức có tính hệ thống, cơ bản về sự ra đời của Đảng Cộng sản Việt Nam (1920-1930), sự lãnh đạo của Đảng đối với cách mạng Việt Nam trong thời kỳ đấu tranh giành chính quyền (1930-1945), trong hai cuộc khánh chiến chống thực dân Pháp và đế quốc Mỹ xâm lược (1945-1975), trong sự nghiệp xây dựng, bảo vệ tổ quốc thời kỳ cả nước quá độ lên chủ nghĩa xã hội, tiến hành công cuộc đổi mới (1975-2018).

3. Textbooks and References

Textbooks: #

1. Bộ Giáo dục và Đào tạo (2019), Chương trình môn học Lịch sử Đảng Cộng sản Việt Nam, ban hành 2019.
2. Hội đồng Trung ương chỉ đạo biên soạn giáo trình quốc gia các môn khoa học Mác-Lênin, tư tưởng Hồ Chí Minh (2018), Giáo trình Lịch sử Đảng Cộng sản Việt Nam, HXB. Chính trị quốc gia, Hà Nội.

4. Course Objectives

1. Cung cấp cho sinh viên hiểu biết về lịch sử của Đảng Cộng sản Việt Nam. Xây dựng cho sinh viên niềm tin vào sự lãnh đạo của Đảng, theo mục tiêu, lý tưởng của Đảng.
2. Giúp sinh viên vận dụng kiến thức chuyên ngành để chủ động, tích cực trong giải quyết những vấn đề kinh tế, chính trị, văn hoá, xã hội theo đường lối, chính sách, pháp luật của Đảng và Nhà nước.

5. Learning Outcomes

Learning Outcome Codes	Course Learning Outcomes	Program Learning Outcomes (*)
L.O.1	Hiểu rõ những nội dung cơ bản của đường lối cách mạng của Đảng Cộng sản Việt Nam, trong đó chủ yếu tập trung vào đường lối của Đảng thời kỳ đổi mới trên một số lĩnh vực cơ bản của đời sống xã hội phục vụ cho cuộc sống và công tác.	d, g
L.O.2	Vận dụng kiến thức chuyên ngành để chủ động, tích cực trong giải quyết những vấn đề kinh tế, chính trị, văn hoá, xã hội theo đường lối, chính sách, pháp luật của Đảng và Nhà nước.	d, g

(*) Refer to ABET student outcomes

(a) an ability to identify, formulate, and solve engineering and management related problems by applying principles of engineering, science, and mathematics which are necessary for engineers of construction management.

(b) an ability to apply engineering and management to produce construction project feasibility study and appraisal that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

(c) an ability to communicate effectively with a range of audiences

(d) an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering and management solutions in global, economic, environmental, and societal contexts

(e) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(f) an ability to develop and conduct appropriate construction management research, analyze and interpret data, and use engineering judgment to draw conclusions

(g) an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

6. Course Assessment

Assessment Component	Assessment form	Percentage %
A1. Process assessment	Quiz, attendance	30
A2. Midterm assessment	Midterm exam	20
A3. Final assessment	Final exam	50

7. Course Outlines

Theory

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
1	Đối tượng, chức năng, nhiệm vụ, nội dung và phương pháp nghiên cứu, học tập lịch sử Đảng Cộng sản Việt Nam	L.O.1, L.O.2	Lecture Class discussion	Quiz
2-6	Đảng Cộng sản Việt Nam ra đời và lãnh đạo đấu tranh giành chính quyền (1930-1945)	L.O.1	Lecture Class discussion	Quiz
7-11	Đảng lãnh đạo hai cuộc kháng chiến, hoàn thành giải phóng dân tộc, thống nhất đất nước (1945-1975)	L.O.1, L.O.2	Lecture Class discussion	Quiz
12-15	Đảng lãnh đạo cả nước quá độ lên Chủ nghĩa Xã hội và tiến hành công cuộc đổi mới (1975-2018)	L.O.1, L.O.2	Lecture Class discussion	Quiz

8. Course Policy

Class Participation: A minimum attendance of 80 % is compulsory for the class sessions and 100% is compulsory for the laboratory sessions. Students will be assessed on the basis of their class participation. Questions and comments are strongly encouraged.

Academic Honesty and Plagiarism: Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade. For this class, all assignments are to be completed by the individual student unless otherwise specified. Students are

also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for preparation, research, drafting, and the proper referencing of sources in preparing all assessment items.

9. Course Coordinator/ Lecturer

- Department of Civil Engineering:
- Course Coordinator/ Lecturer:
- Email:

HO CHI MINH'S THOUGHTS

1. General Information

- Course Title:
  - Vietnamese: Tư tưởng Hồ Chí Minh
  - English: Ho Chi Minh's Thoughts
- Course ID: PE019IU
- Course type

☑ General
☐ Specialization (required)
☐ Project/ Internship/ Thesis
☐ Fundamental
☐ Specialization (elective)
☐ Others : ……

- Number of credits: 2
  - Lecture: 2
  - Laboratory: 0
- Previous Course: PE015IU (Philosophy of Marxism and Leninism), PE016IU (Political economics of Marxism and Leninism), PE017IU (Scientific Socialism)
- Parallel Course:
- Course standing in curriculum: Year 2

2. Course Description

Môn học trang bị cho sinh viên những kiến thức cơ bản về: Đối tượng, phương pháp nghiên cứu và ý nghĩa học tập môn tư tưởng Hồ Chí Minh; về cơ sở, quá trình hình thành và phát triển tư tưởng Hồ Chí Minh; về độc lập dân tộc và chủ nghĩa xã hội; về Đảng Cộng sản và Nhà nước Việt Nam; về đại đoàn kết dân tộc và đoàn kết quốc tế; về văn hóa, đạo đức, con người.

3. Textbooks and References

Textbooks: #

1. Bộ Giáo dục và Đào tạo (2019), Giáo trình Tư tưởng Hồ Chí Minh. NXB. Chính trị quốc gia. Hà Nội.
2. Khoa Chính trị - Hành chính, ĐHQG-HCM, Tài liệu hướng dẫn học tập Tư tưởng Hồ Chí Minh.
3. Hồ Chí Minh (2011), Toàn tập, NXB. Chính trị quốc gia Sự thật, Hà Nội.
4. Hồ Chí Minh (2016), Biên niên tiểu sử, NXB. Chính trị quốc gia Sự thật, Hà Nội.

4. Course Objectives

- Trang bị cho sinh viên những kiến thức cơ bản về khái niệm, nguồn gốc, quá trình hình thành và phát triển tư tưởng Hồ Chí Minh; những nội dung cơ bản của tư tưởng Hồ Chí Minh; sự vận dụng của Đảng Cộng sản Việt Nam trong cách mạng dân tộc dân chủ và cách mạng xã hội chủ nghĩa, trong công cuộc đổi mới đất nước hiện nay.

5. Learning Outcomes

Learning Outcome Codes	Course Learning Outcomes	Program Learning Outcomes (*)
L.O.1	Hiểu biết có tính hệ thống về tư tưởng, đạo đức, giá trị văn hoá, Hồ Chí Minh.	d, e, g
L.O.2	Hiểu biết về nền tảng tư tưởng, kim chỉ nam hành động của Đảng và của cách mạng nước ta.	d, g
L.O.3	Thấm nhuần đạo đức con người mới.	d, e, g

(*) Refer to ABET student outcomes

(a) an ability to identify, formulate, and solve engineering and management related problems by applying principles of engineering, science, and mathematics which are necessary for engineers of construction management.

(b) an ability to apply engineering and management to produce construction project feasibility study and appraisal that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

(c) an ability to communicate effectively with a range of audiences

(d) an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering and management solutions in global, economic, environmental, and societal contexts

(e) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(f) an ability to develop and conduct appropriate construction management research, analyze and interpret data, and use engineering judgment to draw conclusions

(g) an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

6. Course Assessment

Assessment Component	Assessment form	Percentage %
A1. Process assessment	Quiz, attendance	30
A2. Midterm assessment	Midterm exam	20
A3. Final assessment	Final exam	50

7. Course Outlines

Theo quy định của Bộ Giáo dục và Đào tạo

Theory

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
1	Khái niệm, đối tương, phương pháp nghiên cứu và ý nghĩa học tập môn tư tưởng Hồ Chí Minh	L.O.1, L.O.2	Lecture Class discussion	Quiz
2-4	Cơ sở, quá trình hình thành và phát triển tư tưởng Hồ Chí Minh	L.O.1	Lecture Class discussion	Quiz
5-7	Tư tưởng Hồ Chí Minh về độc lập dân tộc gắn liền với Chủ nghĩa xã hội	L.O.1, L.O.2	Lecture Class discussion	Quiz
8	Tư tưởng Hồ Chí Minh về Đảng Cộng sản Việt Nam và nhà nước của nhân dân, do nhân dân và vì nhân dân	L.O.1, L.O.2	Lecture Class discussion	Quiz
9	**MIDTERM**			Written exam
10-11	Tư tưởng Hồ Chí Minh về Đảng Cộng sản Việt Nam và nhà nước của nhân dân, do nhân dân và vì nhân dân	L.O.1, L.O.2	Lecture Class discussion	Quiz
12-14	Tư tưởng Hồ Chí Minh về đại đoàn kết dân tộc và đoàn kết quốc tế	L.O.1, L.O.2	Lecture Class discussion	Quiz
15-16	Tư tưởng Hồ Chí Minh về văn hóa, đạo đức, con người	L.O.1, L.O.2, L.O.3		

8. Course Policy

- Phải nghiên cứu giáo trình, chuẩn bị các ý kiến hỏi, đề xuất khi nghe giảng. Chuẩn bị thảo luận và đọc, sưu tầm các tư liệu có liên quan đến nội dung của chương.
- Dành thời gian cho việc nghiên cứu trước bài giảng dưới sự hướng dẫn của giảng viên.
- Tham dự các buổi thảo luận, các buổi lên lớp theo quy định.

9. Course Coordinator/ Lecturer

- Department of Civil Engineering:
- Course Coordinator/ Lecturer:
- Email:

CALCULUS 1

1. General Information

- Course Title
  - Vietnamese: Toán 1
  - English: Calculus 1
- Course ID: MA001IU
- Course type

  ☑ General
  ☐ Specialization (required)
  ☐ Project/ Internship/ Thesis
  ☐ Fundamental
  ☐ Specialization (elective)
  ☐ Others : ……
- Number of credits: 4
  - Lecture: 4
  - Laboratory: 0
- Prerequisites: None
- Parallel Course:
- Course standing in curriculum: Year 1

2. Course Description

Functions; Limits; Continuity; Derivatives, Differentiation, Derivatives of Basic Elementary Functions, Differentiation Rules; Applications of Differentiation: l'Hôpital's Rule, Optimization, Newton's Method; Anti-derivatives; Indefinite Integrals, Definite Integrals, Fundamental Theorem of Calculus; Techniques of Integration; Improper Integrals; Applications of Integration.

3. Textbooks and References

Textbooks: #

1. J. Stewart, Calculus. Concepts and Contexts, 5th ed., Thomson Learning, 2005

References:

J. Rogawski, Calculus, Early Transcendentals, W.H. Freeman, 2008.

4. Course Objectives

- Understand the main ideas and techniques of calculus, concerning limits, continuity, differentiation and integration.#
- Develop skills in mathematical modeling and problem solving, in thinking logically, and in creatively applying existing knowledge to new situations#
- Develop confidence and fluency in discussing mathematics in English#

5. Learning Outcomes

Learning Outcome Codes	Course Learning Outcomes	Program Learning Outcomes (*)
L.O.1	Understand the main ideas and techniques of calculus, concerning limits, continuity, differentiation and integration.	a, d
L.O.2	Develop skills in mathematical modeling and problem solving, in thinking logically, and in creatively applying existing knowledge to new situations	a, d
L.O.3	Develop confidence and fluency in discussing mathematics in English	c

(*) Refer to ABET student outcomes

(a) an ability to identify, formulate, and solve engineering and management related problems by applying principles of engineering, science, and mathematics which are necessary for

engineers of construction management.

(b) an ability to apply engineering and management to produce construction project feasibility study and appraisal that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

(c) an ability to communicate effectively with a range of audiences

(d) an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering and management solutions in global, economic, environmental, and societal contexts

(e) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(f) an ability to develop and conduct appropriate construction management research, analyze and interpret data, and use engineering judgment to draw conclusions

(g) an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

6. Course Assessment

Assessment Component	Assessment form	Percentage %
A1. Process assessment	A1.1. Assignments	20
A2. Midterm assessment	A2.1 Mid-term exam	20
A3. Final assessment	A3.1 Final exam	60

7. Course Outlines

Theory

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
1	1.1 What is Calculus? 1.2 Straight Lines. Equations of Lines 1.3 Functions and Graphs	L.O.1, L.O.2, L.O.3	Lecture	Homework
2	1.4 Parametric Curves 1.5 Definition of a Limit. One-sided Limits	L.O.1, L.O.2, L.O.3	Lecture	Homework
3	1.8 Continuity 1.9 The Intermediate Value Theorem 1.10 Limits Involving Infinity	L.O.1, L.O.2, L.O.3	Lecture	Homework
4	2.1 The Tangent and Velocity Problems. Rates of Change 2.2 The Derivative. Higher-Order Derivatives Rules of Differentiation. Finding Derivatives using Maple	L.O.1, L.O.2, L.O.3	Lecture	Homework
5	2.3 Rates of Change in the Natural and Social Sciences Implicit Differentiation	L.O.1, L.O.2, L.O.3	Lecture	Homework
6	2.4 Differentiation of Inverse Functions Linear Approximations. Differentials	L.O.1, L.O.2, L.O.3	Lecture	Homework
7	3.1 Related Rates 3.2 Maxima and Minima. Critical Points The Mean Value Theorem. The First	L.O.1, L.O.2, L.O.3	Lecture	Homework

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
	Derivative Test. Concavity. Shapes of Curves.			
Midterm Exam				
8	3.3 Curve Sketching. Graphing with Calculus and Computers using Maple 3.4 Indeterminate Forms and l'Hôpital's Rules Maxima and Minima Problems	L.O.1, L.O.2, L.O.3	Lecture	Homework
9	3.1 Newton's Method Anti-derivatives and Indefinite Integrals	L.O.1, L.O.2, L.O.3	Lecture	Homework
10	4.1 Areas under Curves and Distances 4.2 The Definite Integral 4.3 Properties of the Definite Integral. The Fundamental Theorem of Calculus	L.O.1, L.O.2, L.O.3	Lecture	Homework
11	4.4 Integration by Substitution 4.6 Integration by Parts 4.7 Additional Techniques of Integration. Partial Fractions	L.O.1, L.O.2, L.O.3	Lecture	Homework
12	4.8 Integration Using table and Computer Algebra Systems 4.9 Numerical Integration 4.10 Improper Integrals	L.O.1, L.O.2, L.O.3	Lecture	Homework
13	5.1 Areas between Curves 5.2 Areas Enclosed by Parametric Curves 5.3 Volumes	L.O.1, L.O.2, L.O.3	Lecture	Homework
14	5.4 Arc Length 5.5 Average Value of a Function	L.O.1, L.O.2, L.O.3	Lecture	Homework
15	Applications to Engineering, Economics and Science	L.O.1, L.O.2, L.O.3	Lecture	Homework
Final Exam				

8. Course Policy

Students should spend time to read documents and do homework, exercise, group assignment. Students are encouraged to discuss, ask questions and give comments to lecturers. Plagiarism in assignments is forbidden. According to the International University's regulation, attending the class less than 80% of periods is not allowed to take the final examinations.

9. Course Coordinator/ Lecturer

- Department of Civil Engineering:
- Course Coordinator/ Lecturer: Dept. of Mathematics
- Email:

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
Department of Mathematics

COURSE SYLLABUS

Course Name: Calculus 2

Course Code: **MA003IU**

1. General information

Course designation	This course is a continuation of Calculus 1. Its aim to equip student with basis concepts of sequence, series, vector functions, functions of several variables, multiple integrals and their applications
Semester(s) in which the course is taught	1, 2
Person responsible for the course	*Assoc. Prof.Mai Duc Thanh, Assoc. Prof. Tran Vu Khanh, Dr. Nguyen Minh Quan, Dr. Nguyen Anh Tu, Dr. Ta Quoc Bao.*
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lectures, assignments
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 170 Contact hours (whether lecture, exercise, laboratory session, etc.): 50 (lectures) Private study including examination preparation, specified in hours[1]: 120
Credit points	**4 credits/6.18 ECTS**
Required and recommended prerequisites for joining the course	Calculus 1

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td>Course objectives</td><td>

1. To provide students with the main ideas and techniques of calculus. These include sequences, series, functions of several variables, optimal problems, multiple integrals, vector calculus.
2. To introduce practical applications of these ideas and techniques, through practical examples taken from many areas of engineering, business, and life sciences.
3. To develop skills in mathematical modelling and problem solving, ability to think logically, and adapt these skills creatively to new situations

</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course students will be able to:
<table>
<tr><th>Competency level</th><th>Course learning outcome (CLO)</th></tr>
<tr><td>Knowledge</td><td>CLO1. Have basic knowledge of series, functions of several variables, mupliple integrals (Program outcomes: a)
CLO2. Have basic knowledge of vector calculus (Program outcomes: a)</td></tr>
<tr><td>Skill</td><td>CLO3. Can compute partial derivatives, multiple integral (Program outcomes: a, j)
CLO4. Can show the convergence of a sequence and a series and u, se power series to simplify computation. Can show the optimal problem using partial derivaties, can find the volume of an object in higher dimension by using the multiple integrals (Program outcomes: i, h)</td></tr>
<tr><td>Attitude</td><td>CLO5. Confident when dealing with partial derivaties, multiple integrals. Comfortable with using partial derivatives and multiple integrals in practical situations. (Program outcome: j, k)</td></tr>
</table></td></tr>
</table>

<table>
<tr><td>Content</td><td>

The description of the contents should clearly indicate the weighting of the content and the level.

Weight: lecture session (4 hours)

Teaching levels: I (Introduce); T (Teach); U (Utilize)

<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Sequences and Convergence</td><td>1</td><td>I, T</td></tr>
<tr><td>Series</td><td>1</td><td>I, T</td></tr>
<tr><td>Tests for Convergence</td><td>1</td><td>T, U</td></tr>
<tr><td>Power series</td><td>1</td><td>T, U</td></tr>
<tr><td>Representations of Functions as Power series</td><td>1</td><td>T, U</td></tr>
<tr><td>Taylor and Maclaurin series</td><td>1</td><td>T, U</td></tr>
<tr><td>Vector Functions and Space Curves, Limit and continuity of vector functions</td><td>1</td><td>I, T</td></tr>
<tr><td>Derivatives and Integrals of vector functions, Length of space curves</td><td>1</td><td>T, U</td></tr>
<tr><td>Functions of Several Variables, Limits and Continuity</td><td>1</td><td>I,T</td></tr>
<tr><td>Partial Derivatives, Tangent Plane and Linear Approximations</td><td>1</td><td>T, U</td></tr>
<tr><td>Chain Rules, Directional Derivatives and Gradient</td><td>1</td><td>T, U</td></tr>
<tr><td>Maximum and Minimum Values of Functions of two variables</td><td>1</td><td>T, U</td></tr>
<tr><td>Lagrange Multipliers and Applications</td><td>1</td><td>T, U</td></tr>
<tr><td>Double Integrals in Rectangles, Iterated Integrals</td><td>1</td><td>I, T</td></tr>
<tr><td>Double, Triple Integrals in General regions and Applications</td><td>2</td><td>T,U</td></tr>
</table>

</td></tr>
<tr><td>Examination forms</td><td>Written examination</td></tr>
<tr><td>Study and examination requirements</td><td>Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed on the basis of their class participation. Questions and comments are strongly encouraged.
Assignments/Examination: Students must have more than 50/100 points overall to pass this course.</td></tr>
<tr><td>Reading list</td><td>J. Stewart, Calculus, Thomson Learning, 7th edition, 2012.</td></tr>
</table>

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (a-k) and Program/Student Learning Outcomes (ILO) (1-6) is shown in the following table:

	ILO										
CLO	a	b	c	d	e	f	g	h	i	j	k
1	x										
2	x										
3										x	
4										x	
5										x	x

3. Planned learning activities and teaching methods

Week	Topics	CLO	Assessment	Teaching and Learning activities
1	Sequences, Series, The Integral Test and Estimates Sums, The comparison Tests	2, 4	HW	Lectures and Quiz
2	Alternating Series, Absolute Convergence and the Ratio and Roots Tests, Strategy for Testing Series	2, 4	HW	Lectures and Quiz
3	Power Series, Representations of Functions as Power Series, Taylor & Maclaurin Series, Applications of Taylor Polynomials	4, 5	Quiz	Lectures and Quiz
4	3D Coordinate Systems, Vectors, The Dot Product, The Cross Product, Equations of Lines and Planes, Functions of Surface.	2, 4	HW	Lectures and Quiz
5	Vector Functions and Space Curves, Derivaties and Integrals of Vector Functions, Arc Length, Parametric Surfaces	4, 5	HW	Lectures and Quiz
6	Functions of Several Variables, Limit and Continuty,	2, 4, 5	Quiz	Lectures and Quiz
7	Partial Derivatives, Tangent Plances and Linear	3, 5	HW	Lectures and Quiz

	Approximations,			
8	Chain Rule, Directional Derivaties and Gradient Vectors,	3, 5	HW	Lectures and Quiz
Midterm Exam				
9	Maximun and Minimun Values, Larange Multipliers	2, 4	HW	Lectures and Quiz
10	Double Integrals over Rectangles, Iterated Integrals, Double Integrals over General Regions	2, 4	HW	Lectures and Quiz
11	Double Integrals in Polar Coordinates, Application of Double Integrals.	4, 5	HW	Lectures and Quiz
12	Triple Integrals, Triple Integrals in Cylindrical and Spherial Coordinates. Change of Variables in Multiple Integrals	2, 4	Quiz	Lectures and Quiz
13	Vector Fields, Line Integrals, the Fundamental Theorem for Line Integrals	4, 5	HW	Lectures and Quiz
14	Green's Theorem, Curl and Divergence, Surface Integrals	2, 4, 5	HW	Lectures and Quiz
15	Stokes' Theorem, Divergence Theorem.	1, 2, 3, 4,	Exercises	
Final Exam				

4. Assessment plan

Assessment Type	**CLO1**	**CLO2**	**CLO3**	**CLO4**	**CLO5**
In-class exercises/ quizzes (10%)	Qz1->Qz4 80% Pass	Qz5->Qz8 80%Pass	Qz1->Qz4 80% Pass	Qz5->Qz8 80% Pass	Qz2, 4, 6, 8 70% Pass
Homework exercises (10%)	HW1->H3 70% Pass	HW4, HW5 70%	HW1->HW3 70% Pass	HW4, HW5 70%	HW1->HW5 60% Pass

Midterm exam (30%)	Q1, Q2 80% Pass		Q3, Q4 70% Pass		Q5 50%
Final exam (50%)		Q1, Q2 80%Pass		Q3, Q4 70%Pass	Q5 50%

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Date revised: January 12, 2022

PHYSICS 1

1. General Information

- Course Title:
  - Vietnamese: Vật lý 1
  - English: Physics 1
- Course ID: PH013IU
- Course type

☑ General
☐ Specialization (required)
☐ Project/ Internship/ Thesis
☐ Fundamental
☐ Specialization (elective)
☐ Others : ……

- Number of credits: 2
  - Lecture: 2
  - Laboratory: 0
- Prerequisites:
- Parallel Course:
- Course standing in curriculum: Year 1

2. Course Description

This course introduces the basic knowledge of physics which is applied to the biotechnology for undergraduate students. It is a part of 2-semester course in Physics. These two courses in Physics examine. This particular module provides fundamental information on aspects of physical processes and phenomena.

3. Textbooks and References

Textbooks: #

1. Halliday D., Resnick R. and Merrill, J. Fundamentals of Physics, 9th edition, John Willey and Sons, Inc.

References:

1. Alonso M. and Finn E.J. (1992), Physics, Addison-Wesley Publishing Company
2. Hecht, E. (2000), Physics, Calculus, Second Edition, Brooks/Cole
3. Faughn/Serway (2006), Serway's College Physics, Thomson Brooks/Cole

4. Course Objectives

- Know and understand basic physical processes and phenomena#
- Solve basic physics problem by applying both theoretical and experimental techniques.#
- Understand and acquire skills needed to use physical laws governing real process and to solve them in the engineering environment.#

5. Learning Outcomes

Learning Outcome Codes	Course Learning Outcomes	Program Learning Outcomes (*)
L.O.1	Know and understand basic physical processes and phenomena.	a
L.O.2	Solve basic physics problem by applying both theoretical and experimental techniques.	a, d
L.O.3	Understand and acquire skills needed to use physical laws governing real process and to solve them in the engineering environment.	a, c, d

(*) Refer to ABET student outcomes

(a) an ability to identify, formulate, and solve engineering and management related problems by applying principles of engineering, science, and mathematics which are necessary for engineers of construction management.

(b) an ability to apply engineering and management to produce construction project feasibility

study and appraisal that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

(c) an ability to communicate effectively with a range of audiences

(d) an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering and management solutions in global, economic, environmental, and societal contexts

(e) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(f) an ability to develop and conduct appropriate construction management research, analyze and interpret data, and use engineering judgment to draw conclusions

(g) an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

6. Course Assessment

Assessment Component	Assessment form	Percentage %
A1. Process assessment	A1.1 Assignments	30
A2. Midterm assessment	A2.1 Mid-term exam	30
A3. Final assessment	A3.1 Final exam	40

7. Course Outlines

Theory

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
	Bases of Kinematics. • Motion in One Dimension • Motion in Two Dimensions • Circular Motion. Tangential and Radial Acceleration • Relative Velocity and Relative Acceleration	L.O.1, L.O.2, L.O.3	Lecture Class discussion	Quiz
	The Law of Motion. • Newton's First Law and Inertial Frames • Newton's Second Law • Newton's Third Law • Some Applications of Newton's Laws	L.O.1, L.O.2, L.O.3	Lecture Class discussion	Quiz
	Work and Mechanical Energy. • Work Done by Force. Power • Kinetic Energy and the Work. Kinetic Energy Theorem • Potential Energy of a System • Conservation of Mechanical Energy • Conservative and Non-conservative Forces • Changes in Mechanical Energy for Non-conservative Forces • Relationship Between Conservative Forces and	L.O.1, L.O.2, L.O.3	Lecture Class discussion	Quiz

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
	Potential Energy			
	Linear Momentum and Collisions. • Linear Momentum and Its Conservation • Impulse and Momentum • Collisions in One Dimension and Two-Dimensional Collisions • The Center of Mass. Motion of a System of Particles • Rocket Propulsion	L.O.1, L.O.2, L.O.3	Lecture Class discussion	Quiz
	Rotation of a Rigid Object About a Fixed Axis. • Rotational Kinematics: Rotational Motion with Constant Angular Acceleration • Torque and Angular Acceleration • Moments of Inertia Rotational Kinetic Energy • Rolling Motion of a Rigid Object • Angular Momentum of a Rotating Rigid Object • Conservation of Angular Momentum	L.O.1, L.O.2, L.O.3	Lecture Class discussion	Quiz
	Static Equilibrium. • The Conditions for Equilibrium • The Center of Gravity	L.O.1, L.O.2, L.O.3	Lecture Class discussion	Quiz
	Universal Gravitation. • Newton's Law of Universal Gravitation • Kepler's Laws and the Motion of Planets • The Gravitational Field and Gravitational Potential Energy	L.O.1, L.O.2, L.O.3	Lecture Class discussion	Quiz

8. Course Policy

Students should spend time to read documents and do homework, exercise, group assignment. Students are encouraged to discuss, ask questions and give comments to lecturers. Plagiarism in assignments is forbidden. According to the International University's regulation, attending the class less than 80% of periods is not allowed to take the final examinations.

9. Course Coordinator/ Lecturer

- Department of Civil Engineering:
- Course Coordinator/ Lecturer:
- Email:

	VIETNAM NATIONAL UNIVERSITY HCMC **INTERNATIONAL UNIVERSITY** **School of Civil Engineering and Construction Management**

COURSE SYLLABUS
Course Name: STATISTICS FOR BUSINESS
Course Code: **BA080IU**

1. General information

Course designation	Face to Face
Semester(s) in which the course is taught	1,2
Person responsible for the course	PhD. Nguyen Ba Trung
Language	English
Relation to curriculum	Compulsory
Teaching methods	Student-centered approach
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 135 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 45 Private study including examination preparation, specified in hours[1]: 90
Credit points	3 Credits
Required and recommended prerequisites for joining the course	N/A

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td>Course objectives</td><td>The aim of this course is to examine various concepts in probability and statistics. This course also discusses various statistical techniques and the use of them in practical situations. Key topics of this course include descriptive statistics, discrete and continuous random variables, sampling and sampling distributions, confidence intervals, hypothesis testing, analysis of variance, simple linear and multiple regressions</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course students will be able to:
<table>
<tr><th>Competency level</th><th>Course learning outcome (CLO)</th></tr>
<tr><td>Knowledge</td><td>● CLO1: Describe the key statistical concepts, tools and techniques used in business.
● CLO2: Describe different research methodologies in business.</td></tr>
<tr><td>Skill</td><td>● CLO3: Know how to work within a team</td></tr>
<tr><td>Attitude</td><td>● CLO4. State the ethical requirements of business statistics.</td></tr>
</table></td></tr>
<tr><td>Content</td><td>This course is an introduction to basic statistical concepts and methods that are widely used in economics, finance, accountancy, marketing, and business more generally. Emphasis is placed on applying statistical methods to draw inferences from sample data in order to inform decision-making. The course covers two main branches of statistics: descriptive statistics and inferential statistics. Descriptive statistics includes collecting data, summarizing and interpreting them through numerical and graphical techniques. Inferential statistics includes selecting and applying the correct statistical technique in order to make estimates or test claims about a population based on a sample. Topics covered also include time series analysis. In this course, students will learn to solve statistical problems in an Excel spreadsheet environment. Students are also required to work in small groups; this will develop the skills required to work effectively and inclusively in groups, as in a real work environment.</td></tr>
<tr><td>Examination forms</td><td>Multiple choice questions
Essay exams
Oral exams</td></tr>
<tr><td>Study and examination requirements</td><td>- Attend more than 80% of contact hours in order to be accepted to the final examination
- Actively participate in class activities
- Fulfill tasks given by instructor after class
- Use their own laptop in class only for learning purpose
- Read the textbook in advance
- Access the course Blackboard for up-to-date information and material of the course, for online supports from</td></tr>
</table>

Reading list	Textbook: Doane and Seward (2016), Applied Statistics in Business and Economics, 5th,New York: McGraw Hill. Reference Books: Amir D. Aczel, Jayavel Sounderpandian, (2009), Complete Business Statistics, 7th Edition, McGraw – Hill/Irwin. Anderson, Sweeney, William (2001), Statistics for Business and Economics, 8th edition, Thompson. Additional materials provided in Blackboard: The lecturer will attempt to make lecture notes and additional reading available on Blackboard. However this is not an automatic entitlement for students doing this subject. Note that this is not a distance learning course, and you are expected to attend lectures and take notes. This way, you will get the additional benefit of class interaction and demonstration.

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (1-4) and Program/Student Learning Outcomes (SLO) (1 -10) is shown in the following table:

CLO	Program Learning Outcomes									
	a	b	c	d	e	f	g	h	i	j
1				x						
2	x			x		x				
3						x			x	
4									x	

Course learning outcomes

- CLO1: Describe the key statistical concepts, tools and techniques used in business.
- CLO2: Describe different research methodologies in business.
- CLO3: Know how to work within a team
- CLO4. State the ethical requirements of business statistics.

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct

literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Overview of Statistics	1	Class-performance evaluations	Lecture	
2	Data collection	1,2,4	Group assignment, Examinations	Lecture Discussion Assignments	
3	Describing Data Visually	1,2,3	Group assignment, Examinations	Lecture Discussion, Tutorials	
4	Descriptive statistics	1,2,3	Group assignment, Examinations	Lecture Discussion , Tutorials	
5	Probability	1,3	Group assignment,	Lecture Discussion	

			Examinations		
6	Discrete Probability Distributions	1,3	Group assignment, Examinations	Lecture Discussion	
7	Continuous Probability Distributions	1,3	Group assignment, Examinations	Lecture Discussion	
8	Midterm				
9	Sampling Distributions and Estimation	1,3	Group assignment, Examinations	Lecture Discussion	
10	One-Sample Hypothesis Tests	1,2,3	Group assignment, Examinations	Lecture , Tutorials Discussion	
11	Two-Sample Hypothesis Tests	1,2,3	Group assignment, Examinations	Lecture Discussion , Tutorials	
12	Analysis of Variance	1,2,3	Group assignment, Examinations	Lecture Discussion , Tutorials	
13	Simple Regression	1,2,3	Group assignment, Examinations	Lecture Discussion , Tutorials	
14	Multiple Regression	1,2,3	Group assignment, Examinations	Lecture Discussion, Tutorials	
15	Group presentation	1,2,3,4	Group presentation	Discussion	
16	**Final exam**				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3	CLO4
Group assignment, Attendance, Group report (30%)	x	x	x	x
Midterm exam (30%)	x			
Final exam (40%)	x	x		

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Rubrics (optional)

6. Date revised:

GRADING RUBRIC FOR WRITTEN COURSEWORK

MIDTERM EXAMINATION – Subject (ID subject)

Academic year: 2022 – 2023 (term …)

Criteria	INADEQUATE 10% – 49%	ADEQUATE 50% - 59%	ABOVE AVERAGE 60% - 74%	EXEMPLARY ≥ 75%
Organisation and clarification	Does not organise ideas logically and with clarification. Limited evidence of coherence Ideas lack consistence	Generally organised logically, with evidence of progression Occasionally, there may be a lack of focus or ideas may be tangential	Clear organization and progression. Responds appropriately and relevantly, although some ideas are underdeveloped.	Response is focused, detailed and non-tangential. Shows a high degree of attention to logic and reasoning of points. Clearly leads the reader to the conclusion and stirs thought regarding the topic
Originality and usefulness of the analysis	Demonstrates an incomplete grasp of the task. There is no overall sense of creative coherence. Arguments are addressed incompletely.	Shows ability to identify legal issues, gather the facts and develop claims. Argument are addressed well but no links with evidence	Shows strong ability to identify legal issues, gather the facts and develop claims as well as link claims with evidence. Overall, an acceptable solution is offered and explained	Shows strong ability to identify legal issues, gather the facts and develop claims as well as link claims with evidence. Satisfactory solutions are offered and supported
Use of data/information	Shows little information from sources. Poor handling of sources	Shows moderate amount of source information incorporated. Some key points supported by sources. Quotations may be poorly integrated into	Draws upon sources to support most points. Some evidence may not support arguments or may appear where inappropriate. Quotations integrated well	Draws upon primary and secondary source information in useful and illuminating ways to support key points. Excellent integration of quoted material into paragraphs. Source cited

		paragraphs. Some possible problems with source citations	into paragraphs. Sources cited correctly	correctly
Use of frameworks	Shows limited ability to structure problems in correspondence to theoretical frameworks	Shows effort to link problems with the theoretical frameworks. There are still some mistakes	Shows ability to structure problems in correspondence to theoretical frameworks correctly. Minor mistakes in resolving problems	Shows ability to structure problems in correspondence to theoretical frameworks correctly. The problems are well resolved
Quality of arguments	Shows little attempt to offer support for key claims or to relate evidence to analysis. The reasons offered are irrelevant.	Shows argument of poor quality. Weak, undeveloped reasons are offered to support key claims	Shows clear, relevant and logical arguments.	Shows identifiable, reasonable and sound arguments. Clear reasons are offered to support key claims.

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY

COURSE SYLLABUS
General Law
PE021IU

1. General information

Department	Office of Academic Affairs
Course classification	Foundation course
Course designation	Face to face
Semester(s) in which the course is taught	All semesters in each academic year
Person responsible for the course	Dr. Vo Tuong Huan LLM. Bui Doan Danh Thao
Language	English
Relation to curriculum	Compulsory
Teaching methods	Student-centred approach
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 127.5 hours) Contact hours (lecture, in class discussions): 37.5 hours (=45 periods) Private study including examination preparation, specified in hours[1]: 90 hours
Credit points	3
Required and recommended prerequisites for joining the course	N/A

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td>Course objectives</td><td>The overarching aims of this course are to:
• Provide essential knowledge of Vietnamese legal system through integrated technology and real cases for social and cultural sustainability.
• Raise awareness of responsibility toward others and how to stand for ending all types of legal violations, especially corruption in various social contexts.
• Practice necessary skills to act as an ambassador to ensure social fairness and global equitable rights.
• Use integrated online legal resources and communication tools to help the community to identify issues and develop countermeasures.</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course, students will be able to:
<table>
<tr><th>Competency level</th><th>Course learning outcome (CLO)</th></tr>
<tr><td>Knowledge</td><td>CLO1. Apply appropriate legal knowledge in the Vietnamese legal system to solve legal issues in various social contexts for a fair sustainable lifelong being.
CLO1.1. Apply general knowledge on state and law to solve legal issues in various social contexts for a fair sustainable lifelong being.
CLO1.2. Apply principle legal norms in some law branches such as constitution, civil, criminal, labor and administrative law to solve legal issues in various social contexts for a fair sustainable lifelong being.</td></tr>
<tr><td>Skill</td><td>CLO2. Communicate knowledge in the Vietnamese legal system to encourage people to raise their legal rights aiming for fair social/cultural moves.
CLO3. Integrate ICTs to solve legal issues in various social contexts.</td></tr>
<tr><td>Attitude</td><td>CLO4. Detect the responsibility to ensure social and cultural fairness, including ending corruption, in various social contexts through understanding importance of law in social contexts.
CLO5. Respond to the base for coexistence in various social contexts.</td></tr>
</table></td></tr>
<tr><td>Content</td><td>The course will introduce students to Vietnamese legal systems. In particular, students will understand their rights and obligations in the Constitution, Criminal law, administrative law, civil law, labor law and enterprise law of Vietnam. From this, students will raise awareness towards their responsibility to ensure justice, including ending corruption, in society.</td></tr>
<tr><td>Examination forms</td><td>Multiple choice questions
Case-based exams
Essay exams
Oral exams</td></tr>
</table>

Study and examination requirements

To pass this course, the students must:

- Achieve a composite mark of at least 50; and
- Make a satisfactory attempt at all assessment tasks (see below).

GRADING POLICY

Grades can be based on the following:

Assignment	20%
Midterm examination	30%
Final examination	50%
Total	100%

COURSE POLICIES

Attendance

Regular and punctual attendance at lectures and seminars is expected in this course. University regulations indicate that if students attend less than eighty percent of scheduled classes they may be refused final assessment. Exemptions may only be made on eligible medical grounds.

Workload

It is expected that the students will spend at least *six* hours per week studying this course. This time should be made up of reading, research, working on exercises and problems, and attending classes. In periods where they need to complete assignments or prepare for examinations, the workload may be greater.

Over-commitment has been a cause of failure for many students. They should take the required workload into account when planning how to balance study with part-time jobs and other activities.

General Conduct and Behaviour

The students are expected to conduct themselves with consideration and respect for the needs of fellow students and teaching staff. Conduct which unduly disrupts or interferes with a class, such as ringing or talking on mobile phones, is not acceptable and students will be asked to leave the class. The use of laptops is also encouraged during law lessons only to search for materials online. More information on student conduct is available on the university webpage.

Keeping informed

The students should take note of all announcements made in lectures or on the course's Blackboard, and another announced mean of communications. From time to time, the university will send important announcements to their university e-mail addresses without providing a paper copy. The students will be deemed to have received this information.

Academic honesty and plagiarism

Plagiarism is the presentation of the thoughts or work of another as one's own. Students are also reminded that careful time management is an important part of the study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting, and

	the proper referencing of sources in preparing all assessment items. The university regards plagiarism as a form of academic misconduct and has very strict rules regarding plagiarism. **Special consideration** Requests for special consideration (for final examination only) must be made to the Office of Academic Affairs within one week after the examination. General policy and information on special consideration can be found at the Office of Academic Affairs. Absence on the Mid-term is not allowed, or in special cases approved by Lecturer can be replaced with relevant Assignment. **Meeting up with the lecturers after classes** Students must make an appointment via emails if they want to meet up with the lecturer after classes and be on time. If there are any changes to the scheduled time, students must inform the lecturer immediately.
Reading list	Please note that it is very important to gain familiarity with the subject matter in the readings and cases available on Blackboard and the internet *before* attendance in classes. **Required Course Texts and Materials** Legal Texts: 1. Constitution of Vietnam - 2013 2. Civil Code of Vietnam - 2015 3. Criminal Code of Vietnam – 2015 (amended in 2017) 4. Law on Law on Handling of Administrative Violations 2012 5. Law on Enterprises – 2020 6. Labour Code 2019 7. Law on anti-corruption 2018 Available at https://luatvietnam.vn/ or Blackboard Books: • PGS.TS. Phan Trung Hien, *Giáo trình Pháp Luật Đại cương*, NXB Chính Trị Quốc Gia Sự Thật 2022. • Mai Hong Quy (Chief Editor) (2nd 2017), *Introduction to Vietnamese Law,* Hong Duc Publishing House. Additional materials provided in Blackboard The lecturer will attempt to make lecture notes and additional reading available on Blackboard. However, this is not an automatic entitlement for students doing this subject. Note that this is not a distance learning course, and you are expected to attend lectures and take notes. This way, you will get the added benefit of class interaction and demonstration. **Optional Course Texts and Materials** Recommended Internet sites UNCTAD (United Nations Conference on Trade and Development) WTO (World Trade Organization) MOIT - Vietnam (Official website of Ministry of Industry and Trade) MPI - Vietnam (Official website of Ministry of Planning and Investment)

	Other Resources, Support and Information Additional learning assistance is available for students in this course and will be made available on Blackboard. Academic journal articles are available through connections via the VNU - Central Library. Recommended articles will be duly informed to the students. Books: • Nguyen Phu Trong, *Kiên quyết, kiên trì đấu tranh phòng, chống tham nhũng, tiêu cực, góp phần xây dựng đảng và nhà nước ta ngày càng trong sạch, vững mạnh*, NXB Chính Trị Quốc Gia Sự Thật 2023. • University of Law Ho Chi Minh City, *Giáo trình luật Hiến pháp Việt nam*, NXB Hồng Đức 2023. • University of Law Ho Chi Minh City, *Giáo trình Luật hành chính*, NXB Hồng Đức 2022. • University of Law Ho Chi Minh City, *Giáo trình Luật hình sự Việt Nam*, NXB Hồng Đức 2022. • University of Law Ho Chi Minh City, *Giáo trình Luật dân sự Việt Nam*, NXB Hồng Đức 2022. • University of Law Ho Chi Minh City, *Giáo trình Luật lao động Việt Nam*, NXB Hồng Đức 2022. • University of Law Ho Chi Minh City, *Giáo trình pháp luật về chủ thể kinh doanh*, NXB Hồng Đức 2022.

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (SLO) (1-5) and Program/Student Learning Outcomes (PLO/SLO) (1 - 10) is shown in the following table:

	PLO/SLO									
SLO	**1**	2	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1	R,M					R,M	R,M	R,M	R,M	R,M
2			R,M							
3			R,M							
4				R,M						
5					R,M					

R: Reinforced
M: Mastery

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	**Introduction to State** • What is State? • Nature of state • Forms of state • Functions of state • Introduction to structure of Vietnamese state	1-5 (level I - introduced)	Tests Peer evaluations Class-performance evaluations	Discussions Case studies	PPT - Introduction to Vietnamese legal system available on Blackboard

2	**Introduction to law?** • What is law? • Nature of law • Forms of law • Structure of law • Categorization of legal system. • Enforcement • Breach of law and liabilities for breach of law • Introduction to structure of Vietnamese legal system	1-5 (level I - introduced)	Tests Peer evaluations Class-performance evaluations	Discussions Case studies	PPT - Introduction to Vietnamese legal system available on Blackboard
3	**Constitutional Law** • General introduction on Vietnamese Constitution and its nature and basic principles. • Political, economic and other regimes of Vietnam • Basic rights and responsibilities of citizens. Relationship between citizens and the State. • Structure, functions and duties of Vietnamese state, especially in prevention of corruption	1-5 (Level R - reinforced)	Tests Peer evaluations Class-performance evaluations	Discussions Case studies	PPTs – Constitutional law available on Blackboard Constitution 2013 available on Blackboard
4	**Constitutional Law (Cont)** • Structure and functions and duties of Vietnamese state • Duties of the state in prevention of corruption	1-5 (Level R - reinforced)	Tests Peer evaluations Class-performance evaluations	Discussions Case studies	PPTs – Constitutional law available on Blackboard Constitution 2013 available on Blackboard
5	**Administrative Law** • Definition and nature of administrative law • Administrative law violations • Liabilities for breach of administrative law, exemption from the liability	1-5 (Level R - reinforced)	Tests Peer evaluations Class-performance evaluations	Discussions Case studies and law on anti-corruption	PPT– Administrative law available on Blackboard Law on handling administrative violations 2012, and Law on anti-corruption 2018 available on Blackboard
6	**Criminal Law** • Definition and nature of criminal law	1-5 (Level R - reinforced)	Tests Peer evaluations Class-performance	Discussions Case studies, especially cases related	PPT– Criminal law available on Blackboard

	• Crimes • Punishments		evaluations	to corruption	Criminal code 2015 available on Blackboard
7	**Criminal Law (Cont)** • Crimes related to corruption • Punishments for corruption	1-5 (Level R - reinforced)	Tests Peer evaluations Class-performance evaluations	Discussions Case studies, especially cases related to corruption	PPT– Criminal law available on Blackboard Criminal code 2015 available on Blackboard
8	**Revision for mid-term exam**		Quizzes Projects		
9	**Civil Law (Part I)** • Definition and nature Civil law relationship • Subject of civil law • Property and ownership • Civil transactions	1-5 (Level R - reinforced)	Tests Peer evaluations Class-performance evaluations	Discussions Case studies	PPT– Civil law available on Blackboard Civil code 2015 available on Blackboard
10	**Civil Law (Part II)** • Contracts - Definitions - Formation of contracts - Validity of contracts - Liability for breach of contracts	1-5 (Level M - Mastery)	Tests Peer evaluations Class-performance evaluations	Discussions Case studies	PPT– Civil law available on Blackboard Civil code 2015 available on Blackboard
11	**Civil Law (Part III)** • Inheritance - Testamentary inheritance - Intestacy	1-5 (Level M - Mastery)	Tests Peer evaluations Class-performance evaluations	Discussions Case studies	PPT– Civil law available on Blackboard Civil code 2015 available on Blackboard
12	**Law on Enterprises** • Introduction to law on enterprises • Introduction to forms, features, establishment, reorganization and dissolution of an enterprise	1-5 (Level I - Introduced)	Tests Peer evaluations Class-performance evaluations	Discussions Case studies	PPT– Law on enterprises available on Blackboard Law on enterprises 2020 available on Blackboard
13	**Labor Law** • Definition, and nature of labour law • Employees and employers • Working time, and resting time • Salary (including salary for overtime working hours)	1-5 (Level M - Mastery)	Tests Peer evaluations Class-performance evaluations	Discussions Case studies	PPT– Labor law available on Blackboard Labor code 2019 available on Blackboard
14	**Labour Law** (Cont.)	1-5 (Level M -	Tests Peer evaluations	Discussions Case studies	PPT– Labor law available on

	• Employment contracts • Labor disciplines • Dispute settlements	Mastery)	Class-performance evaluations		Blackboard Labor code 2019 available on Blackboard
15	**Revision/ Tutoring classes**		Quizzes Projects		

4. Assessment plan

Assessment Type	**CLO1**	**CLO2**	**CLO3**	**CLO4**	**CLO5**
In class evaluation (20%)	70% pass	80% pass	100% pass	100% pass	100% pass
Midterm examination (30%)	70% pass	80% pass	100% pass	100% pass	100% pass
Final examination (50%)	70% pass	80% pass	100% pass	100% pass	100% pass

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Rubrics

No.	CLOs	Criteria	COMPLETELY FAIL Below 30%	INADEQUATE 30% – 49%	ADEQUATE 50% - 69%	ABOVE AVERAGE 70% - 89%	EXEMPLARY ≥ 90%
1	CLO 1	**Organisation and clarification**	No evidence of organization and coherence	Does not organise ideas logically and with clarification Limited evidence of coherence Ideas lack consistence	Generally organised logically, with evidence of progression Occasionally, there may be a lack of focus or ideas may be tangential	Clear organization and progression. Responds appropriately and relevantly, although some ideas are underdeveloped	Response is focused, detailed and non-tangential. Shows a high degree of attention to logic and reasoning of points. Clearly leads the reader to the conclusion and stirs thought regarding the topic
2		**Originality and usefulness of the analysis**	Shows no ability to identify legal issues or a clear inability to gather the facts	Demonstrates an incomplete grasp of the task. There is no overall sense of creative coherence. Arguments are addressed incompletely.	Shows ability to identify legal issues, gather the facts and develop claims. Argument are addressed well but no links with evidence	Shows strong ability to identify legal issues, gather the fact and develop claims as well as link claims with evidence. Overall, an acceptable solution is offered and explained	Shows strong ability to identify legal issues, gather the facts and develop claims as well as link claims with evidence. Satisfactory solutions are offered and supported
3		**Use of data/information**	Shows no effort to incorporate information from primary and secondary sources	Shows little information from sources. Poor handling of sources	Shows moderate amount of source information incorporated. Some key points supported by sources. Quotations may be poorly integrated into paragraphs. Some possible problems with source citations	Draws upon sources to support most points. Some evidence may not support arguments or may appear where inappropriate. Quotations integrated well into paragraphs. Sources cited correctly	Draws upon primary and secondary source information in useful and illuminating ways to support key points. Excellent integration of quoted material into paragraphs. Source cited correctly
4	CLO2	**Use of frameworks**	Shows no effort to structure	Shows limited ability to structure	Shows effort to link problems with the theoretical	Shows ability to structure problems in	Shows ability to structure problems in correspondence to

			problems in correspondence to theoretical frameworks	problems in correspondence to theoretical frameworks	frameworks. There are still some mistakes	correspondence to theoretical frameworks correctly. Minor mistakes in resolving problems	theoretical frameworks correctly. The problems are well resolved
5		**Quality of arguments**	Shows no effort to construct logical arguments. Fails to support analysis	Shows little attempt to offer support for key claims or to relate evidence to analysis. Reasons offered are irrelevant.	Shows argument of poor quality. Weak, undeveloped reasons are offered to support key claims	Shows clear, relevant and logical arguments.	Shows identifiable, reasonable and sound arguments. Clear reasons are offered to support key claims.

Ho Chi Minh City, May 2023

Head of Office of Academic Affairs

Huỳnh Khả Tú

VIETNAM NATIONAL UNIVERSITY HCMC

INTERNATIONAL UNIVERSITY

School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name: Construction Economics

Course Code: **CM309IU**

1. General Information

Course Name	*- (in English): Construction Economics* *- (in Vietnamese): Kinh tế Xây dựng*
Course designation	*In this course, students will study the general knowledge of micro- and macro-economics including the market mechanism, supply and demand theories, market structures of construction industry, macroeconomic objectives, government policy instruments, and inflation. Effects of micro- and macro-economics to construction industry also mentioned in this course. Students acquire the client and contractor relationships, different types of costs of construction firms, and the failure of market.*
Course Type	*General knowledge* ☑ *Fundamental* *Specialized knowledge* *Internship/Project/Thesis* *Others*
Semester(s) in which the module is taught	*3*
Person responsible for the module	Dr. Nguyen, Hoai Nghia, Dr. Nguyen, Van Tiep, MSc. Nguyen, Pham Duy Phương
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 135 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 45

<table>
<tr><td></td><td>Private study including examination preparation, specified in hours[1]: 90</td></tr>
<tr><td>Credit points</td><td>3</td></tr>
<tr><td>Required and recommended prerequisites for joining the module</td><td>None</td></tr>
<tr><td>Module objectives/intended learning outcomes</td><td>Overall objectives are to equip IU students with knowledge of micro- and macro-economics and the construction market mechanism. The related economic problems of construction firms including relationships among clients and contractors, costs, demand and supply, and environmental issues.

Students who complete the course will be able to perform the following tasks:
(1) Having knowledge of micro- and macro-economics and the market mechanism
(2) Having knowledge of using different economic issues related to construction firms
(3) Applying the economic knowledge in construction management</td></tr>
<tr><td>Content</td><td>The description of the contents should clearly indicate the weighting of the content and the level.
Weight: lecture session (3 hours)
Teaching levels: I (Introduce); T (teach); U (Utilize)
<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>An introduction to the Basic Concepts</td><td>1</td><td>I</td></tr>
<tr><td>Economic systems for resource allocation</td><td>1</td><td>T</td></tr>
<tr><td>The market mechanism</td><td>1</td><td>T</td></tr>
<tr><td>The theory of demand</td><td>1</td><td>T, U</td></tr>
<tr><td>The theory of supply</td><td>1</td><td>T, U</td></tr>
<tr><td>Clients and contractors</td><td>1</td><td>T</td></tr>
<tr><td>Costs of the construction firm</td><td>2</td><td>T, U</td></tr>
</table></td></tr>
</table>

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

	Types of market structure in the construction industry	1	T
	Market failures and government remedies	1	T
	Environmental economics	1	T
	Managing the macroeconomy	2	T
	The economy and construction	2	T
Examination forms	Constructed-response test		
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.		
Reading list	Textbook: [1] Myers, D. (2004). *Construction economics – A new approach*. New York: Spon Press. References: [1] Slavin, S. L. (2005). *Economics*, 7th eds. New York: McGraw-Hill Irwin.		

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-j) is shown in the following table:

(1) CLO1: Having knowledge of micro- and macro-economics and the market mechanism
(2) CLO2: Having knowledge of using different economic issues related to construction firms
(3) CLO3: Applying the economic knowledge in construction management

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x								
CLO2		x								
CLO3		x		x						

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction

management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	**An introduction to the Basic Concepts** Introducing construction economics Definitions Construction industry	1		Lecture Class discussion	[1] Chapter 1
2	**Economic systems for resource allocation** Economic systems Equity, efficiency and the environment	1	Quiz 1	Lecture Class discussion	[1] Chapter 2
3	**The market mechanism** Product and factor allocation in a market economy Price signals and self interest	1, 2	Quiz 2	Lecture Class discussion	[1] Chapter 3, 4

Week	Topic	CLO	Assessments	Learning activities	Resources
	Three qualifying remarks The concept of equilibrium A change in the constructions of the market				
4	**The theory of demand** The basic law of demand Demand in the construction industry A generalized demand equation Change market conditions Understanding changes in demand	1, 2	Quiz 3	Lecture Class discussion	[1] Chapter 4
5	**The theory of supply** The basic law of supply Supply in the construction industry Supply and determinant Understanding changes in supply Combining supply and demand	1, 2	Quiz 4	Lecture Class discussion	[1] Chapter 5
6	**Clients and contractors** Clients Contractors Partnering Rethinking client and contractors relationships	2	Quiz 5 Presentation 1	Lecture Class discussion	[1] Chapter 6
7, 8	**Costs of the construction firm** Definitions Relationships between outputs and inputs Diminishing returns Short-run costs Contractor's project costs Long-run costs External economies of scale	3	Quiz 6 Presentation 1	Lecture Class discussion	[1] Chapter 7
9-10	FINAL EXAM				
11	**Types of market structure in the construction industry**	1, 3	Quiz 7	Lecture Class discussion	[1] Chapter 8

Week	Topic	CLO	Assessments	Learning activities	Resources
	The purpose of perfect competition Towards the notion of an efficient industry Market structures that typify the construction industry Resource allocation and sustainability				
12	**Market failures and government remedies** What causes market failure? Correcting market failure Are government corrections effective? Government failure	1	Quiz 8	Lecture Class discussion	[1] Chapter 9
13	**Environmental economics** The material balance model Private costs versus social costs	1	Quiz 9	Lecture Class discussion	[1] Chapter 10
14, 15	**Managing the macroeconomy** Five macroeconomic objectives Government policy instruments Macroeconomic management	1	Quiz 10 Presentation 2	Lecture Class discussion	[1] Chapter 11
16, 17	**The Economy and construction** Measuring economic activity From circular flow model to reality Manipulating the level of economic activity Supply-side economic Inflation and how it is measured Causes of inflation Cures for inflation	3	Quiz 11	Lecture Class discussion	[1] Chapter 12
18-19	FINAL EXAM				

4. **Assessment plan**

Assessment Type	CLO1	CLO2	CLO3
In-class exercises/quizzes (10%)	Qz1, Qz2, Qz3, Qz8, Qz9, Qz10 50%Pass	Qz4, Qz5 50%Pass	Qz6, Qz11 50%Pass
Homework exercises/ Presentation (20%)		Presentation 1 50%Pass	Presentation 1 50%Pass
Midterm exam (20%)	50% Pass	50% Pass	
Final exam (50%)		50% Pass	50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. **Date revised:** June 06, 2023

Ho Chi Minh City, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D. Nguyễn Hoài Nghĩa

	VIETNAM NATIONAL UNIVERSITY HCMC **INTERNATIONAL UNIVERSITY** **School of Civil Engineering and Construction Management**

COURSE SYLLABUS

Course Name: Principles of Marketing

Course Code: **BA003IU**

1. General information

Course designation	*The course named "Principles of Marketing" provides the students with necessary information on the basic concepts of marketing and its principles. It focuses on the understanding of Market Demand and Customers Behaviors as well as Marketing strategies developed by firms in terms of Pricing, Product, Place, Promotion, etc. The course also mentions various methods to market research and environmental factors that affect the marketing activities.*
Semester(s) in which the course is taught	**1, 2**
Person responsible for the course	
Language	**English**
Relation to curriculum	**Compulsory**
Teaching methods	**Lectures, projects, quizzes, examinations.**
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 128 Contact hours: 38 (15 classes, 1 class = 3 periods, 1 period = 50 minutes) Private study including examination preparation, specified in hours: 90
Credit points	**03**

Required and recommended prerequisites for joining the course	**None**
Course objectives	This course is an introduction to the field of marketing. In this course, the students will start to examine the most basic concepts in marketing – customer needs, wants, and demand to understand the marketplace. Next, main steps in designing a customer-driven marketing strategy are also explored. This course specially focuses on constructing an integrated marketing program that delivers superior value by using the marketing mix (the four Ps) – product/service design, pricing, distribution, and promotion. At last, other new contents of modern marketing, such as customer relationship management and partner relationship management are also briefly mentioned.
Course learning outcomes	**Upon the successful completion of this course students will be able to:**

Competency level	**Course learning outcome (CLO)**
Knowledge	CLO1. Apply marketing terminology and concepts and the principles used in developing marketing programs in a firm. CLO6. Identify basic characteristics of B2B and B2C marketing. CLO7. Identify the differences of goods and service characteristics in marketing.
Skill	CLO2. Identify wants, environmental factors and personal factors that shape marketing activities for certain target markets. CLO3. Demonstrate knowledge of the individual components of a marketing mix CLO4. Demonstrate knowledge of key business communication strategies within the marketing field CLO5. Identify the organizational processes involved in the planning, implementation and control of marketing activities
Attitude	

<table>
<tr><td>Content</td><td>

The description of the contents should clearly indicate the weighting of the content and the level.

Weight: lecture session (3 hours)

Teaching levels: I (Introduced); R (Reinforced); M (Mastered)

<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Chapter 1: Creating and Capturing Customer Value</td><td>1</td><td>I, R</td></tr>
<tr><td>Chapter 2: Company and Marketing Strategy-Partnering to Build Customer Engagement, Value, and Relationships</td><td>1</td><td>I, R</td></tr>
<tr><td>Chapter 3: Analysing the marketing environment</td><td>1</td><td>I, R</td></tr>
<tr><td>Chapter 5: Understanding consumer buyer behaviour</td><td>2</td><td>I, R, M</td></tr>
<tr><td>Chapter 6: Business Markets and Business Buying Behavior</td><td>1</td><td>I, R</td></tr>
<tr><td>Chapter 7: Customer-Driven Marketing Strategy: Creating Value for Target Customers</td><td>2</td><td>I, R, M</td></tr>
<tr><td>Chapter 8: Product, Services, and Brands: Building Customer Value</td><td>2</td><td>I, R, M</td></tr>
<tr><td>Chapter 10: Pricing: Understanding and Capturing Customer Value</td><td>1</td><td>I, R</td></tr>
<tr><td>Chapter 12: Marketing Channels: Delivering Customer Value</td><td>1</td><td>I, R</td></tr>
<tr><td>Chapter 14: Communicating Customer Value: Integrated Marketing Communications Strategy</td><td>1</td><td>I, R</td></tr>
<tr><td>Chapter 15: Advertising and Public Relations</td><td>1</td><td>I, R</td></tr>
</table>

</td></tr>
<tr><td>Examination forms</td><td>Multiple choice questions, Essay questions, case studies</td></tr>
<tr><td>Study and examination requirements</td><td>Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged.

Assignments/Examination: Students must have more than 50/100 points overall to pass this course.</td></tr>
<tr><td>Reading list</td><td>[1] Textbook: Philip Kotler and Gary Armstrong (2015), Principles of Marketing, 16th Edition, Prentice Hall, Upper Saddle River, New Jersey

[2] Slides and other materials are provided in the Blackboard</td></tr>
</table>

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (1-7) and Program/Student Learning Outcomes (SLO) (1 -10) is shown in the following table:

CLO	Program Learning Outcomes									
	a	b	c	d	e	f	g	h	i	j
1	x									
2	x									
3	x									
4							x			
5	x									
6	x									
7	x									

Course Learning Outcomes

- CLO1. Apply marketing terminology and concepts and the principles used in developing marketing programs in a firm.
- CLO2. Identify wants, environmental factors and personal factors that shape marketing activities for certain target markets.
- CLO3. Demonstrate knowledge of the individual components of a marketing mix
- CLO4. Demonstrate knowledge of key business communication strategies within the marketing field
- CLO5. Identify the organizational processes involved in the planning, implementation and control of marketing activities.
- CLO6. Identify basic characteristics of B2B and B2C marketing.
- CLO7. Identify the differences of goods and service characteristics in marketing.

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well

as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Chapter 1: Creating and Capturing Customer Value	1	Individual Writing Assignment	Lecture, Discussion	**[1], [2]**
2	Chapter 2: Company and Marketing Strategy- Partnering to Build Customer Engagement, Value, and Relationships	1	Individual Writing Assignment	Lecture, Discussion	**[1], [2]**
3	Chapter 3: Analysing the marketing environment	2	Group assignment	Lecture, Discussion	**[1], [2]**
4, 5	Chapter 5: Understanding consumer buyer behaviour	2	Case Analysis	Lecture, Discussion	**[1], [2]**
6	Chapter 6: Business Markets and Business Buying Behavior	6	Quizzes	Lecture, Discussion	**[1], [2]**
7, 8	Chapter 7: Customer-Driven Marketing Strategy: Creating Value for Target Customers	1, 5	Case Analysis	Lecture, Discussion	**[1], [2]**

9	Midterm				
10, 11	Chapter 8: Product, Services, and Brands: Building Customer Value	3, 7	Case Analysis	Lecture, Discussion	**[1], [2]**
12	Chapter 10: Pricing: Understanding and Capturing Customer Value	3	Individual Writing Assignment	Lecture, Discussion	**[1], [2]**
13	Chapter 12: Marketing Channels: Delivering Customer Value	3	Quizzes	Lecture, Discussion	**[1], [2]**
14	Chapter 14: Communicating Customer Value: Integrated Marketing Communications Strategy	3, 4	Individual Writing Assignment	Lecture, Discussion	**[1], [2]**
15	Chapter 15: Advertising and Public Relations	3, 4	Group assignment	Lecture, Discussion	**[1], [2]**
16	Revision				
17	**Final exam**				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7
Quizzes (5%)			Qz1 70%Pass			Qz2 70%Pass	
Individual Writing Assignment (5%)	Asgmt 1 70%Pass		Asgmt 2 70%Pass	Asgmt 3 70%Pass			
Case Analysis (5%)							
Class participation and preparation (5%)							
Group assignment (10%)		70% Pass	70%Pass	70%Pass			
Mid-term Exam (30%)	Q1 70%Pass	Q1 70% Pass			Q2 70%Pass	Q3 70%Pass	
Final exam (40%)			Q1 70%Pass	Q2 70%Pass			Q3 70%Pass

Note: %Pass: Target that 70 % of students having scores greater than 70 out of 100.

5. **Date revised: April 10th, 2023**

GRADING RUBRIC FOR WRITTEN COURSEWORK

MIDTERM EXAMINATION – PRINCIPLES OF MARKETING (BA003IU)

Academic year: 2022 – 2023 (term I)

Criteria	INADEQUATE 10% – 49%	ADEQUATE 50% - 59%	ABOVE AVERAGE 60% - 74%	EXEMPLARY ≥ 75%
Organisation and clarification	Does not organise ideas logically and with clarification. Limited evidence of coherence Ideas lack consistence	Generally organised logically, with evidence of progression Occasionally, there may be a lack of focus or ideas may be tangential	Clear organization and progression. Responds appropriately and relevantly, although some ideas are underdeveloped	Response is focused, detailed and non-tangential. Shows a high degree of attention to logic and reasoning of points. Clearly leads the reader to the conclusion and stirs thought regarding the topic
Originality and usefulness of the analysis	Demonstrates an incomplete grasp of the task. There is no overall sense of creative coherence. Arguments are addressed incompletely.	Shows ability to identify legal issues, gather the facts and develop claims. Argument are addressed well but no links with evidence	Shows strong ability to identify legal issues, gather the fact and develop claims as well as link claims with evidence. Overall, an acceptable solution is offered and explained	Shows strong ability to identify legal issues, gather the facts and develop claims as well as link claims with evidence. Satisfactory solutions are offered and supported
Use of data/information	Shows little information from sources. Poor handling of sources	Shows moderate amount of source information incorporated. Some key points supported by sources. Quotations may be poorly integrated into paragraphs. Some possible problems with source citations	Draws upon sources to support most points. Some evidence may not support arguments or may appear where inappropriate. Quotations integrated well into paragraphs. Sources cited correctly	Draws upon primary and secondary source information in useful and illuminating ways to support key points. Excellent integration of quoted material into paragraphs. Source cited correctly
Use of frameworks	Shows limited ability to structure problems in correspondence to theoretical frameworks	Shows effort to link problems with the theoretical frameworks. There are still some mistakes	Shows ability to structure problems in correspondence to theoretical frameworks correctly. Minor mistakes in resolving problems	Shows ability to structure problems in correspondence to theoretical frameworks correctly. The problems are well resolved
Quality of arguments	Shows little attempt to offer support for key claims or to relate evidence to analysis. Reasons offered are irrelevant.	Shows arguments of poor quality. Weak, undeveloped reasons are offered to support key claims	Shows clear, relevant and logical arguments.	Shows identifiable, reasonable, and sound arguments. Clear reasons are offered to support key claims.

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name: Engineering Ethics and Critical Thinking

Course Code: **PE022IU**

1. General Information

Course name	*PE020IU – Engineering Ethics and Critical Thinking* *PE020IU – Đạo đức nghề nghiệp và tư duy phản biện*
Module designation	*This course is designed to introduce engineering students to the concepts, theory and practice of engineering ethics. It will allow students to explore the relationship between ethics and engineering, and apply classical moral theory and decision making for engineering issues encountered in academic and professional careers.* *Further, this course also provides the nature and techniques of thought as a basis for our claims, beliefs, and attitudes about the world. Specifically, the course includes the theory and practice of presenting arguments in oral and written forms, making deductive and inductive arguments, evaluating the validity or strength of arguments, detecting fallacies in arguments, and refuting fallacious arguments.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☒ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	3
Person responsible for the module	Dr. Nguyen, Hoai Nghia, Dr. Huynh, Vo Trung Dung
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 127.5 Contact hours (lecture, exercise, laboratory session, etc.): 37.5

<table>
<tr><td></td><td>Private study including examination preparation, specified in hours[1]: 90</td></tr>
<tr><td>Credit points</td><td>3 credits (Theory: 03 + Practice: 00)
4.64 ECTS</td></tr>
<tr><td>Number of periods</td><td>Theory: 45
Practice: 00</td></tr>
<tr><td>Required and recommended prerequisites for joining the module</td><td>- Prerequisites:
- Corequisites:
- Previous course:</td></tr>
<tr><td>Module objectives/intended learning outcomes</td><td>Overall objectives are to equip IU students with knowledge about the philosophies of ethics, professional practice, and world culture.

Students who complete the course will be able to perform the following tasks:

(1) Having knowledge of the definition of engineering ethics, codes of ethics, ethic philosophies, intellectual property, copyright, fair use of copyrighted materials and research data, and critical thinking.
(2) Using different problem-solving techniques to solve ethical dilemmas in considering social, environmental, legal aspects, safety and sustainability issues of engineering activities.
(3) Identify, construct, and evaluate deductive and inductive arguments in spoken and written forms to avoid barriers to critical thinking in various contexts.
(4) Develop professional skills including team working, presentation, and critical thinking to defend personal/group beliefs in respectful manners</td></tr>
<tr><td>Content</td><td>The description of the contents should clearly indicate the weighting of the content and the level.
Weight: lecture session (3 hours)
Teaching levels: I (Introduce); T (teach); U (Utilize)
<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Introduction to engineering professionalism and ethics
Engineers in Society</td><td>1</td><td>I</td></tr>
</table></td></tr>
</table>

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

	Moral choices and codes of ethics	1	T, U
	Philosophical ethics Ethical problem-solving techniques	2	I, T, U
	Engineers at the Workplaces - Leadership	1	T, U
	Truth in actions and words in Academic and Research Ethics	1	T
	Internet ethics, Privacy Issues and Intellectual Property Rights Commitment to Safety	2	T
	Environmental ethics Sustainable engineering	1	T
	Introduction to critical thinking	1	T
	Basic logical concepts	1	T, U
	Logical fallacies	1	T, U
	Recognizing, analyzing, evaluating arguments	2	T, U
Examination forms	Constructed-response test		
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.		
Reading list	Textbook: [1] M. W. Martin and R. Schinzinger (2010). *Introduction to engineering ethics* McGraw-Hill Education 2nd edition [2] Bassham, Irwin, Nardone, and Wallace, *Critical Thinking: A Student's Introduction*, 6th edition, McGraw-Hill Education, 2020 References: [1] C. B. Fleddermann. (2011). *Engineering Ethics*, Pearson 4th edition [2] Moore, B.N. et al. (2009). *Critical Thinking*, 9th ed. McGraw-Hill.		

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: Having knowledge of the definition of engineering ethics, codes of ethics, ethic philosophies, intellectual property, copyright, fair use of copyrighted materials and research data, and critical thinking.
(2) CLO2: Using different problem-solving techniques to solve ethical dilemmas in considering social, environmental, legal aspects, safety and sustainability issues of engineering activities.
(3) CLO3: Identify, construct, and evaluate deductive and inductive arguments in spoken and written forms to avoid barriers to critical thinking in various contexts.
(4) CLO4: Develop professional skills including team working, presentation, and critical thinking to defend personal/group beliefs in respectful manners.

No.	**Program Learning Outcome**										
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
CLO1				x							
CLO2				x	x		x			x	
CLO3				x						x	
CLO4				x	x		x				

Program Learning Outcome:

(a) Understanding the physical world and using knowledge of mathematics and natural sciences to represent it in pursuing and establishing research by the use of quantitative and quantitative methods.

(b) Understanding the fundamentals of the civil engineering field (e.g., construction geology, material science, construction physics, surveying, structural theory, technical design, construction informatics, soil mechanics, fluid mechanics, and computational techniques, analyzing data for design, build, and appraisal construction)

(c) Ability to analyze and prepare investment projects and understand their economic, environmental, and social impacts

(d) Awareness of professional and ethical responsibilities of a civil engineer; ability to make rational decisions based on an ethical argumentation, think critically in order to find innovative and effective solutions for interdivision aqualitative and quantitative problems.

(e) Ability to function as a member of a multidisciplinary team (including multi-national and mixed-gender teams) as well as having good knowledge of management and organization to be able to take on leadership roles

(f) Recognition of the need for and ability to engage in life-long learning in order to work efficiently in situations in which new technologies emerge regularly, as well as take part in developing new technologies by engaging in research works having the ability to interpret and use empirical datasets, integrate technical literature and databases to solve specific civil engineering problems or fill knowledge gaps.

(g) Ability to communicate matters related to civil engineering to colleagues in the same profession or the general public, effectively using oral, written, and other forms of communication.

(h) A broad education necessary to understand the impacts of civil engineering solutions in a

global and social context

(i) A broad understanding of contemporary issues in civil engineering in the national, regional, and global level

(j) Ability to use techniques, skills, and modern engineering tools necessary for engineering practice, including identifying tasks of civil engineering, analyzing, abstracting, and formulating, along with being able to develop concepts, plans, and methods for proof and forecast (e.g., documented evidence for stability, energy efficiency, noise protection, flood protection, water supply)

(k) Ability to use English in both technical and daily life situations

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Introduction to engineering professionalism and ethics Engineers in Society	1		Lecture, Discussion	[1] Chapter 1, 4
2	Moral choices and codes of ethics	1	HW1 and/or Quiz1	Lecture, HW1 and/or Quiz1	[1] Chapter 2
3, 4	Philosophical ethics Ethical problem-solving techniques	1, 2	HW2 and/or Quiz2	Lecture, Presentation1	[1] Chapter 3, 4
5	Engineers at the Workplaces - Leadership	1	Quiz3	Lecture, Discussion Quiz3	[1] Chapter 6
6	Truth in actions and words Academic and Research Ethics	1, 2	Quiz4	Lecture, Quiz4	[1] Chapter 7
7, 8	Internet Ethics, Privacy Issues and Intellectual Property Rights Commitment to Safety	1	Quiz5 Presentation 1	Lecture, Discussion Quiz5	[1] Chapter 5, 6, 13
9-10	FINAL EXAM				
11	Environmental ethics Sustainable engineering	1	Quiz6	Lecture, Discussion Quiz6	[1] Chapter 9
12	Introduction to critical thinking	1,3	Quiz7	Lecture, Discussion Quiz7	[2] Chapter 1
13	Basic logical concepts	1,3	Quiz8	Lecture, Discussion Quiz8	[2] Chapter 3
14	Logical fallacies	3, 4	Quiz9	Lecture, Discussion Quiz9	[2] Chapter 5, 6

Week	Topic	CLO	Assessments	Learning activities	Resources
15, 16	Recognizing, analyzing, evaluating arguments	3, 4	Quiz10 Presentation 2	Lecture, Discussion Quiz10	[2] Chapter 2, 7, 8
17	Review				
18-19	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3	CLO4
In-class exercises/quizzes (10%)	Qz1, Qz3,Qz5, Qz6 50%Pass	Qz2, Qz4 50%Pass	Qz5, Qz6, Qz7, Qz8, 50%Pass	Qz5, Qz6, Qz7, Qz8, 50%Pass
Homework exercises/ Presentation (20%)	Presentation 1 50%Pass	Presentation 2 50%Pass		
Midterm exam (20%)	MCQ, Case study 50% Pass	MCQ, Case study 50% Pass		
Final exam (50%)			MCQ, Case study 50% Pass	

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: May 14, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

ACADEMIC ENGLISH 1 (WRITING)

1. General Information

- Course Title
  - Vietnamese: Tiếng Anh chuyên ngành 1 (kỹ năng viết)
  - English: Academic English 1 (writing)
- Course ID: EN007IU
- Course type

☒ General
☐ Specialization (required)
☐ Project/ Internship/ Thesis
☐ Fundamental
☐ Specialization (elective)
☐ Others : ……

- Number of credits: 2
  - Lecture: 2
  - Laboratory: 0
- Prerequisites: TOEFL iBT≥ 61
- Parallel Course:
- Course standing in curriculum: Year 1

2. Course Description

Provides students with comprehensive instructions and practice in essay writing, including transforming ideas into different functions of writing such as process description, cause-effect, comparison-contrast, argumentative, and paraphrase-summary essays. Throughout the whole course, students are required to read university-level texts to develop the ability to read critically and to respond accurately, coherently and academically in writing. Through providing them with crucial writing skills such as brainstorming, proofreading, documentation and editing, this course prepares the students for research paper writing in the next level of AE2 writing.

3. Textbooks and References

Textbooks:

1. Oshima, A., & Hogue, A. (2006). Writing academic English (4rded.) White Plains, NY: Pearson Longman.

References:

1. *Lecture Ready 3*– Laurie Frazie, ShalleLeming, OxfordUniversity Press, 2007

4. Course Objectives

1. The course aims to develop an understanding of crucial writing skills such as brainstorming, proofreading, documentation and editing
2. The course aims to develop an understanding of preparation for research paper writing in the next level of AE2 writing.

5. Learning Outcomes

Learning Outcome Codes	Course Learning Outcomes	Program Learning Outcomes (*)
L.O.1	Understand and follow different steps in the writing process to produce a complete essay	PL01
L.O.2	Use different functions of writing to successfully communicate their purposes to the audience (process description, cause-effect, comparison-contrast, argumentative and paraphrase-summary essays)	PL01, PL07, PL08
L.O.3	Respond to academic lectures with appropriate strategies and confidence; improve their specialized knowledge of academic lectures; and communicate	PL01, PL07, PL08

Learning Outcome Codes	Course Learning Outcomes	Program Learning Outcomes (*)
	effectively with their classmates and professors.	

(*) Refer to ABET student outcomes

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models and utilize statistical tools and techniques for economic analysis

(c) An ability to understand and utilize mathematical tools, problem-solving methods and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments

(e) An ability to acquire and apply essential skills of project management cost management, schedule management and contract management to ensure the project success.

(f) An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences

(h) An ability to comprehensively use English language in construction management

(i) An ability to recognize ethics and professional responsibility in construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

6. Course Assessment

Assessment Component	Assessment form	Percentage %
A1. Process assessment	A1.1 Quiz	10
	A1.2 Homework	10
	A1.3 Attendance	10
A2. Midterm assessment	A2.1 Mid-term exam	30
A3. Final assessment	A3.1 Final exam	40

7. Course Outlines

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
1	The process of Academic Writing Step 1: Creating (Prewriting) Step 2: Planning (Outlining) Step 3: Writing Step 4: Polishing	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
2	From Paragraph to Essay The introductory paragraph Body paragraphs The concluding paragraph	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
3	From Paragraph to Essay (Cont'd) Essay outlining Review	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
	Writing Practice Reading (Questions & Suggestions for Discussion or Writing)			
4	Process Essays Thesis statements for process essay Transitional signals Writing Practice	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
5	Process Essays (Cont'd) Review/ Correction Reading 2 (Questions & Suggestions for Discussion or Writing)	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
6	Cause – Effect Essays Organization Signal words and phrases Writing Practice	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
7	Cause – Effect Essays (Cont'd) Review/ Correction Reading (Questions & Suggestions for Discussion or Writing)	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
8	Introduction to moment connections of bolted end plate connections, beam and column splices.	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
9	Comparison – Contrast Essays Organization Signal words Writing Practice	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
10	Paraphrase and Summary Paraphrasing Plagiarism and How to avoid Plagiarism	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
11	Paraphrase and Summary (Cont'd) Review/ Correction Summarizing	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
12	Argumentative Essays Organization The introductory paragraph Writing Practice	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
13	Argumentative Essays (Cont'd) Review/Correction Topic 1 – Reading 1 & 2 (Questions)	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
14	Argumentative Essays Project Presentation	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
15	Review	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
				100%

8. Course Policy

Class Participation: A minimum attendance of 80 % is compulsory for the class sessions and 100% is compulsory for the laboratory sessions. Students will be assessed on the basis of their class participation. Questions and comments are strongly encouraged.

Academic Honesty and Plagiarism: Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade. For this class, all assignments are to be completed by the individual student unless otherwise specified. Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for preparation, research, drafting, and the proper referencing of sources in preparing all assessment items.

9. Course Coordinator/ Lecturer

- Department of Civil Engineering: Room A1.506
- Course Coordinator/ Lecturer:
- Email:

ACADEMIC ENGLISH 1 (LISTENING)

1. General Information

- Course Title
  - Vietnamese: Tiếng Anh chuyên ngành 1 (kỹ năng nghe)
  - English: Academic English 1 (listening)
- Course ID: EN008IU
- Course type

☒ General
☐ Specialization (required)
☐ Project/ Internship/ Thesis
☐ Fundamental
☐ Specialization (elective)
☐ Others : ……

- Number of credits: 2
  - Lecture: 2
  - Laboratory: 0
- Prerequisites: TOEFL iBT≥ 61
- Parallel Course:
- Course standing in curriculum: Year 1

2. Course Description

The course is designed to prepare students for effective listening and note-taking skills, so that they can pursue the courses in their majors without considerable difficulty. The course is therefore lecture-based in that the teaching and learning procedure is built up on lectures on a variety of topics such as business, science, and humanities.

3. Textbooks and References

Textbooks:

1. Oshima, A., & Hogue, A. (2006). Writing academic English (4rded.) White Plains, NY: Pearson Longman.

References:

1. *Lecture Ready 3*– Laurie Frazie, Shalle Leming, Oxford University Press, 2007

4. Course Objectives

1. The course aims to develop an understanding of effective listening and note-taking skills
2. The course aims to develop an understanding of lectures on a variety of topics such as business, science, and humanities.

5. Learning Outcomes

Learning Outcome Codes	Course Learning Outcomes	Program Learning Outcomes (*)
L.O.1	Understand and follow different steps in the writing process to produce a complete essay	PL01
L.O.2	Use different functions of writing to successfully communicate their purposes to the audience (process description, cause-effect, comparison-contrast, argumentative and paraphrase-summary essays)	PL01, PL07, PL08
L.O.3	Respond to academic lectures with appropriate strategies and confidence; improve their specialized knowledge of academic lectures; and communicate effectively with their classmates and professors.	PL01, PL07, PL08

(*) Refer to ABET student outcomes

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models and utilize statistical tools and techniques for economic analysis

(c) An ability to understand and utilize mathematical tools, problem-solving methods and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments

(e) An ability to acquire and apply essential skills of project management cost management, schedule management and contract management to ensure the project success.

(f) An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences

(h) An ability to comprehensively use English language in construction management

(i) An ability to recognize ethics and professional responsibility in construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

6. Course Assessment

Assessment Component	Assessment form	Percentage %
A1. Process assessment	A1.1 Attendance	10
	A1.2 Class participation	10
A2. Midterm assessment	A2.1 Mid-term exam	40
A3. Final assessment	A3.1 Final exam	40

7. Course Outlines

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
1	ORIENTATION	L.O.1, L.O.2, L.O.3	Class discussion	0%
2	Unit 1 New Trends in Marketing Research	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
3	Unit 2 Business Ethics Review	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
4	Unit 3 Trends in Children's Media Use	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
5	WRAP-UP AND REVIEW	L.O.1, L.O.2, L.O.3	Lecture Class discussion	0%
6	Unit 4 The Changing Music Industry	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
7	Unit 5 The Placebo Effect	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
8	WRAP-UP AND REVIEW	L.O.1, L.O.2, L.O.3	Lecture Class discussion	0%

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
9	Unit 6 Intelligent Machines	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
10	Unit 7 Sibling Relationships	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
11	Unit 8 Multiple Intelligences	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
12	WRAP-UP AND REVIEW	L.O.1, L.O.2, L.O.3	Lecture Class discussion	0%
13	Unit 9 The Art of Graffiti	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
14	Unit 10 Design Basics	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
15	WRAP-UP AND REVIEW	L.O.1, L.O.2, L.O.3	Class discussion	0%
				100%

8. Course Policy

Class Participation: A minimum attendance of 80 % is compulsory for the class sessions and 100% is compulsory for the laboratory sessions. Students will be assessed on the basis of their class participation. Questions and comments are strongly encouraged.

Academic Honesty and Plagiarism: Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade. For this class, all assignments are to be completed by the individual student unless otherwise specified. Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for preparation, research, drafting, and the proper referencing of sources in preparing all assessment items.

9. Course Coordinator/ Lecturer

- Department of Civil Engineering: Room A1.506
- Course Coordinator/ Lecturer:
- Email:

ACADEMIC ENGLISH 2 (WRITING)

1. General Information

- Course Title
  - Vietnamese: Tiếng Anh chuyên ngành 2 (kỹ năng viết)
  - English: Academic English 2 (writing)
- Course ID: EN011IU
- Course type

☒ General
☐ Specialization (required)
☐ Project/ Internship/ Thesis
☐ Fundamental
☐ Specialization (elective)
☐ Others : ……

- Number of credits: 2
  - Lecture: 2
  - Laboratory: 0
- Previous Course: EN007IU Academic English 1 (writing)
- Parallel Course:
- Course standing in curriculum: Year 1

2. Course Description

This course introduces basic concepts in research paper writing, especially the role of generalizations, definitions, classifications, and the structure of a research paper to students who attend English- medium college or university. It also provides them with methods of developing and presenting an argument, a comparison or a contrast. Students are required to work on the tasks selected to maximize their exposure to written communication and are expected to become competent writers in the particular genre: the research paper.

As writing is part of an integrated skill of reading and writing where reading serves as input to trigger writing, this course is designed to familiarize non-native students with academic literature in their major study by having them read and critically respond to texts of a variety of topics ranging from natural sciences such as biology to social sciences and humanities like education, linguistics and psychology.

3. Textbooks and References

Textbooks:

1. Hamp-Lyons, L. and B. Heasley (2006). Study Writing.Cambridge, UK: Cambridge University Press.

References:

2. Effective Presentations - Jeremy Comfort, Oxford University Press, 1997.

4. Course Objectives

1. The course aims to develop an understanding of basic concepts in research paper writing.
2. The course aims to develop an understanding of an integrated skill of reading and writing.

5. Learning Outcomes

Learning Outcome Codes	Course Learning Outcomes	Program Learning Outcomes (*)
L.O.1	Ability to employ the research writing skills obtained to work on their own paper in their major study.	PL01
L.O.2	Be able to prepare and deliver effective, formal, structured presentations that are appropriate to the specific environment and audience.	PL01, PL07, PL08

Learning Outcome Codes	Course Learning Outcomes	Program Learning Outcomes (*)
L.O.3	Read and respond critically in writing, analyze and annotate an academic text.	PL01, PL07, PL08

(*) Refer to ABET student outcomes

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models and utilize statistical tools and techniques for economic analysis

(c) An ability to understand and utilize mathematical tools, problem-solving methods and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments

(e) An ability to acquire and apply essential skills of project management cost management, schedule management and contract management to ensure the project success.

(f) An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences

(h) An ability to comprehensively use English language in construction management

(i) An ability to recognize ethics and professional responsibility in construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

6. Course Assessment

Assessment Component	Assessment form	Percentage %
A1. Process assessment	A1.1 Attendance	10
	A1.2 Class participation	20
A2. Midterm assessment	A2.1 Mid-term exam	30
A3. Final assessment	A3.1 Final exam	40

7. Course Outlines

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
1	ORIENTATION	L.O.1, L.O.2, L.O.3	Class discussion	0%
2	Forming a topic for research ❖ Choosing and narrowing a topic ❖ Analyzing the sample research paper ❖ Discussion of the organization of a research paper and how ideas are synthesized in the paper	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
3	Writing the introduction ❖ Stages of an introduction ❖ Language conventions for each	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
	stage ❖ Exercises in the textbook			
4	Writing the Literature Review ❖ What is literature review? ❖ Elements of a literature review ❖ In-text citation convention ❖ Plagiarism	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
5	Writing the Literature Review (cont'd) ❖ Paraphrasing ❖ Reporting verbs ❖ Formal academic language ❖ Discussion of connections among readings (in group)	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
6	Writing the Literature Review (cont'd) ❖ Writing a summary ❖ Comparing and synthesizing ideas from different authors	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
7	Making the outline ❖ Organizing information ❖ Outlining the research paper	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
8	Writing the methodology ❖ Elements ❖ Language conventions ❖ Exercises	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
9	Writing the methodology (cont'd) ❖ Exercise correction	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
10	Results and Discussion ❖ Language conventions ❖ Exercises	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
11	Results and Discussion (cont'd) ❖ Language conventions ❖ Exercises	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
12	Writing the conclusion ❖ Elements of a conclusion ❖ Language conventions ❖ Exercises	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
13	Writing the abstract ❖ Elements of an abstract ❖ Language conventions ❖ Exercises	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
14	Preparing the final draft Guidelines for the list of references	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
15	Editing Proofreading	L.O.1, L.O.2, L.O.3	Class discussion	10%

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
				100%

8. Course Policy

Class Participation: A minimum attendance of 80 % is compulsory for the class sessions and 100% is compulsory for the laboratory sessions. Students will be assessed on the basis of their class participation. Questions and comments are strongly encouraged.

Academic Honesty and Plagiarism: Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade. For this class, all assignments are to be completed by the individual student unless otherwise specified. Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for preparation, research, drafting, and the proper referencing of sources in preparing all assessment items.

9. Course Coordinator/ Lecturer

- Department of Civil Engineering: Room A1.506
- Course Coordinator/ Lecturer:
- Email:

ACADEMIC ENGLISH 2 (SPEAKING)

1. General Information

- Course Title
  - Vietnamese: Tiếng Anh chuyên ngành 2 (kỹ năng nói)
  - English: Academic English 2 (speaking)
- Course ID: EN012IU
- Course type

☒ General
☐ Specialization (required)
☐ Project/ Internship/ Thesis
☐ Fundamental
☐ Specialization (elective)
☐ Others : ……

- Number of credits: 2
  - Lecture: 2
  - Laboratory: 0
- Previous Course: EN007IU Academic English 1 (writing)
- Parallel Course:
- Course standing in curriculum: Year 1

2. Course Description

Giving presentations today becomes a vital skill for students to succeed not only in university but also at work in the future. However, this may be seen as a nerve-racking task, especially when presented in a foreign language. Speaking AE2 provides the students with the knowledge and skills needed to deliver effective presentations. To do this, the course covers many aspects of giving presentation: preparing and planning, using the appropriate language, applying effective visual aids, building up confidence, performing body language, dealing with questions and responding, etc.

3. Textbooks and References

Textbooks:

1. Effective Presentations - Jeremy Comfort, Oxford University Press, 1997.

References:

1. Study Speaking: a course in spoken English for academic purposes - By Kenneth Anderson, Joan Maclean, Tony Lynch - Cambridge University Press (2004)

4. Course Objectives

1. The course aims to develop an understanding of aspects of giving presentation.
2. The course aims to develop an understanding of presentation in a foreign language.

5. Learning Outcomes

Learning Outcome Codes	Course Learning Outcomes	Program Learning Outcomes (*)
L.O.1	Ability to employ the research writing skills obtained to work on their own paper in their major study.	PL01
L.O.2	Be able to prepare and deliver effective, formal, structured presentations that are appropriate to the specific environment and audience.	PL01, PL07, PL08
L.O.3	Read and respond critically in writing, analyze and annotate an academic text.	PL01, PL07, PL08

(*) Refer to ABET student outcomes

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social

science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models and utilize statistical tools and techniques for economic analysis

(c) An ability to understand and utilize mathematical tools, problem-solving methods and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments

(e) An ability to acquire and apply essential skills of project management cost management, schedule management and contract management to ensure the project success.

(f) An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences

(h) An ability to comprehensively use English language in construction management

(i) An ability to recognize ethics and professional responsibility in construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

6. Course Assessment

Assessment Component	Assessment form	Percentage %
A1. Process assessment	A1.1 Attendance	10
	A1.2 Class participation	20
A2. Midterm assessment	A2.1 Mid-term exam	30
A3. Final assessment	A3.1 Final exam	40

7. Course Outlines

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
1	ORIENTATION	L.O.1, L.O.2, L.O.3	Class discussion	0%
2	BUILDING UP CONFIDENCE	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
3	EFFECTIVE PRESENTATIONS Unit 1: What is the Point? ❖ Pages 6-11 ❖ Video clip ❖ Handouts: ❖ - Pages 32-34 (Teacher's book) ❖ - Page 11 (Student book)	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
4	EFFECTIVE PRESENTATIONS Unit 2: Making a Start ❖ Pages 12-17 ❖ Video clip ❖ Handouts: ❖ - Page 35 (Teacher's book)	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
	❖ - Page 17 (Student book)			
5	EFFECTIVE PRESENTATIONS Unit 3: Linking the Parts ❖ Pages 18-23 ❖ Video clip ❖ Handouts: ❖ - Pages 36-37 (Teacher's book) ❖ - Page 22 (Student book)	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
6	EFFECTIVE PRESENTATIONS Unit 7: Finishing Off ❖ Pages 40-43 ❖ Video clip ❖ Handouts: ❖ - Pages 44-45(Teacher's book)	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
7	PRACTICE PRESENTATIONS 1	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
8	EFFECTIVE PRESENTATIONS Unit 4: The Right Kind of Language ❖ Pages 24-29 ❖ Video clip ❖ Handouts: ❖ - Pages 38-39(Teacher's book) ❖ - Pages 74-74 (Student book)	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
9	EFFECTIVE PRESENTATIONS Unit 5: Visual Aids ❖ Pages 30-35 ❖ Video clip ❖ Handouts: ❖ - Pages 40-42 (Teacher's book) ❖ - Page 35 (Student book)	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
10	REPORTING CHANGE	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
11	EFFECTIVE PRESENTATIONS Unit 6: Body Language ❖ Pages 36-39 ❖ Video clip ❖ Handouts: ❖ - Page 43(Teacher's book)	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
12	EFFECTIVE PRESENTATIONS Unit 8: Questions Time ❖ Pages 44-49 ❖ Video clip	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
	❖ Handouts: ❖ - Pages 46-48(Teacher's book) ❖ - Page 49 (Student book)			
13	EFFECTIVE PRESENTATIONS Unit 9: Finishing Up ❖ Pages 44-49 ❖ Video clip Unit 1 & Unit 9	L.O.1, L.O.2, L.O.3	Lecture Class discussion	5%
14	EXTRA SPEAKING ACTIVITIES	L.O.1, L.O.2, L.O.3	Lecture Class discussion	10%
15	PRACTICE PRESENTATIONS 2	L.O.1, L.O.2, L.O.3	Class discussion	10%
				100%

8. Course Policy

Class Participation: A minimum attendance of 80 % is compulsory for the class sessions and 100% is compulsory for the laboratory sessions. Students will be assessed on the basis of their class participation. Questions and comments are strongly encouraged.

Academic Honesty and Plagiarism: Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade. For this class, all assignments are to be completed by the individual student unless otherwise specified. Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for preparation, research, drafting, and the proper referencing of sources in preparing all assessment items.

9. Course Coordinator/ Lecturer

- Department of Civil Engineering: Room A1.506
- Course Coordinator/ Lecturer:
- Email:

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Management

COURSE SYLLABUS
Course Name: ENGINEERING MECHANICS AND MECHANICS OF MATERIALS
Course Code: **CE105IU**

1. General Information

Course name	*- Engineering mechanics and mechanics of materials* *- Cơ kỹ thuật và sức bền vật liệu*
Course designation	*CE105IU – Engineering Mechanics and Mechanics Of Materials* *Forces, moments, and couples; resultants of force systems; equilibrium analysis and free-body diagrams; analysis of forces acting on members of trusses, frames, etc.; Coulomb friction; centroids, center of mass, resultant of a distributed force system, moment of inertia, parallel-axis theorem, rotated-axis theorem, internal force diagrams of beams.*
Course type	☐ *General knowledge* ☑ *Fundamental* ☐ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the course is taught	3
Person responsible for the course	Dr. Nguyen, Ba Quang Vinh
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 135 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 45

<table>
<tr><td></td><td>Private study including examination preparation, specified in hours[1]: 90</td></tr>
<tr><td>Credit points</td><td>3 credits/ 4.64 ETCS</td></tr>
<tr><td>Number of periods</td><td>Theory: 45
Practice: 0</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>None</td></tr>
<tr><td>Course objectives</td><td>Overall objectives
The course provides students with knowledge of solving equilibrium problems involving trusses, frames and machines; the laws of dry friction and apply it to solve equilibrium problems involving static friction; properties of areas and be able to calculate centroids and inertia moments of an area; and applying the concept of internal forces in members, and be able to draw shear and bending-moment diagrams for beams.</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course students will be able to:
<table>
<tr><th>Competency level</th><th>Course learning outcome (CLO)</th></tr>
<tr><td>Knowledge</td><td>CLO1: An understanding of equilibrium equations to analyze engineering problems.</td></tr>
<tr><td>Skill</td><td>CLO2: An ability to determine the internal forces and draw diagrams for beams and trusses.
CLO3: An ability to calculate centroids and moments of inertia of various cross sections.</td></tr>
<tr><td>Attitude</td><td></td></tr>
</table></td></tr>
<tr><td>Content</td><td>The description of the contents should clearly indicate the weighting of the content and the level.
Weight: lecture session (3 hours)
Teaching levels: I (Introduce); T (teach); U (Utilize)
<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Introduction</td><td>1</td><td>I</td></tr>
<tr><td>Forces</td><td>1</td><td>T</td></tr>
<tr><td>Equilibrium</td><td>1</td><td>T, U</td></tr>
<tr><td>Structural analysis</td><td>2</td><td>T, U</td></tr>
<tr><td>Stress and strain</td><td>1</td><td>T, U</td></tr>
<tr><td>Geometric properties</td><td>2</td><td>T, U</td></tr>
</table></td></tr>
</table>

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

	Internal forces and diagrams	6	T, U	
	Review	1	T	
Examination forms	Constructed-response test			
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.			
Reading list	Textbook: [1] R. C. Hibbeler, Static and Mechanics of Materials, 4th Ed., Pearson, 2014. References: [1] J. L. Meriam and L.G Kraige, Engineering Mechanics – Statics and Dynamics, 5th edition, Wiley, 2002.			

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-j) is shown in the following table:

(1) CLO1: An understanding of equilibrium equations to analyze engineering problems.
(2) CLO2: An ability to determine the internal forces and draw diagrams for beams and trusses.
(3) CLO2: An ability to calculate centroids and moments of inertia of various cross sections.

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1	x									
CLO2	x		x							
CLO3	x		x							

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve

complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	**Chapter 1 Introduction** 1.1. Fundamental concepts 1.2. Systems of Units 1.3. Vector overview **Chapter 2 Forces** 2.2 Forces as vectors 2.2 Two-dimensional force systems	L.O.1	Exercise 1	Lecture Class discussion	[1] Chapter 1, 2
2	2.3 Three-dimensional force systems 2.4 System of forces, moment and couples 2.5 Equivalent systems	L.O.1	Exercise 2	Lecture Class discussion	[1] Chapter 2
3	**Chapter 3 Equilibrium** 3.1 Conditions for equilibrium 3.2 Free-body diagrams 3.3 Equilibrium equations for 2D 3.4 Friction	L.O.1	Exercise 3	Lecture Class discussion	[1] Chapter 4
4	**Chapter 4 Structural analysis** 4.1 Trusses 4.2 The method of joints 4.3 The method of sections	L.O.1	Exercise 4	Lecture Class discussion	[1] Chapter 5
5	4.4 Frames	L.O.1	Exercise 5	Lecture	[1] Chapter 5

Week	Topic	CLO	Assessments	Learning activities	Resources
				Class discussion	
6	**Chapter 5 Stress and strain** 5.1 Stress 5.2 Strain 5.3 Deformation	L.O.2	Exercise 6	Lecture Class discussion	[1] Chapter 7
7	**Chapter 6 Geometric properties** 6.1 Center of gravity and mass 6.2 Centroid for a body 6.3 Resultant of a distributed force system	L.O.2	Exercise 7	Lecture Class discussion	[1] Chapter 6
8	6.4 Moments of inertia for areas 6.5 Parallel-axis theorem 6.6 Rotated-axis theorem	L.O.3	Exercise 8		[1] Chapter 6
9-10	MIDTERM EXAM				
11	**Chapter 7 Internal forces and diagrams** 7.1 Internal forces in beams	L.O.2	Exercise 11	Lecture Class discussion	[1] Chapter 11
12	7.2 Axial load	L.O.2	Exercise 12	Lecture Class discussion	[1] Chapter 11
13-14	7.2 Shear force	L.O.2	Exercise 13-14	Lecture Class discussion	[1] Chapter 11
15-16	7.3 Bending moment diagrams	L.O.2	Exercise 15-16	Lecture Class discussion	[1] Chapter 11
17	**REVIEW**	L.O.1, L.O.2, L.O.3	Exercise 17	Class discussion	
18-19	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
Homework exercises/ Presentation (20%)	Ex1-Ex6 50% Pass	Ex11-Ex17 50%Pass	Ex7, Ex8 50%Pass
Midterm exam (30%)	50% Pass	50% Pass	
Final exam (50%)		50% Pass	50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: March 29, 2024

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Management

COURSE SYLLABUS

Course Name: Construction Materials

Course Code: **CE210IU**

1. General information

Course name	*CE210IU – Construction Materials* *CE210IU – Vật liệu xây dựng*
Course designation	*The course will introduce both conventional and modern construction materials that are commonly used in civil engineering construction. These are concrete, steel, asphalt concrete and other construction materials such as concrete, cement, brick, mortar, steel, asphalt and so on. Properties of materials will be taught and discussed. Students will find out what properties are the advantages and disadvantages of materials. Therefore, material applications and detailing in structural and non-structural building components are explored. Construction materials should be harmonized to the environmental sustainability, resource durability, capitalizing on using local materials and less fee to strengthen and retrofit, using local materials also satisfy culture, economic and social justice. Resulting from this course, students will gain a comparative knowledge of material properties and possible applications in construction.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☒ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the course is taught	1, 2
Person responsible for the course	Assoc. Prof. Tran Van Mien
Language	English
Relation to curriculum	Compulsory

Teaching methods	Lecture, lesson, homework, discussion
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 127.5 Contact hours (lecture, exercise, laboratory session, etc.): 37.5 Private study including examination preparation, specified in hours[1]: 90
Credit points	**3 credits (Theory: 03 + Practice: 00)** **4.64 ECTS**
Number of periods	**Theory: 45** **Practice: 00**
Required and recommended prerequisites for joining the course	- Prerequisites: - Corequisites: - Previous course: Mechanics of Materials 1
Parallel course	
Course objectives	The course provides students with basic definitions, the physical, chemical and mechanical properties of various construction materials that are commonly used in civil engineering construction. Students are guided to be able to appreciate the criteria for choosing the appropriate materials and indigenous resources, and various tests to control the quality of these materials in applying for stability, durability, sustainablity and saving of resources, and development of practices. The course raises awareness of using suitable materials based on their properties to protect a sustainable environment, economy, and cultural awareness towards the social and societal calls.

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course students will be able to:
<table>
<tr><th>Categories</th><th>Course learning outcome (CLO)/ Competency</th></tr>
<tr><td>Knowledge</td><td>CLO1. Understand basic definitions and physical, chemical, and mechanical properties of various construction materials for civil engineering, particularly the meaning of each property and how to apply with sustainability. Classify types of construction material based on their advantages and disadvantages properties for civil engineering that are affected the quality of structures and the environment.</td></tr>
<tr><td>Skills</td><td>CLO2. Evaluate the suitable quality of construction materials with sustainable criteria and determine the materials' properties using equipment. Able to use social network technology to find material, its properties, and its application in civil engineering.
CLO3. Design some mix proportions of some composite construction materials using local materials, industrial waste (fly ash, silica fume, Fluid catalytic cracking), and recycled materials such as types of Portland concrete, types of asphalt concrete, mortar, grout, composite materials with fibers and so on.</td></tr>
<tr><td>Attitude</td><td>CLO4. Be aware of choosing construction materials for suitable purposes and economics in civil engineering. Construction materials cause problems for the environment. So, we have to consider choosing suitable materials to minimize the negative effects on the environment.</td></tr>
</table></td></tr>
<tr><td>Content</td><td>The description of the contents should clearly indicate the weighting of the content and the level.
Weight: lecture session (2 hours)
Teaching levels: I (Introduce); T (Teach); U (Utilize)
<table>
<tr><td>Topic</td><td>Weight</td><td>Level</td></tr>
<tr><td>Introduction to construction materials</td><td>0.5</td><td>I, T</td></tr>
<tr><td>Basic properties of construction materials</td><td>2</td><td>I, T, U</td></tr>
<tr><td>Natural rocks</td><td>0.5</td><td>I, T, U</td></tr>
<tr><td>Ceramics</td><td>2</td><td>I, T, U</td></tr>
<tr><td>Portland cement</td><td>3</td><td>I, T, U</td></tr>
<tr><td>Properties of fresh and harden concrete</td><td>2</td><td>I, T, U</td></tr>
<tr><td>Mix proportion of normal concrete</td><td>1</td><td>I, T, U</td></tr>
<tr><td>Specials concretes, asphalt concrete</td><td>1</td><td>I, T, U</td></tr>
<tr><td>Steel</td><td>1</td><td>I, T, U</td></tr>
<tr><td>Other materials, sustainable materials</td><td>2</td><td>I, T, U</td></tr>
</table></td></tr>
<tr><td>Examination forms</td><td>Written examination: Mid-term and Final examinations</td></tr>
</table>

Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed on the basis of their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have GPA of more than 50/100 points overall to pass this course.
Reading list and Media employed	**Textbooks:** [1] Michael S. Mamlouk and John P. Zaniewski, *Materials for Civil and Construction Engineers*, Prentice Hall, 2005. [2]. Steven H. Kosmatka, Beatrix Kerkhoff, and William C. Panarese, *Design and Control of Concrete Mixtures*, 14th Ed., Portland Cement Association, 2008. **Additional references:** [3] Neil Jackson and Ravindra K. Dhir, *Civil engineering materials*, 4th Ed, Palgrave Macmillan, 1996. [4] Phùng Văn Lự và các tác giả, *Giáo trình vật liệu xây dựng*, NXB Giáo dục, 2000. [5] Phạm Duy Hữu, Ngô Xuân Quảng và Mai Đình Lộc, Giáo trình Vật liệu xây dựng, NXB Giao Thông Vận Tải

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) and Program Learning Outcomes (PLO) is shown in the following table:

	PLO									
CLO	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
1	x									
2	x									
3			x							
4			x							

Program Learning Outcome:

a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

h) An ability to comprehensively use English language in construction management, express

themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.
i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.
j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning and assessment activities

Week	Topic	CLO	Assessments activities	Learning activities	Resources
1	**Introduction to construction materials**	1	Attendance Q&A	Reading materials before class; Doing the lecture; Discussion;	[1] [4]
1-2	**Chapter 1: Basic properties of construction materials** - Physical properties - Mechanical properties	2,4	Attendance Q&A Homework	Reading materials before class; Doing the lecture; Discussion; Quiz	[1] [4]
3	**Chapter 2: Natural rock** - Classification of natural rocks - Application of natural rocks as construction materials	1	Attendance Q&A	Reading materials before class; Quiz Doing the lecture; Discussion;	[1] [2]
4-5	**Chapter 3: Ceramics** - Definition and classification of ceramics - Raw materials used to manufacture ceramics - Properties of ceramics - Sustainable aspect	1,2	Attendance Q&A	Reading materials before class; Doing the lecture; Discussion; Quiz	[1] [2]
6-8	**Chapter 4: Portland cement** - Classification of binders - Binders hardening in air - Binders hardening in water - Raw materials used to manufacture Portland cement - Properties of Portland cement - Durability of hardened cement exposed to aggressive media	2,4	Attendance Q&A Homework	Reading materials before class; Doing the lecture; Discussion; Quiz	[1] [4]
	Midterm examination		Writing		
9-12	**Chapter 5: Concrete** - Classification and application of concrete - Concrete ingredients - Properties of fresh concrete - Properties of hardened concrete - Durability of concrete exposed to aggressive media - Special concretes - Asphalt concrete	2,4	Attendance Q&A Homework	Reading materials before class; Doing the lecture; Discussion; Quiz	[1] [4]
13	**Chapter 6 Steel structures** - Introduction steel for construction - Ingredients of steel for construction (Carbon, SiO2, Fe, …) - Heat treatment of steel - Steel productions: Cast iron, Alloy, normal steel and prestressed steel - Properties and geometry of	3,4	Attendance Q&A Homework	Reading materials before class; Doing the lecture; Discussion; Quiz	[1]

Week	Topic	CLO	Assessments activities	Learning activities	Resources
	steel (Grade and standards: shape, diameter, yield strength, ultimate strength, Elastic Modulus, …)				
14-15	**Chapter 7: Other construction materials** **Sustainable materials**	3,4	Attendance Q&A	Reading materials before class; Doing the lecture; Presentation	[1] [4]
	Final examination		Writing		

4. Assessment plan

- The type of assessment is grading based on exam questions. The range of scores is from 0 to 100.
- The final GPA of students is integrated from 3 components, including: progress assessment, mid-term exam and final exam. The contribution of each component (in percentage) is shown in the table below.

No	Assessment Type (% contribute to GPA)	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1	Progress assessment (PA, 30%)						
1.1	Class attendance (50% of PA)						Attended 80%Pass
1.2	In-class activity: Discussion and doing Quizzes in class (25% of PA)						Participated In-class Q&A 60%Pass
1.3	Homework (25% of PA)					HW1-6, Submitted 80%Pass	
2	Midterm exam (Mid, 30%)	Q1, 50%Pass	Q1,2,4 50%Pass	Q2, 50%Pass	Q3 50%Pass	Q4 50%Pass	Q1,2,3,4 50%Pass
3	Final exam (Fin, 40%)	Q1 50%Pass	Q1,2,3 50%Pass	Q2,3 50%Pass	Q4, 50%Pass	Q4 50%Pass	Q1,2,3,4 70%Pass

Note: %Pass: Target that % of students having scores greater than 50% out of question score

5. Date revised: March 20, 2024

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Management

COURSE SYLLABUS
Course Name: Computer Aided Design and Drafting
Course Code: **CE103IU**

1. General information

Course name	- *(in English) Computer Aided Design and Drafting* - *(in Vietnamese) Vẽ Kỹ Thuật*
Course designation	*This course introduces to the students a comprehensive overview of construction drawings basics. The course explains the use of lines, dimensions, specifications, symbols and standards, terminology and manufacturing process notes contained on a CAD drawing. The course also offers and expands into broader topics such as different construction drawing types and how blueprints and construction drawings are used to implement the construction process.*
Course type	☐ *General knowledge* ■ *Fundamental* ☐ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the course is taught	3, 4
Person responsible for the course	Pham Thanh Tung, Ph.D.
Language	English
Relation to curriculum	■ Compulsory ☐ Elective
Teaching methods	Lecture, practice, group assignments/home works, seminar

<table>
<tr><td>Workload (incl. contact hours, self-study hours)</td><td>(Estimated) Total workload: 75
Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 45
Private study including examination preparation, specified in hours[1]: 30</td></tr>
<tr><td>Credit points</td><td>3 credits (Theory: 3 + Practice: 0)
……..ECTS (optional)</td></tr>
<tr><td>Number of periods</td><td>Theory: 15
Practice: 0</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>- Prerequisites:
- Corequisites:
- Previous course:</td></tr>
<tr><td>Course objectives</td><td>Students are able to prepare and read construction drawings; are equipped with up to date information to reflect the most recent developments in the construction industry, and to be able to interpret and deal with the technical information found in blueprint documents.</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course students will be able to:
<table>
<tr><th>Competency level</th><th>Course learning outcome (CLO)</th></tr>
<tr><td>Knowledge</td><td>CLO1. Recognize legal documents related to civil drawings.
CLO2. Present and illustrate professional 2D drawings.
CLO3. Describe and interpret blueprints, sections, elevations, site plans, architectural and structural plans, and more.</td></tr>
<tr><td>Skill</td><td>CLO4. Present skills in teamwork, communication, presentation, and drawing skills</td></tr>
<tr><td>Attitude</td><td>CLO5. Perform working activities in independently, actively and seriously</td></tr>
</table></td></tr>
</table>

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td>Content</td><td>

The description of the contents should clearly indicate the weighting of the content and the level.

Weight: lecture session (3 hours)

Teaching levels: I (Introduce); T (Teach); U (Utilize)

Topic	**Weight**	**Level**
Introduction to graphics communications	**1**	**I**
Orthographic Projection	**2**	**T,U**
Dimensioning	**2**	**T,U**
Sectioning	**2**	**T,U**
Blueprints and Construction Drawings	**3.5**	**T,U**
The meaning of symbols	**0.5**	**T,U**
Understanding Schedules	**0.5**	**T,U**
Interpreting Specifications	**0.5**	**T,U**
Introduction to sustainable/green buildings	**1**	**I, T**

</td></tr>
<tr><td>Examination forms</td><td>Written examination: Midterm and Final Exams</td></tr>
<tr><td>Study and examination requirements</td><td>Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed on the basis of their class participation. Questions and comments are strongly encouraged.

Assignments/Examination: Students must have more than 50/100 points overall to pass this course.</td></tr>
<tr><td>Reading list</td><td><u>Textbooks:</u>

[1] Kirstie Plantenberg, Engineering Graphic Essentials, SDC Publications, Fourth Edition.

[2] Sam A. A. Kubba, Blueprint Reading: Construction Drawings for the Building Trades, Mc Graw-Hill Higher Education, 2009

[3] Gary R Bertoline, Introduction to Graphics Communication for Engineers, Mc Graw-Hill Higher Education, Fourth Edition.</td></tr>
</table>

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) and Program/Student Learning Outcomes (PLO) is shown in the following table:

	PLO									
CLO	**a**	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**	**j**
1	**x**									
2			**x**							
3			**x**							
4							**x**			
5							**x**			

**Use Bloom's Taxonomy*

Program Learning Outcome:

a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

e) An ability to grasp, analyze and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

f) An ability to use tools and techniques required for identifying, analyzing, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Introduction to graphics communications: Introduction; Traditional Drawing Tools; Computer Aided Drawing Tools	1		Lecture, Discussion,	[1] [3]
2-3	Orthographic Projection	1,2	Quiz 1 HW1	Lecture, Discussion, In-class Quiz	[1] [3]
4-5	Dimensioning	1,2	Quiz 2 HW2	Lecture, Discussion, In-class Quiz	[1] [3]

Week	Topic	CLO	Assessments	Learning activities	Resources
6-7	Sectioning	1,2	Quiz 3 HW3	Lecture, Discussion, In-class Quiz	[1] [3]
8	Group presentation and Review for exam	2,4,5	Group report 1	Presentation & discussion	
9	Midterm exam				
10-13	Blueprints and Construction Drawings The meaning of symbols	1, 3	Quiz 4 HW4	Lecture, Discussion, In-class Quiz	[2]
14	Understanding Schedules Interpreting Specifications	1,3	Quiz 5 HW5	Lecture, Discussion, In-class Quiz	[2]
15	Introduction to sustainable/green buildings	1,3	HW6	Lecture, Discussion In-class Quiz	[2]
16	Group presentation and Review for exam	2,4,5	Group report 2	Presentation & discussion	
17	Final exam				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3	CLO4	CLO5
Class participation/In-class activities/quizzes (15%)	Qz(1-6) 50%Pass	Qz(1-3) 50%Pass	Qz(4-6) 50%Pass		
Homework exercises (10%)		HW(1-3) 60%Pass	HW(4-6) 60%Pass		HW(1-6) 60%Pass
Group report and presentation (5%)		Group report 80% pass	Group report 80% pass	Class presentation 80% pass	
Midterm exam (30%)	Q1-4 60%Pass	Q1-4 60%Pass			
Final exam (40%)	Q1-4 60%Pass		Q1-4 60%Pass		

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. **Rubrics**
   - None

6. **Date revised:** 01/04/2024

7. **Course coordinator/Lecturer**
   - Shool/Department: School of Civil Engineering and Management
   - Email: pttung@hcmiu.edu.vn

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Management

COURSE SYLLABUS
Course Name: Practice CADD
Course Code: **CE104IU**

1. General information

Course name	- *(in English) Practice CADD* - *(in Vietnamese) Thực hành vẽ kỹ thuật*
Course designation	*The course provides to students the common skills to draw objects in 2D plane from Auto CAD software*
Course type	☐ *General knowledge* ■ *Fundamental* ☐ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the course is taught	1, 2
Person responsible for the course	Pham Thanh Tung, Ph.D.
Language	English
Relation to curriculum	■ Compulsory ☐ Elective
Teaching methods	Lecture, lesson, homework, discussion
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 30 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 30 Private study including examination preparation, specified in hours[1]: 30

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Credit points	1 credits (Theory: 0 + Practice: 1) ……..ECTS *(optional)*
Number of periods	Theory: 0 Practice: 15
Required and recommended prerequisites for joining the course	- Prerequisites: CE103IU - Computer-Aided Design and Drafting - Corequisites: CE103IU - Computer-Aided Design and Drafting - Previous course
Course objectives	This course is designed to give junior engineering students practical skills in using drawing commands, modifying commands, dimensioning commands, layer management with color and line style, printing management, and advances in auto lisp.
Course learning outcomes	Upon the successful completion of this course students will be able to:

Competency level	**Course learning outcome (CLO)**
Knowledge	CLO1. Be able to use Auto CAD software in 2D
Skill	CLO2. Draw any objects related to structures in civil engineering. CLO3. Set printing objects with line thickness.
Attitude	CLO4. Be aware of drawing in the correct scale.

Content

The description of the contents should clearly indicate the weighting of the content and the level.

Weight: lecture session

Teaching levels: I (Introduce); T (Teach); U (Utilize)

Topic	**Weight**	**Level**
Drawing commands and practice	**1**	**I, T, U**
Modifying commands and practice	**1**	**I, T, U**
Dimensioning commands and practice	**1**	**I, T, U**
Layer management with color and line style and practice	**1**	**I, T, U**
Printing management and practice	**1**	**I, T, U**
Advance in drawing with Auto lisp and practice	**1**	**I, T, U**
Practice drawing steel structures	**1**	**I, T, U**
Practice drawing reinforced concrete structures	**1**	**I, T, U**

Examination forms	Written examination: Drawing some objects on AutoCAD software
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed on the basis of their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have GPA of more than 50/100 points overall to pass this course.

Reading list	**Textbooks:** [1] Help from AutoCAD software. **Additional references:** [3] IStructE/Concrete Society, Standard-Method-of-Concrete-Detailing, 3rd Edition, 2006.

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) and Program/Student Learning Outcomes (PLO) is shown in the following table:

	PLO									
CLO	**(a)**	**(b)**	**(c)**	**(d)**	**(e)**	**(f)**	**(g)**	**(h)**	**(i)**	**(j)**
1						**x**				
2						**x**				
3						**x**	**x**			
4						**x**	**x**			

**Use Bloom's Taxonomy*

Program Learning Outcome:

a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments activities	Learning activities	Resources
1-2	• Drawing commands and practice	1, 4	Attendance and practice Q&A, Homework 1	Doing the lecture Practicing drawing some objects in the class	[1] [2]
3-4	• Modifying commands and practice	1, 4	Attendance and practice Q&A, Homework 2	Doing the lecture Practicing drawing some objects in the class	[1] [2]
5-6	• Dimensioning commands and practice	2, 4	Attendance and practice Q&A, Homework 3	Doing the lecture Practicing drawing some objects in the class	[1] [2]
7-8	• Layer management with color and line style and practice	2, 4	Attendance and practice Q&A, Homework 4	Doing the lecture Practicing drawing some objects in the class	[1] [2]
9-11	• Printing management and practice	3, 4	Attendance and practice Q&A, Homework 5	Doing the lecture Practicing drawing some objects in the class	[1] [2]
12-3	• Advance in drawing with Auto lisp and practice	3, 4	Attendance and practice Q&A, Homework 6	Doing the lecture Practicing drawing some objects in the class	[1] [2]
14	• Practice drawing steel structures	3, 4	Attendance and practice Q&A, Homework 7	Doing the lecture Practicing drawing some objects in the class	[1] [2]
15	• Practice drawing reinforced concrete structures	3, 4	Attendance and practice Q&A,	Doing the lecture Practicing drawing some objects in the class	[1] [2]
	Final examination		Practicing		

4. Assessment plan

No	Assessment Type (% contribute to GPA)	CLO1	CLO2	CLO3	CLO4
1	Progress assessment (PA, 70%)				
1.1	Class attendance and practice in class (50% of PA)				Attended 80%Pass
1.2	Homework (50% of PA)	HW1-5, Submitted 80%Pass	HW1-5, Submitted 80%Pass	HW1-5, Submitted 80%Pass	HW1-5, Submitted 80%Pass
2	Final exam (Fin, 30%)	Q1 50%Pass	Q1 50%Pass	Q1 50%Pass	Q1 50%Pass

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. **Rubrics**
   - None
6. **Date revised:** 01/04/2024

7. **Course coordinator/Lecturer**
   - Shool/Department: School of Civil Engineering and Management
   - Email: pttung@hcmiu.edu.vn

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Management

COURSE SYLLABUS
Course Name: SOIL MECHANICS AND FOUNDATION
Course Code: **CE106IU**

1. General Information

Course name	*- Soil mechanics and foundation* *- Cơ học đất và nền móng*
Course designation	*CE106IU – SOIL MECHANICS AND FOUNDATION* *The course provides to students some properties of soil, soil mechanics, lateral earth pressure acting on structures, slope stability, bearing capacity of soil and settlement of structures above soil mechanics those are commonly used in civil engineering construction. The course also provides the fundamental concepts of foundation analysis and design to construction management engineering students.*
Course type	☐ *General knowledge* ☑ *Fundamental* *Specialized knowledge* *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	3
Person responsible for the course	Dr. Nguyen, Ba Quang Vinh
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 135 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 45

<table>
<tr><td></td><td>Private study including examination preparation, specified in hours[1]: 90</td></tr>
<tr><td>Credit points</td><td>3 credits/4.64 ECTS</td></tr>
<tr><td>Number of periods</td><td>Theory: 45
Practice: 0</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>CE105IU (Engineering Mechanics and Mechanics of Materials)</td></tr>
<tr><td>Course objectives</td><td>Overall objectives
Upon successful completion of the course, the students are expected to understand basic definitions, physical and mechanics properties of various soils in different states such as dry, wet and saturated states; to determine the properties of soils and the effect of ground water on properties of soil are also guided in the course; to calculate the stresses acting on soil at any point beneath the ground caused by upper soil layers and structures constructed on the ground are mentioned. The students also understand the fundamental concepts of foundation analysis and design.</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course students will be able to:
<table>
<tr><th>Competency level</th><th>Course learning outcome (CLO)</th></tr>
<tr><td>Knowledge</td><td>CLO1: Understand basic definitions and determine physical and mechanical properties of various soils in different states.
CLO3: Understand the fundamental concepts of foundation analysis and design.</td></tr>
<tr><td>Skill</td><td>CLO2: Determine stresses at any point beneath ground caused by above soil layer and constructed structures, including ultimate shear strength of soil and earth pressure acting on walls and foundation.</td></tr>
<tr><td>Attitude</td><td></td></tr>
</table></td></tr>
<tr><td>Content</td><td>The description of the contents should clearly indicate the weighting of the content and the level.
Weight: lecture session (3 hours)
Teaching levels: I (Introduce); T (teach); U (Utilize)
<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Soil formation
Physical properties</td><td>1</td><td>T, U</td></tr>
<tr><td>Plasticity and structure of soil</td><td>1</td><td>T, U</td></tr>
</table></td></tr>
</table>

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

	Classification of soil Soil compaction	1	T, U	
	Permeability	1	T, U	
	Stress in a Mass soil	1	T, U	
	Compressibility of soil	1	T, U	
	Shear strength of soil	1	T, U	
	Slope stability	1	T, U	
	Shallow Foundations	3	T, U	
	Pile Foundations	3	T, U	
	Reviews	1	T, U	
Examination forms	Constructed-response test			
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.			
Reading list	Textbook: [1] Braja M. Das, *Principles of Geotechnical Engineering*, 7th Edition, CL - Engineering, 2005. [2] Braja M. Das, *Principles of Foundation Engineering*, 7th, edition, Cengage Learning, 2011. Class Handout. References: [1] Joseph E. Bowles, *Foundation Analysis and Design*, 5th Edition, McGraw-Hill, Inc., , 2001. [2] Braja M. Das, *Introduction to Geotechnical Engineering*, 1st Edition, CL - Engineering, 2008. [3] Châu Ngọc Ẩn, *Cơ học đất*, 5th Edition, Ho Chi Minh City Vietnam National University, 2012.			

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-j) is shown in the following table:

(1) CLO1: Understand basic definitions and determine physical and mechanical properties of various soils in different states.
(2) CLO2: Determine stresses at any point beneath ground caused by above soil layer and constructed structures, including ultimate shear strength of soil and earth pressure acting on walls and foundation.
(3) CLO2: Understand the fundamental concepts of foundation analysis and design.

No.	Program Learning Outcome									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1	x									
CLO2			x							
CLO3	x									

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Soil formation Physical properties	L.O.1	Exercise 1	Lecture Class discussion	[1] Chapter 1, 3
2	Plasticity and structure of soil	L.O.1	Exercise 2	Lecture Class discussion	[1] Chapter 4
3	Classification of soil Soil compaction	L.O.1	Exercise 3	Lecture Class discussion	[1] Chapter 5, 6
4	Permeability	L.O.1	Exercise 4	Lecture Class discussion	[1] Chapter 7
5	Stress in a Mass soil	L.O.1, L.O.2	Exercise 5	Lecture Class discussion	[1] Chapter 10
6	Compressibility of soil	L.O.1, L.O.2	Exercise 6	Lecture Class discussion	[1] Chapter 11
7	Shear strength of soil	L.O.1, L.O.2	Exercise 7	Lecture Class discussion	[1] Chapter 12
8	Slope stability	L.O.1	Exercise 8	Lecture Class discussion	[1] Chapter 15
9-10	MIDTERM EXAM				
11	Shallow Foundations: Ultimate Bearing Capacity	L.O.3	Exercise 11		[2] Chapter 3
12	Shallow Foundations: Allowable Bearing Capacity and Settlement	L.O.3	Exercise 12	Lecture Class discussion	[2] Chapter 4
13	Object-oriented programming in calculating the bearing capacity of shallow foundations	L.O.3	Assisgment	Lecture Class discussion	[2] Chapter 4
13	Combined Footings and Mat Foundations	L.O.3	Exercise 13	Lecture Class discussion	[2] Chapter 6
14-16	Pile Foundations	L.O.3	Exercise 14-16	Lecture Class discussion	[2] Chapter 11
17	Reviews	L.O.3	Exercise 17	Lecture Class discussion	
18-19	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
Homework exercises/ Presentation (30%)	Ex1-Ex6 50% Pass	Ex7-Ex8 50%Pass	Ex11-Ex17 50%Pass
Midterm exam (30%)	50% Pass	50% Pass	
Final exam (40%)		50% Pass	50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: March 29, 2024

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC

INTERNATIONAL UNIVERSITY

School of Civil Engineering and Management

COURSE SYLLABUS

Course Name: STRUCTURAL ANALYSIS 1

Course Code: **CE209IU**

1. General information

Course name	- *Structural analysis 1* - *Phân tích kết cấu 1*
Course designation	*Define the types of structures, supports and loads. Idealization of structures and loads. Geometric stability and determinacy. Analysis of determinate trusses, frames; internal force diagrams. Displacement calculation by integration, virtual work methods, and graph multiplication method. Force method, displacement method.*
Course type	☐ *General knowledge* *Fundamental* ☐ ☑ *Specialized knowledge* *Internship/Project/Thesis* *Others:…….*
Semester(s) in which the course is taught	4
Person responsible for the course	Prof. Le Van Canh
Language	English
Relation to curriculum	*Compulsory*
Teaching methods	Lecture, discussion, and assignments.

Workload (incl. contact hours, self-study hours)	Total workload: 85 (Estimated) Contact hours: - lecture: 19 - Discussion: 6 Private study including examination preparation, specified in hours[1]: 60
Credit points	2
Number of periods	Theory: 30 Practice: 0
Required and recommended prerequisites for joining the course	CE105IU- Engineering Mechanics and mechanics of materials
Course objectives	This course introduces computational analysis of structures and the practice of solving structural problems. Understand basic structural engineering concepts. Determine magnitude of different types of loads in accordance to the related codes. Idealization of structures and loads in relation with real structures. Determine the internal forces and draw diagrams for beams, frames and trusses.
Course learning outcomes	Upon the successful completion of this course students will be able to:

Competency level	Course learning outcome (CLO)
Knowledge	CLO1. An understanding of basic structural engineering concepts. CLO2. An understanding of methods for computing displacements and slopes for beams and frames using double integration, virtual work methods, and graph multiplication methods.
Skill	CLO3. An ability to determine the internal forces and draw diagrams for determinate structure. CLO4. An ability to determine the internal forces and draw diagrams for indeterminate structure.
Attitude	

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td>Content</td><td>

The description of the contents should clearly indicate the weighting of the content and the level.

Weight: lecture session (3 hours)

Teaching levels: I (Introduce); T (teach); U (Utilize)

<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Classification of structures</td><td>1</td><td>I</td></tr>
<tr><td>Shear diagram</td><td>1</td><td>T, U</td></tr>
<tr><td>Moment diagram</td><td>1</td><td>T, U</td></tr>
<tr><td>Deflections</td><td>1</td><td>T, U</td></tr>
<tr><td>Slopes</td><td>1</td><td>T, U</td></tr>
<tr><td>Force method</td><td>1</td><td>T, U</td></tr>
<tr><td>Displacement method</td><td>1</td><td>T, U</td></tr>
</table>

</td></tr>
<tr><td>Examination forms</td><td>Constructed-response test</td></tr>
<tr><td>Study and examination requirements</td><td>Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged.
Assignments/Examination: Students must have more than 50/100 points overall to pass this module.</td></tr>
<tr><td>Reading list</td><td>Textbooks:
[1] R. C. Hibbeler, Structural Analysis, Prentice-Hall.
References:
[2] Jacob Fish, Teb Belytschko, A First Course in Finite Elements, Willey, 2007.
[3] T.H.G. Megson, Structural and stress analysis, Elsevier, 2005.</td></tr>
</table>

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (1-4) and Program/Student Learning Outcomes (PLO) (a-j) is shown in the following table:

	PLO									
CLO	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
1	x									
2	x									
3			x							
4			x							

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Classification of structures; loads; structural design Idealization of structures and loads.	1, 3	Quiz 1	Lecture, Discussion	[1] Chapter 1
2	Geometric stability and determinacy	1, 3	Quiz 1	Lecture, Discussion	[1] Chapter 1

Week	Topic	CLO	Assessments	Learning activities	Resources
3-4	Shear and moment diagrams in frames	1, 3	Quiz 1	Lecture, Discussion	[1] Chapter 3,4
5-7	Deflection and slopes: integration, virtual work method, graph multiplication Quiz 1	1, 3	Quiz 1	Lecture, Discussion	[1] Chapter 8
8	Midterm				
9-11	Force method	2, 4	Quiz 2	Lecture, Discussion	[1] Chapter 10
13-16	Displacement method	2, 4	Quiz 2	Lecture, Quiz	[1] Chapter 11
17	REVIEW Quiz2				
18-19	Final exam				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3	CLO4
In-class exercises/quizzes/attendance (20%)	Quiz 1 60%Pass	Quiz 2 60%Pass	Quiz 1 60%Pass	Quiz 2 60%Pass
Midterm exam (30%)	Q1 50%Pass		Q2 50%Pass	
Final exam (50%)		Q1 50%Pass		Q2 50%Pass

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Date revised: March 29, 2024

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Management

COURSE SYLLABUS

Course Name: Reinforced Concrete 1

Course Code: **CE304IU**

1. General information

Course Name	*- (in English): Reinforced Concrete 1* *- (in Vietnamese): Kết cấu bê tông cốt thép 1*
Course designation	*CE304IU – Reinforced Concrete 1* *Basic design concepts: basic layout of concrete structures, loading; Basic material properties: concrete and reinforcing steel; Analysis of structures: limit state design, simplification of framed structures, moment redistribution; Analysis and design of flexural members; Shear; Bond and anchorage; Serviceability; One-way and two-way slabs; Compression members; Foundation: footings. Current building code and standards are referred to extensively in this course.*
Course Type	*General knowledge* ☑ *Fundamental* *Specialized knowledge* *Internship/Project/Thesis* *Others*
Semester(s) in which the module is taught	5
Person responsible for the module	Assoc. Prof. Cao Thanh Ngoc Tran
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 135 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 45

	Private study including examination preparation, specified in hours[1]: 90
Credit points	3
Required and recommended prerequisites for joining the module	Structural analysis – CE209IU
Module objectives/intended learning outcomes	**Overall objectives** are to equip CE students with knowledge about reinforced concrete structures Students who complete the course will be able to perform the following tasks: (1) Identify and calculate loadings to reinforced concrete structures. (2) Design reinforced concrete structures under ultimate and serviceability limit states. (3) Design and analyze the reinforced concrete members: beam, column, one-way and two-way slabs, footings.
Content	*The description of the contents should clearly indicate the weighting of the content and the level.* Weight: lecture session (3 hours) Teaching levels: I (Introduce); T (teach); U (Utilize)

Topic	Weight	Level
Introduction to reinforced concrete design	1	I
Design of singly-reinforced rectangular beams	2	T, U
Design of doubly-reinforced rectangular beams	2	T, U
Moment redistribution	1	T, U
Design for shear	1	T, U
Bond of reinforcement	1	T, U
Slabs	2	T, U
Columns	2	T, U
Footings	3	T, U

Examination forms	Constructed-response test

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.
Reading list	Text book: [1] Mosley, W.H., Hulse, R. and Bungey, J.H., *"Reinforced Concrete Design to EuroCode 2"*, 6th edition, Macmillan, London, 2007 [2] Eurocode 2: Design of Concrete Structures – Part 1-1: General rules and rules for buildings

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: Identify and calculate loadings to reinforced concrete structures.
(2) CLO2: Design reinforced concrete structures under ultimate and serviceability limit states.
(3) CLO3: Design and analyze the reinforced concrete members: beam, column, one-way and two-way slabs, footings.

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1	x		x			x				
CLO2			x			x				
CLO3			x			x				

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management

performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Introduction to reinforced concrete design Properties of constituent materials Load combinations	1	Quiz 1	Lecture, Discussion	[1] Chapter 1,2,3
2, 3	Design of singly-reinforced rectangular beams	2	Quiz 1	Lecture, Discussion	[1] Chapter 4
4,5	Design of doubly-reinforced rectangular beams	2	Quiz 1	Lecture, Discussion	[1] Chapter 4
6	Moment redistribution	2	Quiz 1	Lecture, Discussion	[1] Chapter 3
7	Design for shear	2	Quiz 1	Lecture, Discussion	[1] Chapter 5
8	Bond of reinforcement. Curtailment of reinforcement Serviceability requirements in RC design. **Quiz 1**	2	Quiz 1	Lecture, Quiz 1	[1] Chapter 5
9-10	MIDTERM EXAM				
11-12	One-way spanning slabs Two-way spanning slabs	3	Quiz 2	Lecture, Discussion	[1] Chapter 8

13, 14	Columns – behavior and classification, Moments and forces in columns, Axially loaded columns, Columns resisting uniaxial bending and biaxial bending, Construction of column interaction diagrams	3	Quiz 2	Lecture, Discussion	[1] Chapter 9
15, 16, 17	Footings – general considerations Design of axially loaded pad footing Eccentrically loaded pad footing Design of combined footing, **Quiz 2**	3	Quiz 2	Lecture, Discussion	[1] Chapter 10
18-19	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
In-class exercises/quizzes/ attendance (30%)	Quiz 1 60%Pass		Quiz 2 60%Pass
Midterm exam (20%)		50%Pass	
Final exam (50%)			50%Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: May 15, 2024

Ho Chi Minh City, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D. Nguyễn Hoài Nghĩa

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Management

COURSE SYLLABUS

Course Name: STEEL STRUCTURES

Course Code: **CE305IU**

1. General information

Course name	- *Steel Structures* - *Kết cấu thép*
Course designation	*Introduction to students the basic principles of reading steel structural plans, elevations and sectional views, distribute loadings on structures based on architecture plans, determine factored loads for design, design structural steel beams and columns, and design bolted and welded connections.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☑ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the course is taught	5TH
Person responsible for the course	*Phạm Nhân Hòa (Msc)*
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, discussion, and assignments

Workload (incl. contact hours, self-study hours)	Total workload: 127.5 (Estimated) Contact hours: - lecture: 28.5 - Discussion: 9 Private study including examination preparation, specified in hours: 90
Credit points	**3 credits (Theory: 3Cr + Practice: 0)/4.64 ECTS**
Number of periods	Theory: 45 Practice: 0
Required and recommended prerequisites for joining the course	Mechanics of Materials 1 and Structural Analysis 1
Parallel course	None
Course objectives	The aim of this course is - to develop an understanding of Limit State Design as applied to structural steel beams based on the latest Euro Code 3 – Design of steel structures. - to develop an understanding of Limit State Design as applied to structural steel columns and connections based on the latest Euro Code 3 – Design of steel structures.
Course learning outcomes	Upon the successful completion of this course students will be able to:

Categories	**Course learning outcome (CLO)/ Competency**
Knowledge	CLO1: Analyzing, interpreting, and designing steel structures based on National Codes. CLO2: Analyzing, interpreting, and designing joints of steel structures based on National Codes.
Skills	
Attitude	CLO3: Work independently and professionally

<table>
<tr><td>Content</td><td>

The description of the contents should clearly indicate the weighting of the content and the level.

Weight: lecture session (3 hours)

Teaching levels: I (Introduce); T (Teach); U (Utilize)

<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Introduction, material properties, limit state design, loading, and section classifications.</td><td>1</td><td>I,T,U</td></tr>
<tr><td>Tension members</td><td>1</td><td>I,T,U</td></tr>
<tr><td>Compression members: Its Behaviors, local and overall buckling, column slenderness and effective length concept.</td><td>1</td><td>I,T,U</td></tr>
<tr><td>Local buckling of thin-plate elements</td><td>1</td><td>I,T,U</td></tr>
<tr><td>In-plane bending of beams</td><td>1</td><td>I,T,U</td></tr>
<tr><td>Lateral buckling of beams</td><td>1</td><td>I,T,U</td></tr>
<tr><td>Beam-columns</td><td>1</td><td>I,T,U</td></tr>
<tr><td>Introduction to moment connections of bolted end plate connections, beam and column splices.</td><td>1</td><td>I,T,U</td></tr>
</table>

</td></tr>
<tr><td>Examination forms</td><td>Constructed-response test</td></tr>
<tr><td>Study and examination requirements</td><td>

Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed on the basis of their class participation. Questions and comments are strongly encouraged.

Assignments/Examination: Students must have GPA more than 50/100 points overall to pass this course.

</td></tr>
<tr><td>Reading list and Media employed</td><td>

Textbooks:

[1] Trahair, NS.; Bradford MA.; Nethercot DA. and Gardner, L. “The Behavior Design of Steel Structures to EC 3”, 4th Edition, Taylor and Francis, 2007.

[2] Eurocode 3 (BS EN 1993-1-1:2005) Part 1-1: Design of Steel Structures – General Rules and Rules for Buildings, British Standards Institution, London, UK.

[3] Eurocode 3 (BS EN 1993-1-1:2005) Part 1-5: Design of steel structures – Plated Structural Elements, British Standards Institution, London, UK.

[4] Eurocode 3 (BS EN 1993-1-1:2005) Part 1-8: Design of Steel Structures – Design of Joints, British Standards Institution, London, UK.

Additional references:

[5] Gardner, L. and Nethercot, D.A., “Designer’s Guide to Eurocode 3: Design of Steel Structures”, 3rd Edition, Thomas Telford, 2009.

</td></tr>
</table>

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) and Program Intended Learning Outcomes (ILO) is shown in the following table:

No.	Program Learning Outcome									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1	x									
CLO2	x		x							
CLO3							x			

Program Learning Outcome:

a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

e) An ability to grasp, analyze and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

f) An ability to use tools and techniques required for identifying, analyzing, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning and assessment activities

Week	Topic	CLO	Assessments activities	Learning activities	Resources
1	Introduction, material properties, limit state design, loading, and section classifications.	1,2,3	Attendance Q&A	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 1
2	Tension members	1,2,3	Attendance Q&A Homework 1	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 2
3-4	Compression members: Its Behaviors, local and overall buckling, column slenderness and effective length concept.	1,2,3	Attendance Q&A Homework 2	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 3

5-8	Local buckling of thin-plate elements	1,2,3	Attendance Q&A Homework 3 Quizz 1	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 4
9-10	**MIDTERM EXAMINATION**		**WRITING**		
11	In-plane bending of beams	1,2,3	Attendance Q&A Homework 4	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 5
12-13	Lateral buckling of beams	1,2,3	Attendance Q&A Homework 5	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 6
14-15	Beam-columns	1,2,3	Attendance Q&A Homework 6	Reading materials before class;	[1] Chapter 7
16-17	Introduction to moment connections of bolted end plate connections, beam and column splices.	1,2,3	Attendance Q&A Quizz 2	Doing the lecture; Discussion;	[1] Chapter 9
18-19	**FINAL EXAMINATION**		**WRITING**		

4. Assessment plan

- The type of assessment is grading based on exam questions. The range of scores is from 0 to 100.
- The final GPA of students is integrated from 3 components, including progress assessment, mid-term exam, and final exam. The contribution of each component (in percentage) is shown in the table below.

No	Assessment Type (% contribute to GPA)	CLO1	CLO2	CLO3
1	**Progress Assessment (PA, 30%)**			
1.1	Class attendance (25% of PA)			Attended 80%Pass
1.2	In-class activity: Discussion and doing Quizzes in class (25% of PA)	Quizz 1	Quizz 2	Participated in class Q&A 60%Pass
1.3	Homeworks (50% of PA)	HW1-6, Submitted 80%Pass		HW1-6, Submitted 80%Pass
2	**Midterm exam (Mid, 20%)**	Q1-5, 60%Pass		
3	**Final exam (Fin, 50%)**	Q1, 60%Pass	Q2, 60%Pass	

Note: %Pass: Target that % of students having scores greater than 50% out of question score

5. **Rubrics (optional)**
   - No

6. **Date revised:** 1 April 2024

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Management

COURSE SYLLABUS

Course Name: Surveying

Course Code: **CE307IU**

1. General information

Course name	*Surveying* *Trắc địa*
Course designation	*This course covers the basics of surveying. It includes the principles of measurements of distances, elevations, and angles. The students will become familiar with all surveying instruments as well as learn about the different types of surveying including how they are carried out, the data to collect, and how to analyze, interpret, and process the data. It also includes basic error theory in measurement and calculations, and basic principles of map making.*
Course type	☐ *General knowledge* ☐ *Fundamental* **X** *Specialized knowledge* ☐ *Internship/Project/Thesis* *Others:…….*
Semester(s) in which the course is taught	1, 2
Person responsible for the course	Cabaltica Doliente Angeli, *MSc.*
Language	English
Relation to curriculum	Specialization (compulsory)
Teaching methods	Lecture, class discussion, computation exercises

<table>
<tr><td>Workload (incl. contact hours, self-study hours)</td><td>(Estimated) Total workload: 90
Contact hours (lecture, class discussion, computation exercise): 30
Private study including examination preparation, specified in hours[1]: 60</td></tr>
<tr><td>Credit points</td><td>2 credits (Theory: 02 + Practice: 00)
3.09 ECTS</td></tr>
<tr><td>Number of periods</td><td>Theory: 30
Practice: 00</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td></td></tr>
<tr><td>Parallel course</td><td></td></tr>
<tr><td>Course objectives</td><td>This course aims to:
- introduce students to the different techniques of data collection, layout, and presentation of field data;
- make students understand all the tasks involved in a various surveying operations in order that they might have the confidence to undertake such tasks in a professional capacity; and
- make students understand and perform the calculations and plottings involved in surveying.</td></tr>
<tr><td>Course learning outcomes</td><td>Upon successful completion of this course, students will be able to:
<table>
<tr><th>Competency level</th><th>Course learning outcome (CLO)</th></tr>
<tr><td>Knowledge</td><td>CLO1. discuss the different types of surveys; describe the different surveying tools and instruments used for different types of surveys;</td></tr>
<tr><td>Skill</td><td>CLO2. perform calculations in surveying including distances, elevations, directions, coordinates, and areas;

CLO3. read, interpret, as well as prepare maps, plots, reports involved in surveying; and</td></tr>
<tr><td>Attitude</td><td>CLO4. work professionally whether independently or in a team.</td></tr>
</table></td></tr>
</table>

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td>Content</td><td>

The description of the contents should clearly indicate the weighting of the content and the level.
Weight: lecture session (2 hours)
Teaching levels: I (Introduce); T (Teach); U (Utilize)

Topic	Weight	Level
1. Introduction to Surveying	0.5	I
2. Reference Systems	0.5	I, T
3. Errors in Measurement	1	I, T, U
4. Horizontal Distance Measurement	2	I, T, U
5. Levelling	3	I, T, U
6. Control Surveys	3	I, T, U
7. Topographic Surveys	2	I, T, U
8. Setting out	1	I, T
9. GPS and GIS	2	I

</td></tr>
<tr><td>Examination forms</td><td>Written examinations: Midterm and Final Exams
Type: Constructed response test</td></tr>
<tr><td>Study and examination requirements</td><td>

Attendance: Students are expected to attend the lectures every week. University regulations indicate that if students attend less than 80% of scheduled classes they may be refused final assessment.

Computation exercises, quizzes (written or oral), and homeworks: are given regularly, whether individually or done by group, for the students to understand the concepts better and to improve their problem-solving skills.

Examinations: A midterm exam will be given halfway through the semester and a final exam at the end. Students must have an overall score of at least 50/100 points to pass this course.

</td></tr>
<tr><td>Reading list</td><td>

Main Reference

[1] Charles D. Ghilani – Paul R. Wolf. , *Elementary Surveying – An introduction to Geomatics,* 13*th,* edition, Prentice Hall, 2012.

Other References

[2] Lillesand, Kiefer, *Remote sensing and image interpretation,* John Wiley & Sons,1994.

[3] Paul A. Longley, Michael F. Goodchild, David J. Mauire, David W. Rhind, *Geographic Information Systems and Science*, John Wiley & Sons, 2005.

</td></tr>
</table>

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) and Program Learning Outcomes (PLO) is shown in the following table:

CLO	PLO									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
1						x				x
2			x							
3						x	x			
4									x	

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysing, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Reso urces
1	Introduction to Surveying	1, 4	Attendance, Q&A	Lecture, class discussion, self-study	[1]
2	Reference Systems	3, 4	Attendance, Q&A	Lecture, class discussion, self-study	[1]
3	Errors in Measurement	2, 4	Attendance, Q&A, Quiz 1	Lecture, class discussion, self-study	[1]
4-6	Horizontal Distance Measurement	1, 2, 4	Attendance, Q&A, Homework 1	Lecture, class discussion, self-study	[1]
7-8	Levelling	1, 2, 3, 4	Attendance, Q&A, Homework 2	Lecture, class discussion, self-study	[1]

9-10	Midterm				
11	Levelling	1, 2, 3, 4	Attendance, Q&A, Quiz 2	Lecture, class discussion, self-study	[1]
12-13	Control Surveys	1, 2, 3, 4	Attendance, Q&A, Homework 3	Lecture, class discussion, self-study	[1]
14-15	Topographic Surveys	1, 2, 3, 4	Attendance, Q&A, Quiz 3	Lecture, class discussion, self-study	[1]
16	Setting out	1, 2, 4	Attendance, Q&A, Quiz 4	Lecture, class discussion, self-study	[1]
17	GPS and GIS	1, 4	Attendance, Q&A, Homework 4	Lecture, class discussion, self-study	[2], [3]
18	Review				
19-20	Final exam				

4. Assessment plan

- The type of assessment is grading based on exam questions. The range of scores is from 0 to 100.
- The final GPA of students is integrated from 3 components, including progress assessment, mid-term exam, and final exam. The contribution of each component (in percentage) is shown in the table below.

No.	Assessment Type	CLO1	CLO2	CLO3	CLO4
1	**Progress Assessment (30%)**				
1.1	Class Attendance (30% of PA)				Attended 80%Pass
1.2	In-class activities: Participation in discussion, quizzes; Other activities: homeworks, group exercise (70% of PA)	HW4	Qz1-4 HW1-3 60%Pass	Qz3-4 60%Pass	
2	**Midterm Exam (30%)**	P1 60%Pass	P2. Q1-Q4 60%Pass	P2. Q1-Q4 60%Pass	
3	**Final Exam (40%)**		Q1-4 60%Pass	Q1-4 60%Pass	

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Date revised: June 06, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC

INTERNATIONAL UNIVERSITY

School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name: Introduction to Construction Management

Course Code: **CM205IU**

1. General information

Course name	*- (in English): Introduction to Construction Management* *- (in Vietnamese): Quản lý xây dựng nhập môn*
Course designation	*This course provides fundamental knowledge of construction management. This course is a compulsory course for students who pursue construction management major at the early stage of their program*
Course type	☐ *General knowledge* ☒ *Fundamental* ☐ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the course is taught	2,3
Person responsible for the course	PhD. Nguyen Van Tiep PhD Nguyen Hoai Nghia PhD Tran Thanh Ha
Language	English
Relation to curriculum	Compulsory
Teaching methods	Student-centered approach

Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 85 hours Contact hours (lecture): 25 Private study including examination preparation, specified in hours[1]: 60
Credit points	02 credits (Theory: 02 + Practice: 00) 3.06 ECTS
Number of periods	Theory: 30 Practice: 00
Required and recommended prerequisites for joining the course	N/A
Course objectives	Upon successful completion of this course, the students are expected to have knowledge of construction management functions including project scheduling techniques; construction cost estimation; construction contract administration; construction equipment management; construction quality and productivity; and construction safety.
Course learning outcomes	**Upon the successful completion of this course students will be able to:**

Competency level	**Course learning outcome (CLO)**
Knowledge	**CLO1.** To grasp the construction management functions.
Skill	**CLO2.** To understand construction management fields and related techniques including, planning and scheduling techniques, cost estimation and contract administration, procurement and tendering, equipment management, quality and productivity management, and safety
Attitude	**CLO3**. Identify fundamental legal requirements in construction and perform the role of a construction management engineer

Content	This course is designed to provide students with general knowledge about construction management fundamentals. Students are introduced overview of construction industry, construction management functions, scheduling techniques, construction cost estimation, construction contract administration, construction equipment management, quality and productivity, and construction safety**.**
Examination forms	Essay exams

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Study and examination requirements	- Attend more than 80% of contact hours to be accepted to the final examination - Actively participate in class activities - Fulfill tasks given by instructor after class - Use their own laptop in class only for learning purpose - Read the textbook in advance - Access the course Blackboard for up-to-date information and material of the course, for online supports from
Reading list	**Textbooks and References** 1. Kraig Knutson, Clifford J. Schexnayder, Christine Fiori, Richard E. Mayo, Construction Management Fundamentals, 2009, 2nd edition. 2. Daniel W. Halpin, Bolivar A. Senior, Construction Management, 2012, 4th edition. **References** 1. Fisk, E.R. and Reynolds, W.D. (2014). Construction Project Administration, 10th ed. New Jersey: Pearson 2. Thomas, H.R. and Ellis, R.D. Jr. (2017). Construction Site Management and Labor Productivity Improvement, Virginia: ASCE Press.

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (1-3) and Program/Student Learning Outcomes (SLO) (a -j) is shown in the following table:

CLO	Program Learning Outcomes									
	a	b	c	d	e	f	j	h	i	j
1	x									
2		x			x			x		
3									x	

Course learning outcomes

- CLO1. To grasp the construction management functions.
- CLO2. To understand construction management fields and related techniques including, planning and scheduling techniques, cost estimation and contract administration, procurement and tendering, equipment management, quality and productivity management, and safety
- CLO3. Identify fundamental legal requirements in construction and perform the role of a construction management engineer.

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for

economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
1	Historical Perspective	CLO1	Lecture Class discussion	Homework
2	Overview of construction industry	CLO1	Lecture Class discussion	Homework
3	Construction management functions	CLO1	Lecture Class discussion	Homework
4	Project scope management	CLO2	Lecture Class discussion	Presentation Quiz
4, 5	Planning and scheduling techniques for construction projects	CLO2	Lecture Class discussion	Presentation Quiz
6, 7	Construction cost estimation and contract administration	CLO2	Lecture Class discussion	Presentation Quiz
7, 8	Construction procurement and tendering	CLO2	Lecture Class discussion	Presentation Quiz
9	**MIDTERM EXAM**			**Written exam**
10, 11,	Construction equipment	CLO2	Lecture	Presentation

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
12	management		Class discussion	
12, 13	Construction Quality and Productivity Management	CLO2	Lecture Class discussion	Homework
13, 14	Project resource and risk management	CLO2	Lecture Class discussion	Homework
15	Safety	CLO2	Lecture Class discussion	Homework
16	Related Vietnamese laws and regulations	CLO2, CLO3	Lecture Class discussion	Homework
FINAL EXAM				**Written exam**

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
Progress Assessment (40%) ● Attendance ● Presentation ● Quiz	x		x
Midterm exam (20%)	x	x	
Final exam (40%)	x	x	

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Rubrics (optional)

6. Date revised: June 06, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name: Construction Management Project

Course Code: **CM203IU**

1. General information

Course name	- *(in English): Construction Management Project* - *(in Vietnamese): Đồ án quản lý xây dựng*
Course designation	*The course provides students with a detailed guild on how to carry out a research and prepare a construction management project.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☐ *Specialized knowledge* ☒ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	4
Person responsible for the module	Dr. Nguyen Van Tiep Dr. Nguyen Hoai Nghia Dr. Tran Thanh Ha
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, report and defence

Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 35 Contact hours (lecture, exercise, laboratory session, etc.): 10 Private study including examination preparation, specified in hours[1]: 25
Credit points	**01 credits (Theory: 00 + Practice: 01)** **2.45 ECTS**
Number of periods	**Theory: 00** **Practice: 30**
Required and recommended prerequisites for joining the module	CM205IU (Introduction to Construction Management)
Course objectives	A practice construction project is carried out, including all aspects of construction management. Students are supposed to apply knowledge in the courses of construction management to identify and solve an issue in construction management
Course learning outcomes	Upon the successful completion of this course students will be able to:

Competency level	**Course learning outcome (CLO)**
Knowledge	CLO1: Have an abroad understanding of construction management
Skill	CLO2. Identify an issue in construction management. CL03. Analyze and solve the issue.
Attitude	CL04: Be active in planning, executing and presenting the project

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Content

The description of the contents should clearly indicate the weighting of the content and the level.

Week	Content	Teaching and learning activities	Teaching Level
1	Project requirements and criteria	Lecture	I
2, 3	Topic approval	Class discussion	I
4	Topic introduction	Class discussion	T
5, 6	Project history presentation	Class discussion	T
7, 8	Problem identification	Class discussion	T
9, 10	Project data collection	Class discussion	T,U
11, 12	Analysis and discussion	Class discussion	T,U
13, 14	Findings and conclusion	Class discussion	U
15	Oral exam	Exam	U

Examination forms

Oral Defense

Study and examination requirements

Exam Requirements

Assessment Component	Assessment form	Percentage %
A1. Approving project sessions, learning attitude, and report	A1.1 Attendance A1.2 Progress report A1.3 Final report	70%
A2. One comprehensive final oral examination	A2.1 Oral exam	30%

Class Participation: Student is expected that you will spend at least 4 hours per week on studying this course. This time should be made up of reading, working on exercises and problem, group assignment and attending class lectures and tutorials. University regulations indicate that if students attend less than 80% of scheduled classes they may be refused final assessment. Regular attendance is essential for successful performance and learning in this course, particular in view of the interactive teaching and learning approach adopted.

Academic Honesty and Plagiarism: Instances of academic dishonesty

	will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade. For this class, all assignments are to be completed by the individual student unless otherwise specified. Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for preparation, research, drafting, and the proper referencing of sources in preparing all assessment items.
Reading list	**Textbooks** 1. Kraig Knutson, Clifford J. Schexnayder, Christine Fiori, Richard E. Mayo, Construction Management Fundamentals, 2009, 2nd edition. 2. Daniel W. Halpin, Bolivar A. Senior, Construction Management, 2012, 4th edition. **References** 1. Fisk, E.R. and Reynolds, W.D. (2014). Construction Project Administration, 10th ed. New Jersey: Pearson 2. Thomas, H.R. and Ellis, R.D. Jr. (2017). Construction Site Management and Labor Productivity Improvement, Virginia: ASCE Press.

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (1-4) and Program/Student Learning Outcomes (SLO) (1 -10) is shown in the following table:

CLO	Program Learning Outcomes									
	a	b	c	d	e	f	g	h	i	j
1	x	x								
2					x					
3					x					
4								x		

Course learning outcomes

- CLO1: Have an abroad understanding of construction management.
- CLO2. Identify an issue in construction management.
- CL03. Analyze and solve the issue.
- CL04: Be active in planning, executing and presenting the project

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
1	Project requirements and criteria	L.O.1	Lecture	Attendance
2, 3	Topic approval	L.O.1	Class discussion	Attendance Presentation
4	Topic introduction	L.O.2	Class discussion	Attendance Presentation
5, 6	Project history presentation	L.O.2	Class discussion	Attendance Presentation

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
7, 8	Problem identification	L.O.2	Class discussion	Attendance Presentation
9, 10	Project data collection	L.O.2	Class discussion	Attendance Presentation
11, 12	Analysis and discussion	L.O.2	Class discussion	Attendance Presentation
13, 14	Findings and conclusion	L.O.2	Class discussion	Attendance Presentation
15	Oral exam	L.O.2	Exam	Defense

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3	CLO4
A1. Approving project sessions, learning attitude, and report (70%) • A1.1 Attendance • A1.2 Progress report • A1.3 Final report	50%Pass	50%Pass		50%Pass
A2. One comprehensive final oral examination (30%)	50%Pass	50%Pass		

Note: %Pass: % students have scores greater than 50 out of 100.

5. Rubrics (optional)

6. Date revised: June 06, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

	VIETNAM NATIONAL UNIVERSITY HCMC **INTERNATIONAL UNIVERSITY** **School of Civil Engineering and Construction Management**

COURSE SYLLABUS
QUANTITATIVE METHODS FOR BUSINESS
BA168IU

1. General information

Course designation	**This subject will familiarize quantitative approaches and mathematical optimization techniques used to address managerial and business issues.**
Semester(s) in which the course is taught	
Person responsible for the course	**Ms. Dang Thi Uyen Thao**
Language	**English**
Relation to curriculum	**Compulsory**
Teaching methods	Quizzes, Assignments, Computer Assignments, Lectures, Tutorials, Examinations
Workload (incl. contact hours, self-study hours)	
Credit points	**3**
Required and recommended prerequisites for joining the course	**Statistics for Business and Math for Business**

<table>
<tr><td>Course objectives</td><td>This course aims to help students to
• Provide students with the methodological understanding of quantitative analysis used in business management.
• Create an awareness of quantitative analytical tools used in business management.
• Use quantitative analytical tools in business management.
• Engage students in critically evaluating the tools of quantitative analysis.</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course students will be able to:
<table>
<tr><th>Competency level</th><th>Course learning outcome (CLO)</th></tr>
<tr><td>Knowledge
&
Skill</td><td>CLO1. Understand and relate quantitative approaches to problems solving and decision making in business management
CLO2. Explain various notions/concepts/principles in time series analysis; (build and interpret appropriate forecasting models critically)
CLO3. Recognize appropriate techniques to initiate, plan, execute and control projects and meet challenges and deadlines
CLO4. Use computer software for quantitative analysis</td></tr>
<tr><td>Attitude</td><td>CLO5. Recognize the benefits as well as the limits of quantitative analysis in business management
CLO6. Learn to work as a collaborative team member</td></tr>
</table></td></tr>
<tr><td>Content</td><td>Quantitative Business Methods provides students with many quantitative techniques needed to analyze business situations and make decisions. The course covers decision analysis, forecasting, linear programming, project management, queuing theory, EFA, CFA and SEM.</td></tr>
<tr><td>Examination forms</td><td>Open-ended questions</td></tr>
</table>

Study and examination requirements	**In order to pass this course, the students must:** ● achieve a composite mark of at least 50; and ● make a satisfactory attempt at all assessment tasks (see below). **GRADING POLICY** **Grades can be based on the following:**

Quizzes, Computer assignments	30%
Midterm examination	30%
Final examination	40%
Total	100%

COURSE POLICIES

Attendance

Regular and punctual attendance at lectures in this course. Exemptions may only be made on a health basis.

Workload

It is expected that the students will spend at least six hours per week studying this course.

This time should be made up of reading, research, working on exercises and problems, and attending classes. In periods where they need to complete assignments or prepare for examinations, the workload may be greater.

General Conduct and Behavior

Keeping informed

The students should take note of all announcements made in lectures or on the course's Blackboard. From time to time The students are expected to conduct themselves with consideration and respect for the needs of the fellow students and teaching staff. Conduct which unduly disrupts or interferes with a class, such as ringing or talking on mobile phones, is not acceptable and students will be asked to leave the class. More information on student conduct is available at www.hcmiu.edu.vn**,** the university will send important announcements to their university e-mail addresses without providing a paper copy. The students will be deemed to have received this information.

Academic honesty and plagiarism

Plagiarism is the presentation of the thoughts or work of another as one's own (definition proposed by the University of Newcastle). Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting, and the proper referencing of sources in preparing all assessment items. The university regards plagiarism as a form of academic misconduct, and has very strict rules regarding plagiarism.

	Special consideration Requests for special consideration (for final examination only) must be made to the Office of Academic Affairs within one week after the examination. General policy and information on special consideration can be found at the Office of Academic Affairs. **Meeting up with the lecturers after classes** Students must make an appointment via emails if they want to meet up with the lecturer after classes and be on time. If there are any changes to the scheduled time, students must inform the lecturer immediately.
Reading list	**Please note that it is very important to gain familiarity with the subject matter in the readings and cases prior to attendance in classes.** [1]Textbook: David R. Anderson, Dennis J. Sweeney , Thomas A. Williams, Jeffrey D. Camm, James J. Cochran, 2012, "Quantitative Methods for Business", South-Western College Pub; 12 edition. [2]Additional materials provided in Blackboard The lecturer will attempt to make lecture notes and additional reading available on Blackboard. However, this is not an automatic entitlement for students doing this subject. Note that this is not a distance learning course, and you are expected to attend lectures and take notes. By this way, you will get the additional benefit of class interaction and demonstration. [3]Other Resources, Support and Information Additional learning assistance is available for students in this course and will be made available in Blackboard. Academic journal articles are available through connections via the VNU - Central Library. Recommended articles will be duly informed to the students.

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (1-4) and Program/Student Learning Outcomes (SLO) (1 -10) is shown in the following table:

CLO	Program Learning Outcomes									
	a	b	c	d	e	f	g	h	i	j
1		x	x							
2			x	x						
3			x							
4						x				
5			x							
6						x				

Course learning outcomes

- CLO1. Understand and relate quantitative approaches to problems solving and decision making in business management
- CLO2. Explain various notions/concepts/principles in time series analysis; (build and interpret appropriate forecasting models critically)
- CLO3. Recognize appropriate techniques to initiate, plan, execute and control projects and meet challenges and deadlines
- CLO4. Use computer software for quantitative analysis
- CLO5. Recognize the benefits as well as the limits of quantitative analysis in business management
- CLO6. Learn to work as a collaborative team member

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and

construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Chapter 1: Introduction to Quantitative Analysis	1, 5		Lectures	[1], [2], [3]
2	Chapter 2: Review probability concepts and applications	1	Quizzes, Examinations	Lectures, Assignments	[1], [2], [3]
3, 4	Chapter 3: Decision Analysis	1, 4	Quizzes, Examinations	Lectures, Assignments, Tutorials	[1], [2], [3]
5, 6	Chapter 5: Forecasting	1, 2, 4	Quizzes, Examinations	Lectures, Assignments, Tutorials	[1], [2], [3]
7, 8	Chapter 7: Linear programming	1, 4	Quizzes, Examinations	Lectures, Assignments, Tutorials	[1], [2], [3]
9, 10	Chapter 12: Project management	1, 3, 4	Quizzes, Examinations	Lectures, Assignments, Tutorials	[1], [2], [3]
11, 12	Chapter 13: Waiting Lines and Queuing Theory Models.	1, 4	Quizzes, Examinations	Lectures, Assignments, Tutorials	[1], [2], [3]
13	EFA, CFA, SEM	4, 6	Computer Assignments	Lectures, Computer Assignments	[1], [2], [3]

4. Date revised:

GRADING RUBRIC FOR QUANTITATIVE PROBLEMS

MIDTERM EXAMINATION – Quantitative methods for Business (BA168IU)

Academic year: 2020 – 2021 (term 3)

Criteria	Capstone 4	Milestones		Benchmark 1
		3	2	
Interpretation Ability to explain information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words)	Provides accurate explanations of information presented in mathematical forms. Makes appropriate inferences based on that information. For example, accurately explains the trend data shown in a graph and makes reasonable predictions regarding what the data suggest about future events,	Provides accurate explanations of information presented in mathematical forms. For instance, accurately explains the trend data shown in a graph.	Provides a somewhat accurate explanation of the information in mathematical forms, but occasionally make minor mistakes in the computation. For example, accurately explain the data shown the the graph but may miscalculate the slope of a trend line	Attempts to explain information in mathematical forms but draw incorrect conclusions about what information means. For example, attempts to explain a trend data shown in a graph, but will frequently misinterpret the nature of that trend, perhaps by confusing positive and negative trends.
Representation Ability to convert relevant information into various mathematical forms (e.g., equations, graphs, diagrams, tables, words	Skillfully converts relevant information into an insightful mathematical portrayal in a way that contributes to a further or deeper understanding.	Competently converts relevant information into an appropriate and desired mathematical portrayal.	Completes conversion of information but the resulting mathematical portrayal is partially appropriate or accurate.	Completes conversion of information but the resulting mathematical portrayal is inappropriate or inaccurate.
Calculation	Calculations attempted are essentially all successful and sufficiently comprehensive to solve the problem. Calculations are also presented elegantly (clearly, concisely, etc.)	Calculations attempted are essentially successful and sufficiently comprehensively solve the problem.	Calculations attempted are either unsuccessful or represent only a portion of the calculations required to comprehensively solve the problem.	Calculations are attempted but both are unsuccessful and both are not comprehensive

Application/Analysis Ability to make judgments and draw appropriate conclusions based on the quantitative analysis of data, while recognizing the limits of this analysis	Uses the quantitative analysis of data as the basis for deep and thoughtful judgments, drawing insightful, care-qualified conclusions from this work.	Uses the quantitative analysis of data as the basis for competent judgments, drawing reasonable and appropriately qualified conclusions from this work.	Uses the quantitative analysis of data as the basis for workmanlike (without inspiration or nuance, ordinary) judgments, drawing plausible conclusions from this work.	Uses the quantitative analysis of data as the basis for tentative, basic judgments, although is hesitant or uncertain about drawing conclusions from this work.
Assumptions Ability to make and evaluate important assumptions in estimation, modeling, and data analysis	Explicitly describes assumptions and provides a compelling rationale for why assumptions are appropriate.	Explicitly describes assumptions and provides a compelling rationale for why assumptions are appropriate.	Explicitly describes assumptions.	Attempts to describe assumptions
Communication Expressing quantitative evidence in support of the argument or purpose of the work (in terms of what evidence is used and how it is formatted, presented, and contextualized)	Uses quantitative information in connection with the argument or purpose of the work, present it in an effective format and explicates it with consistently high quality	Uses quantitative information in connection with the argument or purpose of the work, though data may be presented in a less than completely effective format or some parts of the explication may be uneven.	Uses quantitative information but does not effectively connect it to the argument or purpose of the work.	Presents an argument for which quantitative evidence is pertinent but does not provide adequate explicit numerical support. (May use quasi-quantitative words such as "many," "few," "increasing," "small," and the like in place of actual quantities.).

	VIETNAM NATIONAL UNIVERSITY HCMC **INTERNATIONAL UNIVERSITY** **School of Civil Engineering and Construction Management**

COURSE SYLLABUS

Course Name: HUMAN RESOURCE MANAGEMENT

Course Code: **BA156IU**

1. General information

Course designation	Face-to-Face/Online/Hybrid
Semester(s) in which the course is taught	All semesters in the academic years
Person responsible for the course	Pham Tan Nhat, PhD Alan Tho, PhD Nguyen Tan Minh, PhD
Language	English
Relation to curriculum	Compulsory
Teaching methods	Student-centered method
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 115 Contact hours (lecture, discussion, etc.): 45 Private study including examination preparation, specified in hours[1]: 70
Credit points	03
Required and recommended prerequisites for joining the course	Principles of Management

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Course objectives	The course will equip students with a fundamental understanding of human resource management theories and practices in an organization. It will give students opportunities to discover the basic principles of people management; to understand how an organization can gain competitive advantages through managing its human resources effectively and efficiently. The course also provides students the platforms to practice and sharpen their skills in terms of planning, recruiting and selecting employees, evaluating performance, designing training program, and developing the compensation and benefits systems.
Course learning outcomes	CLO1 (Attitudes): Understand professional ethics and proper understanding of integrity, as well as the working environment with an emphasis on professional and appropriate attitudes and decisions. CLO2 (Knowledge): Understand the global trends in HRM and new roles and responsibilities of HRM in today's increasingly globalized world, which include providing strategies to deal with workforce diversity, helping organizations manage conflict amongst employees, and providing internationally personnel strategies for multinational companies. CLO3 (Knowledge): Understand and apply the basic HRM activities, models, and processes based on the type of business and other factors. CLO4 (Skills): Use their English skills and available resources (e.g., Library, Internet, Computer) to analyze HR problems and evaluate alternative solutions as well as possible scenarios to see how they could impact the business.
Content	*The description of the contents should clearly indicate the weighting of the content and the level.* Weight: lecture session (3 hours) Teaching levels: I (Introduce); T (Teach); U (Utilize)

No.	Contents		
1	Managing Human Resources	**1**	**I, T**
2	Trends in Human Resource Management	**1**	**I, T, U**
3	Analyzing Work and Designing Jobs	**1**	**I, T**
4	Planning for and Recruiting Human Resources	**1**	**I, T**
5	Selecting Employees and Placing them in Jobs	**1**	**I, T**
6	Training Employees	**1**	**I, T, U**
7	Developing Employees for Future Success	**1**	**I, T**
8	Managing Employees' Performance	**1**	**I, T**
9	Separating and Retaining Employees	**1**	**I, T**
10	Establishing a Pay Structure	**1**	**I, T**
11	Recognizing Employee Contributions with Pay	**1**	**I, T**
12	Providing Employee Benefits	**1**	**I, T**
13	Collective bargaining and Labor Relation	**1**	**I, T**
14	Managing Human Resources Globally	**1**	**I, T**
15	Final course review	**1**	**I, T**

Examination forms	Two assignments (midterm and final)
Study and examination requirements	Study requirements: - Attend more than 80% of contact hours - Actively participate in class activities - Fulfill tasks given by instructor after class - Use their own laptop in class only for learning purposes - Access the IU Blackboard frequently *Assignments/Examination requirements (tentative)* ***Midterm assignment**: The assignment includes the following sections* *1. First Page (Cover page) (IU logo, Subject, Student name and surname, ID student, Date…)* *2. Introduction* *3. Literature review* *4. Analysis* *5. Recommendations* *6. Conclusion* *7. References* *8. Appendices and supplementary materials* *Note: Students are asked to follow the citing and referencing guidelines of the International University.* ***Final assignment:** The assignment includes the following sections:* *1. First Page (Cover page) (IU logo, Subject, Student name and surname, ID student, Date…)* *2. Introduction* 3. Literature review 4. Analysis 5. Recommendations 6. Conclusion 7. References 8. Appendices and supplementary materials Note: Students are asked to follow the citing and referencing guidelines of the International University.

Reading list	**Main textbook:** Raymond A. Noe, John R. Hollenbeck, Barry Gerhart and Patrick M. Wright (2018). Fundamentals of Human Resource Management, 7th Edition. McGraw-Hill **Reference** Susan L. Verhulst and David A. DeCenzo (2018). Fundamentals of Human Resource Management, 13th Edition. Wiley **Additional materials provided in Blackboard** The lecturer will attempt to make lecture notes and additional reading available on Blackboard. However, this is not an automatic entitlement for students doing this subject. Note that this is not a distance learning course, and you are expected to attend lectures and take notes. This way, you will get the additional benefit of class interaction and demonstration. **Recommended Internet sites** Harvard Business Review The Saigon Times The Economist **Recommended Journals** Human Resource Management Human Resource Management Journal The International Journal of Human Resource Management Asia Pacific Journal of Human Resources Human Relations

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (1-4) and Program/Student Learning Outcomes (SLO) (1-9) is shown in the following table:

CLO	Program Learning Outcomes									
	a	b	c	d	e	f	g	h	i	j
1							x		x	
2	x									
3	x									
4								x		

Course Learning Outcomes

- CLO1 (Attitudes): Understand professional ethics and proper understanding of integrity, as well as the working environment with an emphasis on professional and appropriate attitudes and decisions.
- CLO2 (Knowledge): Understand the global trends in HRM and new roles and responsibilities of HRM in today's increasingly globalized world, which include providing strategies to deal

with workforce diversity, helping organizations manage conflict amongst employees, and providing internationally personnel strategies for multinational companies.

- CLO3 (Knowledge): Understand and apply the basic HRM activities, models, and processes based on the type of business and other factors.
- CLO4 (Skills): Use their English skills and available resources (e.g., Library, Internet, Computer) to analyze HR problems and evaluate alternative solutions as well as possible scenarios to see how they could impact the business.

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Managing Human Resources	1,2,3,4	Written report, Performance in the class	Lecture, Discussion, In-class	Books Internet sites Journals Blackboard
2	Trends in Human Resource Management	1,2,3,4	Written report, Performance in the class	Lecture, Discussion, In-class	Books Internet sites Journals Blackboard
3	Analyzing Work and Designing Jobs	1,2,3,4	Written report, Performance in the class	Lecture, Discussion, In-class	Books Internet sites Journals Blackboard
4	Planning for and Recruiting Human Resources	1,2,3,4	Written report, Performance in the class	Lecture, Discussion, In-class	Books Internet sites Journals Blackboard
5	Selecting Employees and Placing them in Jobs	1,2,3,4	Written report, Performance in the class	Lecture, Discussion, In-class	Books Internet sites Journals Blackboard
6	Training Employees	1,2,3,4	Written report, Performance in the class	Lecture, Discussion, In-class	Books Internet sites Journals Blackboard
7	Developing Employees for Future Success	1,2,3,4	Written report, Performance in the class	Lecture, Discussion, In-class	Books Internet sites Journals Blackboard
8	Midterm exam				
9	Managing Employees' Performance	1,2,3,4	Written report, Performance in the class	Lecture, Discussion, In-class	Books Internet sites Journals Blackboard
10	Separating and Retaining Employees	1,2,3,4	Written report, Performance in the class	Lecture, Discussion, In-class	Books Internet sites Journals Blackboard
11	Establishing a Pay Structure	1,2,3,4	Written report,	Lecture, Discussion, In-class	Books Internet sites Journals

			Performance in the class		Blackboard
12	Recognizing Employee Contributions with Pay	1,2,3,4	Written report, Performance in the class	Lecture, Discussion, In-class	Books Internet sites Journals Blackboard
13	Providing Employee Benefits	1,2,3,4	Written report, Performance in the class	Lecture, Discussion, In-class	Books Internet sites Journals Blackboard
14	Collective bargaining and Labor Relation	1,2,3,4	Written report, Performance in the class	Lecture, Discussion, In-class	Books Internet sites Journals Blackboard
15	Managing Human Resources Globally	1,2,3,4	Written report, Performance in the class	Lecture, Discussion, In-class	Books Internet sites Journals Blackboard
16	Final course review	1,2,3,4	Written report, Performance in the class	Lecture, Discussion, In-class	Books Internet sites Journals Blackboard
17	Final exam				

4. Assessment plan

Assessment Type	**CLO1**	**CLO2**	**CLO3**	**CLO4**
Performance in the class (30%)	Attendance and contribution during the class 50% pass			
Written report (midterm assignment) (30%)		Assignment 50% pass	Assignment 50% pass	Assignment 50% pass
Written report (midterm assignment) (40%)		Assignment 50% pass	Assignment 50% pass	Assignment 50% pass

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Rubrics (optional)

6. Date revised: July 28, 2022

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name: OPERATION MANAGEMENT IN CONSTRUCTION

Course Code: **CM301IU**

1. General Information

Course Name	*- (in English): Operation Management in Construction* *- (in Vietnamese): Quản lý vận hành trong xây dựng*
Course designation	*In this course, students will study about operation management of construction projects. The students are able to know how to plan site organization, make contract planning, and conduct work study. They also have knowledge in health and safety, waste, stock and materials, supply chain, and quality management in construction sites.*
Course Type	*General knowledge* ☑ *Fundamental* *Specialized knowledge* *Internship/Project/Thesis* *Others*
Semester(s) in which the module is taught	6
Person responsible for the module	Dr. Nguyen, Hoai Nghia
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 135 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 45

	Private study including examination preparation, specified in hours[1]: 90
Credit points	3
Required and recommended prerequisites for joining the module	Introduction to Construction Management
Module objectives/intended learning outcomes	**Overall objectives** Upon successful completion of this course, the students should be able to demonstrate knowledge of operation management in construction including site organization; contract planning; work study conducting; health and safety managing; construction waste managing; construction materials and stocks managing; construction supply chain; construction quality managing. Students who complete the course will be able to perform the following tasks: (1) Be able to organize a construction site. (2) Be able to plan and manage related issues during construction phases, including contract, work study, health and safety, waste, material, quality.
Content	*The description of the contents should clearly indicate the weighting of the content and the level.* Weight: lecture session (3 hours) Teaching levels: I (Introduce); T (teach); U (Utilize)

Topic	Weight	Level
Site organization	2	T
Contract planning	2	T
Work study	1	T
Health and safety	2	T, U
Waste management	1	T, U
Waste management	1	T
Stock control and materials management	2	T, U
Supply chain management	2	T
Quality management	2	T

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Examination forms	Constructed-response test
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.
Reading list	Textbook: 1. Chris March, Operations Management for Construction, 2009, 1st edition. 2. Jay Heizer, Barry Render, Operations Management, 2011, 10th edition.

3. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: Be able to organize a construction site
(2) CLO2: Be able to plan and manage related issues during construction phases, including contract, work study, health and safety, waste, material, quality.

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x			x					
CLO2			x		x					

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the

problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

4. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1, 2	Site organization	1	Quiz 1	Lecture Class discussion	
3, 4	Contract planning	2	Presentation Quiz	Lecture Class discussion	
5	Work study	2	Presentation Quiz	Lecture Class discussion	
6, 7	Health and safety	2	Presentation Quiz	Lecture Class discussion	
8	Waste management	2	Presentation Quiz	Lecture Class discussion	
9	MIDTERM EXAM				
10	Waste management	2	Presentation Quiz	Lecture Class discussion	
11, 12	Stock control and materials management	2	Presentation Quiz	Lecture Class discussion	
13, 14	Supply chain management	2	Presentation Quiz	Lecture Class discussion	
15, 16	Quality management	2	Presentation Quiz	Lecture Class discussion	
17	FINAL EXAM				

5. Assessment plan

Assessment Type	CLO1	CLO2
In-class exercises/quizzes (25%)	50%Pass	50%Pass
Homework exercises/ Presentation (15%)		Presentation 50%Pass
Midterm exam (20%)	50% Pass	50% Pass
Final exam (40%)		50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

6. Date revised: June 06, 2023

Ho Chi Minh City, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D. Nguyễn Hoài Nghĩa

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name: Project Feasibility Study and Appraisal

Course Code: **CM308IU**

1. General Information

Course name	*CM308IU – Project Feasibility Study and Appraisal* *CM308IU – Lập và thẩm định dự án*
Module designation	*This course is designed to provide students knowledge about construction project feasibility study and appraisal. Characteristics of projects including attributes, perspectives, phases, problems of cost and utility, needs and objectives, technical design, financial and economic analysis… are introduced. Students are also provided tools and techniques including systems, SWOT, strategy, risk … analyses to evaluation the feasibility of construction projects.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☒ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	3
Person responsible for the module	Dr. Nguyen, Hoai Nghia, Dr. Nguyen, Van Tiep, MSc. Nguyen, Pham Duy Phương
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 127.5 Contact hours (lecture, exercise, laboratory session, etc.): 37.5

	Private study including examination preparation, specified in hours[1]: 90
Credit points	**3 credits (Theory: 03 + Practice: 00)** **4.64 ECTS**
Number of periods	**Theory: 45** **Practice: 00**
Required and recommended prerequisites for joining the module	- Prerequisites: - Corequisites: - Previous course:
Module objectives/intended learning outcomes	**Overall objectives** are to equip IU students with knowledge of project assessment, as well as the related assessment tool and techniques. Students who complete the course will be able to perform the following tasks: (1) Having knowledge of development and necessary data and document of construction project feasibility study. (2) Having knowledge of related tool and techniques of project assessment. (3) Utilize the assessment tools and techniques including systems, SWOT, strategy, risk … analyses to evaluation the feasibility of construction
Content	*The description of the contents should clearly indicate the weighting of the content and the level.* Weight: lecture session (3 hours) Teaching levels: I (Introduce); T (teach); U (Utilize)

Topic	Weight	Level
An introduction to the Basic Concepts	1	I
Economic systems for resource allocation	1	T
The market mechanism	1	T
The theory of demand	1	T, U
The theory of supply	1	T, U

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

	Clients and contractors	1	T
	Costs of the construction firm	2	T, U
	Types of market structure in the construction industry	1	T
	Market failures and government remedies	1	T
	Environmental economics	1	T
	Managing the macroeconomy	2	T
	The economy and construction	2	T
Examination forms	Constructed-response test		
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.		
Reading list	Textbook: [1] Myers, D. (2004). *Construction economics – A new approach*. New York: Spon Press. References: [1] Slavin, S. L. (2005). *Economics*, 7th eds. New York: McGraw-Hill Irwin.		

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: Having knowledge of development and necessary data and document of construction project feasibility study.
(2) CLO2: Having knowledge of related tool and techniques of project assessment.
(3) CLO3: Utilize the assessment tools and techniques including systems, SWOT, strategy, risk … analyses to evaluation the feasibility of construction

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x								
CLO2		x	x	x						
CLO3		x	x	x		x				

Program Learning Outcome:
(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science

to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	**An introduction to the Basic Concepts** Introducing construction economics Definitions Construction industry	1		Lecture Class discussion	[1] Chapter 1
2	**Economic systems for resource allocation** Economic systems	1	Quiz 1	Lecture Class discussion	[1] Chapter 2

Week	Topic	CLO	Assessments	Learning activities	Resources
	Equity, efficiency and the environment				
3	**The market mechanism** Product and factor allocation in a market economy Price signals and self interest Three qualifying remarks The concept of equilibrium A change in the constructions of the market	1, 2	Quiz 2	Lecture Class discussion	[1] Chapter 3, 4
4	**The theory of demand** The basic law of demand Demand in the construction industry A generalized demand equation Change market conditions Understanding changes in demand	1, 2	Quiz 3	Lecture Class discussion	[1] Chapter 4
5	**The theory of supply** The basic law of supply Supply in the construction industry Supply and determinant Understanding changes in supply Combining supply and demand	1, 2	Quiz 4	Lecture Class discussion	[1] Chapter 5
6	**Clients and contractors** Clients Contractors Partnering Rethinking client and contractors relationships	2	Quiz 5 Presentation 1	Lecture Class discussion	[1] Chapter 6
7, 8	**Costs of the construction firm** Definitions Relationships between outputs and inputs Diminishing returns Short-run costs Contractor's project costs	3	Quiz 6 Presentation 1	Lecture Class discussion	[1] Chapter 7

Week	Topic	CLO	Assessments	Learning activities	Resources
	Long-run costs External economies of scale				
9-10	FINAL EXAM				
11	**Types of market structure in the construction industry** The purpose of perfect competition Towards the notion of an efficient industry Market structures that typify the construction industry Resource allocation and sustainability	1, 3	Quiz 7	Lecture Class discussion	[1] Chapter 8
12	**Market failures and government remedies** What causes market failure? Correcting market failure Are government corrections effective? Government failure	1	Quiz 8	Lecture Class discussion	[1] Chapter 9
13	**Environmental economics** The material balance model Private costs versus social costs	1	Quiz 9	Lecture Class discussion	[1] Chapter 10
14, 15	**Managing the macroeconomy** Five macroeconomic objectives Government policy instruments Macroeconomic management	1	Quiz 10 Presentation 2	Lecture Class discussion	[1] Chapter 11
16, 17	**The Economy and construction** Measuring economic activity From circular flow model to reality Manipulating the level of economic activity Supply-side economic	3	Quiz 11	Lecture Class discussion	[1] Chapter 12

Week	Topic	CLO	Assessments	Learning activities	Resources
	Inflation and how it is measured Causes of inflation Cures for inflation				
18-19	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
In-class exercises/quizzes (10%)	Qz1, Qz2, Qz3, Qz8, Qz9, Qz10 50%Pass	Qz4, Qz5 50%Pass	Qz6, Qz11 50%Pass
Homework exercises/ Presentation (20%)		Presentation 1 50%Pass	Presentation 1 50%Pass
Midterm exam (20%)	50% Pass	50% Pass	
Final exam (50%)		50% Pass	50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: June 06, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS
Course Name: CONSTRUCTION PROJECT MANAGEMENT (PMBOK EXTENSION)
Course Code: **CM311IU**

1. General Information

Module designation	*CM311IU - CONSTRUCTION PROJECT MANAGEMENT (PMBOK EXTENSION)* *In this course, students will study the general knowledge of project management with the extension in construction industry.*
Semester(s) in which the module is taught	*7*
Person responsible for the module	*Dr. Nguyen, Hoai Nghia, Dr. Nguyen, Van Tiep, MSc. Nguyen, Pham Duy Phương*
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 135 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 45 Private study including examination preparation, specified in hours[1]: 90
Credit points	3
Required and recommended prerequisites for joining the module	Construction Cost Management, Construction Planning and Scheduling

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td>Module objectives/intended learning outcomes</td><td>Overall objectives are to provide students with the insight of construction project management and the special fields which are applied to construction industry.

Students who complete the course will be able to perform the following tasks:

(1) A deep understanding of construction project management.
(2) A deep understanding of applications of project management fields in construction industry.</td></tr>
<tr><td>Content</td><td>The description of the contents should clearly indicate the weighting of the content and the level.
Weight: lecture session (3 hours)
Teaching levels: I (Introduce); T (teach); U (Utilize)
<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Project management in the construction industry</td><td>2</td><td>I</td></tr>
<tr><td>Project integration management</td><td>1</td><td>I</td></tr>
<tr><td>Project scope management</td><td>1</td><td>T, U</td></tr>
<tr><td>Project schedule management</td><td>1</td><td>T, U</td></tr>
<tr><td>Project cost management</td><td>1</td><td>I</td></tr>
<tr><td>Project quality management</td><td>1</td><td>T, U</td></tr>
<tr><td>Project resource management</td><td>1</td><td>T, U</td></tr>
<tr><td>Project communications management</td><td>1</td><td>I</td></tr>
<tr><td>Project risk management</td><td>1</td><td>I</td></tr>
<tr><td>Project procurement management</td><td>1</td><td>I</td></tr>
<tr><td>Project stakeholder management</td><td>1</td><td>I</td></tr>
<tr><td>Project health, safety, security, and environmental (HSSE) management</td><td>2</td><td>I</td></tr>
<tr><td>Project financial management</td><td>1</td><td>I</td></tr>
</table></td></tr>
<tr><td>Examination forms</td><td>Constructed-response test</td></tr>
<tr><td>Study and examination requirements</td><td>Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged.</td></tr>
</table>

	Assignments/Examination: Students must have more than 50/100 points overall to pass this module.
Reading list	Textbook: [1] Project Management Institute. (2016). Construction Extension to the PMBOK, 2nd ed. Pennsylvania: Project Management Institute. References: [1] Project Management Institute. (2003). Construction Extension to A guide to the PMBOK, 1st ed. Pennsylvania: Project Management Institute. [2] Fisk, E.R. and Reynolds, W.D. (2014). Construction Project Administration, 10th ed. New Jersey: Pearson

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-2) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: A deep understanding of construction project management.
(2) CLO2: A deep understanding of applications of project management fields in construction industry.

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x			x			x	x	
CLO2		x		x	x			x	x	

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1-2	**Project management in the construction industry** Organizational Influences on Construction Project Management Project Stakeholders and Governance Project Life Cycles Project Management Knowledge Areas, Process Groups, and Processes Advances and Societal Influences in Construction Project Management	1	Quiz	Lecture Class discussion	[1] Chapter 1
3	**Project integration management** Project Integration Management in Construction Project Integration Management Initiating Project Integration Management Planning Project Integration Management Executing Project Integration Management Monitoring and Control Project Integration Management Closing Integration Management Advancements	2	Quiz	Lecture Class discussion	[1] Chapter 2
4	**Project scope management** Project Scope Management in Construction Project Scope Management Planning Project Scope Monitoring and Control	2	Quiz Presentation	Lecture Class discussion	[1] Chapter 3, 4
5	**Project schedule management** Project Schedule Management in Construction	2	Quiz Presentation	Lecture Class discussion	[1] Chapter 4

Week	Topic	CLO	Assessments	Learning activities	Resources
	Project Schedule Management Planning Project Schedule Management Monitoring and Control				
6	**Project cost management** Project Cost Management in Construction Project Cost Management Planning Project Cost Management Monitoring and Control	2	Quiz	Lecture Class discussion	[1] Chapter 5
7	**Project quality management** Project Quality Management in Construction Project Quality Management Planning Project Quality Management Executing	2	Quiz 5 Presentation	Lecture Class discussion	[1] Chapter 6
8	**Project resource management** Project Resource Management in Construction Project Resource Management Planning Project Resource Management Executing Project Resource Management Monitoring and Controlling Project Resource Management Closing	2	Quiz Presentation	Lecture Class discussion	[1] Chapter 7
9-10	MIDTERM EXAM				
11	**Project communications management** Project Communications Management in Construction Project Communications Management Planning Project communication management executing Project communications management monitoring and control	2	Quiz	Lecture Class discussion	[1] Chapter 8
12	**Project risk management** Project Risk Management in Construction Project Risk Management Planning	2	Quiz	Lecture Class discussion	[1] Chapter 9

Week	Topic	CLO	Assessments	Learning activities	Resources
	Project risk management monitoring and control				
13	**Project procurement management** Project Procurement Management in Construction Project Procurement Management Planning Project communication management executing Project communications management monitoring and control Project communications management closing	2	Quiz	Lecture Class discussion	[1] Chapter 10
14	**Project stakeholder management** Stakeholder Management in Construction Project Stakeholder Management Initiating Project Stakeholder Management Planning Project Stakeholder Management Executing Project Stakeholder Management Monitoring and Controlling	2	Quiz	Lecture Class discussion	[1] Chapter 11
15, 16	**Project health, safety, security, and environmental (HSSE) management** Project Health, Safety, Security, and Environment Management in Construction Project HSSE Management Planning Project HSSE Management Executing Project HSSE Management Monitoring and Controlling	2	Quiz	Lecture Class discussion	[1] Chapter 12
17	**Project financial management** Project Financial Management in Construction Project Financial Management Planning Project Financial Management Monitoring and Control	2	Quiz	Lecture Class discussion	[1] Chapter 13
18-19	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2
In-class exercises/quizzes (10%)	Quiz 50%Pass	Quiz 50%Pass
Homework exercises/ Presentation (20%)		Presentation 50%Pass
Midterm exam (20%)	50% Pass	50% Pass
Final exam (50%)	50% Pass	50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: June 06, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

	VIETNAM NATIONAL UNIVERSITY HCMC **INTERNATIONAL UNIVERSITY** **School of Civil Engineering and Construction Management**

COURSE SYLLABUS
BUSINESS RESEARCH METHODS
BA161IU

1. General information

Course designation	*This course provides important topics in the area of research method. It introduces the whole research process, from formulation of research questions to research design and end up with report writing.*
Semester(s) in which the course is taught	
Person responsible for the course	
Language	**English**
Relation to curriculum	***Compulsory***
Teaching methods	***Lecture, Tutorial, In-class exercises, Assignment, Research report***
Workload (incl. contact hours, self-study hours)	***(Estimated) Total workload:*** *Contact hours (please specify whether lecture, exercise, laboratory session, etc.):* *Private study including examination preparation, specified in hours[1]:*
Credit points	**3**

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Statistics for Business</td></tr>
<tr><td>Course objectives</td><td>This course seeks to:
- provide student with a good understanding of business research
- equip student with practical tools and skills to conduct business research
-help students differentiate different methods of research: qualitative vs quantitative
-provide opportunities to do scientific research and presentation skills</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course students will be able to:
<table>
<tr><th>Competency level</th><th>Course learning outcome (CLO)</th></tr>
<tr><td>Knowledge (R)</td><td>CLO1 to describe basic concepts in business research method</td></tr>
<tr><td>Skill (M)</td><td>CLO2 to identify research problems/gaps and produce research questions or proposals</td></tr>
<tr><td>Skill (M)</td><td>CLO3 to conduct scientific research and write scientific research reports</td></tr>
<tr><td>Attitude</td><td>CLO4 to learn within teams, identify ethical issues in research and recognize the need to adhere to ethical guidelines when conducting research</td></tr>
</table></td></tr>
</table>

Content	The course is designed to provide students with a strong foundation in business research based on seven key activities: (1) identifying research problems, (2) propose research objectives (3) review literature, (4) design method (5) implement data collection (6) analyze data (7) conclude and recommend **Weight: lecture session (3 hours)** **Teaching levels: I (Introduce); T (Teach); U (Utilize)**

Topic	Weight	Level
Introduction to Business Research The Research Process: An Overview	1	I
Research Question Formulation (Cont.) Research Process & Proposal	1	T
Research Design (1):	1	T
Research design (2)	1	U
Research design (3)	1	U
Sampling methods for quantitative studies	1	T
Measurement Issues (1)	1	T
Measurement Issues (2)	1	U
Data Screening and Preparation	1	T
Hypothesis testing	1	T
Measures of association	1	T
Biases and Threats to reliability and validity	1	T
Student presentation and course review	3	U

Examination forms	**Written Report** **Exam**

Study and examination requirements	To pass this course, student must: - submit/ complete all reports on time - attain an overall pass mark of 50% in the course

GRADING POLICY

Grades can be based on the following:

Attendance and Class discussion	10%
Class exercises	10%
Individual or Group project (full version: from Title to Conclusion and references or a research proposal version: from Title to Methodology	45%
Final examination	35%
Total	100%

COURSE POLICIES

Attendance

Your regular and punctual attendance at lectures and related seminars (if any) is expected in this course. University regulations indicate that if students attend less than 80% of scheduled classes they may be refused final assessment. Regular attendance is essential for successful performance and learning in this course, particular in view of the interactive teaching and learning approach adopted. Please inform your lecture if you are unable to attend the class, and arrange for a classmate to collect any handouts.

Workload

It is expected that you will spend at least 6 hours per week studying this course. This time should be made up of reading, working on individual assignments, group assignments and attending class lectures. In periods where you need to complete assignments or prepare for examinations, the workload may be greater.

General Conduct and Behaviour

You are expected to conduct yourself with considerable and respect for the needs of your fellow students and teaching staff. Conduct that unduly disrupts or interferes with a class, such as ringing, or talking on mobile phones, or chatting on the internet, is nor acceptable and students may be asked to leave the class.

Keeping informed

You should take note of all announcements made in lectures, tutorials or on the course website. From time to time, the University will send important announcements to your through website, course website and/ or Announcement Board (of School of Business and/ or Academic Affair) without providing you with a paper copy. You will be deemed to have received this information.

	Academic honesty and plagiarism The University regards plagiarism as a form of academic misconduct, and has very strict rules regarding plagiarism. Plagiarism is the presentation of the thoughts or work of another as one's own. Examples include: - direct duplication of the thoughts or work of another, including by copying work, or knowingly permitting it to be copied. This includes copying material. Ideas or concepts from a book, article, report or other written document (whether published or unpublished), composition, artwork, design, drawing, circuitry, computer program or software, web site, Internet, other electronic resource, or another person's assignment without appropriate acknowledgement; - paraphrasing another person's work with very minor changes keeping the meaning, form and/ or progression of ideas of the original; - piecing together sections of the work of others into a new whole; - presenting an assessment item as independent work when it has been produced in whole or part in collusion with other people, for example, another student or a tutor; The inclusion of the thoughts or work of another with attribution appropriate to the academic discipline does not amount to plagiarism. Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting and the proper referencing of sources in preparing all assessment items. Meeting up with the lecturers after classes Students must make an appointment via emails if they want to meet up with the lecturer after classes and be on time. If there are any changes to the scheduled time, students must inform the lecturer immediately.
Reading list	The following text and references are essential for the course. <u>Textbook:</u> 1. Cooper, R.D. & Schindler, S.P. (2011). Business Research Methods. 12nd Ed. McGraw-Hill Irwin. NY. 2. Bhattacherjee (2012), Social Science Research: Principles, Methods, and Practices 3. Woodside (2010), Case Study Research: Theory, Methods, Practice * Used with kind permission from the University of New South Wales <u>References:</u> 1. Hancock and Algozzine (2006), Doing case study research: a practical guide for beginning researchers. 2. Dul and Hak (2008), Case study Methodology in Business Research. 3. Yin (2009), Case study research: design and methods.

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (1-4) and Program/Student Learning Outcomes (SLO) (1-10) is shown in the following table:

CLOs	PLOs									
	a	b	c	d	e	f	g	h	i	j
1		*x*								
2				x						
3				x		x		x		
4						x				x

Course Learning Outcomes

- CLO1 to describe basic concepts in business research method
- CLO2 to identify research problems/gaps and produce research questions or proposals
- CLO3 to conduct scientific research and write scientific research reports
- CLO4 to learn within teams, identify ethical issues in research and recognize the need to adhere to ethical guidelines when conducting research

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate

with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Introduction to Business Research The Research Process: An Overview	123	In-class exercise	Lecture, Discussion	Cooper, R.D. & Schindler, S.P. Chapter 4
2	Research Question Formulation (Cont.) Research Process & Proposal	123	In-class exercise	Lecture, Discussion	Cooper, R.D. & Schindler, S.P. Chapter 5
3	Research Design (1): Overview Using secondary data Qualitative Methods	123	In-class exercise	Lecture, Discussion	Cooper, R.D. & Schindler, S.P. Chapter 6, 7
4	Research design (2): Quantitative approach	123	In-class exercise	Lecture, Discussion	Cooper, R.D. & Schindler, S.P. . Chapter 9&10.
5	Research design (3): Quantitative approach	123	In-class exercise	Lecture, Discussion	Cooper, R.D. & Schindler, S.P. . Chapter 10
6	Sampling methods for quantitative studies	123	In-class exercise	Lecture, Discussion	Cooper, R.D. & Schindler, S.P. . Chapter 14
7	Measurement Issues (1)	123	In-class exercise	Lecture, Discussion	Cooper, R.D. & Schindler, S.P. . Chapter 11
8	Midterm		No midterm		
9	Measurement Issues (2) Questionnaires & Instruments	1234	In-class exercise	Lecture, Discussion	Cooper, R.D. & Schindler, S.P. . Chapter 11

10	Data Screening and Preparation Descriptive statistics	1234	In-class exercise	Lecture, Discussion	Cooper, R.D. & Schindler, S.P. . Chapter 15
11	Hypothesis testing Measures of association	1234	In-class exercise	Lecture, Discussion	Cooper, R.D. & Schindler, S.P. . Chapter 18
12	Measures of association (2) An overview of bi/multivariate Analysis	1234	In-class exercise	Lecture, Discussion	Cooper, R.D. & Schindler, S.P. . Chapter 18, 19
13	Biases and Threats to reliability and validity Ethical consideration in business research	1234		Lecture, Discussion	Cooper, R.D. & Schindler, S.P. . Chapter 2
14	Student's presentation of group project output (All groups)			Lecture, Discussion	
15	Student's presentation of group project output (All groups)	1234		Group report submission	
16	**Final exam**				

4. Assessment plan

Assessment Type	**CLO1**	**CLO2**	**CLO3**	**CLO4**
Attendance and in class exercises (20%)	70% pass			70% pass
Written report (45%)	70% pass	70% pass	70% pass	70% pass
Final exam (35%)	70% pass	70% pass	70% pass	

Note: %Pass: Target that % of students having scores greater than 70 out of 100.

5. Date revised: 15 April 2023

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Management

COURSE SYLLABUS

Course Name: ARTIFICIAL INTELLIGENCE IN CIVIL ENGINEERING AND CONSTRUCTION MANAGEMENT

Course Code: **CE217IU**

1. General information

Course name	*- Artificial intelligence in civil engineering and construction management* *- Trí tuệ nhân tạo trong kỹ thuật và quản lý xây dựng*
Course designation	*This course introduces how we apply artificial intelligence in civil engineering (CE) and construction management (CM). Several typical problems of applied artificial intelligence in CE and CM are introduced, such as regression/classification/segmentation/abnormality detection in experimental data, monitoring data, etc. The course introduces machine learning methods frequently utilized in CE and CM, including k-nearest neighbor, neural network, decision tree, and random forest, and explains their concepts so that students can know how to formulate a problem-solving.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☑ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the course is taught	
Person responsible for the course	Dr. Pham, Nguyen Linh Khanh; Dr. Nguyen, Ba Quang Vinh; Dr. Nguyen, Van Tiep
Language	English
Relation to curriculum	*Compulsory*
Teaching methods	Lecture, discussion, and assignments.

<table>
<tr><td>Workload (incl. contact hours, self-study hours)</td><td>Total workload: 127.5 (Estimated)
Contact hours:
- lecture: 30
- Discussion: 7.5
Private study, including examination preparation, specified in hours: 90</td></tr>
<tr><td>Credit points</td><td>3 credits/4.64 ECTS</td></tr>
<tr><td>Number of periods</td><td>Theory: 45
Practice: 0</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td></td></tr>
<tr><td>Course objectives</td><td>The course provides students with basic definitions of machine learning and its implications in industry. The students have the ability to recognize and formulate the problems in CE and CM that AI can apply. Furthermore, some basis machine algorithms (e.g., neural network, support vector machine, decision tree) are introduced to aid the student in analyzing and solving real case problems. Also the impacts and contemporary issues of artificial intelligence in CE and CM are also discussed.</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course, students will be able to:
<table>
<tr><th>Competency level</th><th>Course learning outcome (CLO)</th></tr>
<tr><td>Knowledge</td><td>CLO1. Understand basic definitions of machine learning, and its implications in the industry</td></tr>
<tr><td>Skill</td><td>CLO2. Apply mathematics and ML algorithms to solve problems.
CLO3. Design and conduct experiments, analyze and interpret CE and CM data</td></tr>
<tr><td>Attitude</td><td></td></tr>
</table></td></tr>
</table>

<table>
<tr><td>Content</td><td>

The description of the contents should clearly indicate the weighting of the content and the level.

Weight: lecture session (3 hours)

Teaching levels: I (Introduce); T (teach); U (Utilize)

<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Introduction</td><td>1</td><td>I</td></tr>
<tr><td>Linear Algebra</td><td>1</td><td>T</td></tr>
<tr><td>Data analysis</td><td>2</td><td>T, U</td></tr>
<tr><td>Machine learning – Unsupervised learning algorithm</td><td>2</td><td>T</td></tr>
<tr><td>Machine learning – Supervised learning algorithm</td><td>2</td><td>T</td></tr>
<tr><td>Neural network</td><td>2</td><td>T</td></tr>
<tr><td>Machine learning issues</td><td>1</td><td>I</td></tr>
<tr><td>Case studies</td><td>1</td><td>I</td></tr>
</table>

</td></tr>
<tr><td>Examination forms</td><td>Constructed-response test</td></tr>
<tr><td>Study and examination requirements</td><td>Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged.
Assignments/Examination: To pass this module, students must have more than 50/100 points overall.</td></tr>
<tr><td>Reading list</td><td>[1] Deep Learning, Ian Goodfellow, Yoshua Bengio, and Aaron Courville, The MIT Press, 2016 (free online: http://www.deeplearningbook.org/)
[2] Hands-on Machine Learning with Scikit-Learn & Tensorflow, Aurelien Geron, O'Reilly, 2017.</td></tr>
</table>

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (1-3) and Program Intended Learning Outcomes (ILO) (a-k) is shown in the following table:

	Program Learning Outcomes									
CLO	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
1	x	x								
2		x	x							
3		x	x		x					

Program Learning Outcome:

a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.
c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.
d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.
e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.
f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership
h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.
i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.
j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Introduction		In-class exercise	Lecture, Discussion	
2	Linear Algebra		In-class exercise, Quiz 1	Lecture, Discussion	
3	Data analysis		In-class exercise and Midterm exam	Lecture, Discussion	
4-5	Machine learning – Unsupervised learning algorithms		In-class exercise, Quiz 1	Lecture, Discussion	
6-8	Machine learning – Unsupervised learning algorithms		In-class exercise and Midterm exam	Lecture, Discussion	
9-10	Midterm				
11-12	Neural network		In-class exercise and Final exam	Lecture, Discussion	

13	Machine learning Issues		In-class exercise and Final exam	Lecture, Discussion	
14-16	Cases studies		Presentation	Discussion/ Presentations	
17	ML in industry		In-class exercise	Discussion/ Presentations	
18-19	Final exam				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
In-class exercises/ Quiz (30%)	In-class exercises + Quiz1 50%Pass	In-class exercises 50%Pass	In-class exercises 50%Pass
Midterm exam (30%)	50% Pass	50% Pass	
Final exam (40%)		50% Pass	50% Pass

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Date revised: March 29 2024

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC

INTERNATIONAL UNIVERSITY

School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name

Course Name: LEADERSHIP

Course Code: **BA098IU**

1. General Information

Module designation	This course prepares students for leadership roles in the community and in their professions. It will provide students with the knowledge, skills, and foundation to become an effective leader. Students will develop an understanding of the components that make leadership successful. Students will gain both the theoretical and practical skills necessary for success in both their personal and professional lives. It is intended for students who are interested in gaining a foundation in leadership studies and extended coursework in applied aspects of Leadership.
Semester(s) in which the module is taught	8
Person responsible for the module	Dr. Nguyen, Hoai Nghia
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 135 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 45 Private study including examination preparation, specified in hours[1]: 90
Credit points	3

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td>Required and recommended prerequisites for joining the module</td><td>None</td></tr>
<tr><td>Module objectives/intended learning outcomes</td><td>This introductory course presents leadership using a personal leadership perspective and framework. Students taking this course will have the opportunity to examine their own views on leadership, explore the differences between personal and positional leadership, study characteristics of leaders and learn about the importance of personal development.

Students who complete the course will be able to perform the following tasks:

(1) Increase awareness of leadership and ways to get involved
(2) Develop personal skills of leadership
(3) Learn within teams (such skills as task assignment and management, conflict resolution and co-operation, consensus building, leadership, and effective communication) and Provide professional business presentations (both oral and written)</td></tr>
<tr><td>Content</td><td>The description of the contents should clearly indicate the weighting of the content and the level.
Weight: lecture session (3 hours)
Teaching levels: I (Introduce); T (teach); U (Utilize)
<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Chapter 1: Who is A Leader?</td><td>1</td><td>I</td></tr>
<tr><td>Chapter 2: Leadership Traits and Ethics</td><td>1</td><td>T</td></tr>
<tr><td>Chapter 3: Leadership Behavior and Motivation</td><td>1</td><td>T</td></tr>
<tr><td>Chapter 4: Influencing: Power, Politics, Networking & Negotiation</td><td>2</td><td>T, U</td></tr>
<tr><td>Chapter 5: Contingency leadership Theory</td><td>1</td><td>T, U</td></tr>
<tr><td>Chapter 6: Communication, Coaching, and Conflict Skills</td><td>2</td><td>T</td></tr>
<tr><td>Chapter 7: Dynamic Relationship, Followership & Delegation</td><td>2</td><td>T, U</td></tr>
<tr><td>Chapter 8: Team Leadership</td><td>2</td><td>T</td></tr>
</table></td></tr>
</table>

	Chapter 9: Leading Self-Managed Team	1	T
	Chapter 10: Charismatic and Transformational Leadership	1	T
	Chapter 11: Strategic Leadership and Managing Crises and Change	1	T
Examination forms	Constructed-response test		
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.		
Reading list	Textbooks: [1] Leadership: Theory, Application and Skill Development (2nd Edition), Lussier & Achua References: [2] The Influencer, Kerry Patterson et al		

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: Increase awareness of leadership and ways to get involved
(2) CLO2: Develop personal skills of leadership.
(3) CLO2: Learn within teams (such skills as task assignment and management, conflict resolution and co-operation, consensus building, leadership, and effective communication) and Provide professional business presentations (both oral and written)

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x								
CLO2						x	x			
CLO3						x				

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including

technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	**Chapter 1: Who is A Leader?** Leadership is Everyone's Business Levels of Analysis of Leadership Theory Leadership Theory Paradigm	1, 2	Quiz	Lecture Class discussion	
2	**Chapter 2: Leadership Traits and Ethics** Traits & Personality of Effective Leaders Leadership Attributes Ethical leadership	1, 2	Quiz	Lecture Class discussion	
3	**Chapter 3: Leadership Behavior and Motivation**	1, 2	Quiz Presentation	Lecture Class discussion	

Week	Topic	CLO	Assessments	Learning activities	Resources
	Leadership Behavior and styles The Leadership Grid				
4-5	**Chapter 4: Influencing: Power, Politics, Networking & Negotiation** Power & Source of Power Organizational Politics Networking Negotiation Ethics and Influencing	1, 2	Quiz Presentation	Lecture Class discussion	
6	**Chapter 5: Contingency leadership Theory** Contingency Leadership Theory and Model Leadership Continuum Theory and Model Path Goal Leadership Theory and Model Normative Leadership and Model	1, 2, 3	Quiz Presentation	Lecture Class discussion	**Contingency leade**
7-8	**Chapter 6: Communication, Coaching, and Conflict Skills** Communication, Feedback & Coaching Managing Conflicts Collaborating Conflict Management Style Model	1, 2, 3	Quiz Presentation	Lecture Class discussion	
9	MIDTERM EXAM				
10-11	**Chapter 7: Dynamic Relationship, Followership & Delegation** Evolution of Dyadic Theory Leader-Member Exchange Theory Followership Delegation	1, 2, 3	Quiz Presentation	Lecture Class discussion	
12-13	**Chapter 8: Team Leadership** The use of Team in Organizations Characteristics of Effective Teams Team Creativity	1, 2, 3	Quiz Presentation	Lecture Class discussion	

Week	Topic	CLO	Assessments	Learning activities	Resources
	Decision Making in Team Meeting Leadership Skills				
14	**Chapter 9: Leading Self-Managed Team** Understanding Self-Management Team Growth Stages and Leadership The Changing Role of Leadership in Self-Managed Teams	1, 2, 3	Quiz Presentation	Lecture Class discussion	
15	**Chapter 10: Charismatic and Transformational Leadership** Charismatic Leadership Transformational Leadership Stewardship and Servant Leadership	1, 2, 3	Quiz Presentation	Lecture Class discussion	
16	**Chapter 11: Strategic Leadership and Managing Crises and Change** Strategic Leadership Crisis Leadership Leading Changes	1, 2, 3	Quiz Presentation	Lecture Class discussion	
17	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
In-class exercises/quizzes (20%)	Qz1, Qz2, Qz3, Qz8, Qz9, Qz10 50%Pass	Qz4, Qz5 50%Pass	Qz6, Qz11 50%Pass
Homework exercises/ Presentation (20%)		Presentation 1 50%Pass	Presentation 1 50%Pass
Midterm exam (20%)	50% Pass	50% Pass	
Final exam (40%)		50% Pass	50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. **Date revised: May 14, 2023**

	VIETNAM NATIONAL UNIVERSITY HCMC **INTERNATIONAL UNIVERSITY** **School of Civil Engineering and Construction Management**

COURSE SYLLABUS

Course Name: Risk Management

Course Code: BA171IU

1. General information

Course designation	This course particularly provides fundamental knowledge regarding risk management for construction projects
Semester(s) in which the course is taught	7,8
Person responsible for the course	PhD. Ho Nhut Quang
Language	English
Relation to curriculum	Compulsory
Teaching methods	Student-centered approach
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 135 hours Contact hours (lecture): 45 Private study including examination preparation, specified in hours[1]: 90
Credit points	3 Credits

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td>Required and recommended prerequisites for joining the course</td><td>N/A</td></tr>
<tr><td>Course objectives</td><td>This course aims to provide students with the knowledge of risk management process; understanding of what risk is, how it can be measured and transferred, why individuals care about risk, and why corporations care about risk; techniques used in dealing with possible risk at work as well as in daily life; understanding characteristics of various types of insurance policies such as: Life Insurance, Health Insurance, Social Insurance, Property Insurance, Auto Insurance, etc.</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course students will be able to:
<table>
<tr><th>Competency level</th><th>Course learning outcome (CLO)</th></tr>
<tr><td>Knowledge</td><td>CLO1. Learn and apply the risk management process to two major areas of concern for corporations: liability risk and financial risk.</td></tr>
<tr><td>Skill</td><td>CLO2. Understand techniques used in dealing with possible risk at work as well as in daily life, including Life Insurance, Health Insurance, Social Insurance, Property Insurance, Auto Insurance, etc.</td></tr>
<tr><td>Attitude</td><td>CLO3. Develop an understanding of what risk is, how it can be measured and transferred, why individuals care about risk, and why corporations care about risk.</td></tr>
</table></td></tr>
<tr><td>Content</td><td>This course is a study of the risk management process, with an emphasis on insurance. The course provides the learners with necessary knowledge on key concepts and terms used specially in Insurance Industry and Risks Management. The learners will learn possible methods and techniques used to deal with various kinds of risk. Policies including both Life-Insurance and Property and Casualty Insurance are analyzed. The learners will gain a deep understanding on Life Insurance, Health Insurance, Social Insurance, Property Insurance, Auto Insurance, etc. The course also mentions the job a Risk Manager and his/her functions at the company, which can pose a chance for some learners in choosing their career in future</td></tr>
<tr><td>Examination forms</td><td>Essay exams</td></tr>
<tr><td>Study and examination requirements</td><td>- Attend more than 80% of contact hours to be accepted to the final examination
- Actively participate in class activities
- Fulfill tasks given by instructor after class
- Use their own laptop in class only for learning purpose
- Read the textbook in advance
- Access the course Blackboard for up-to-date information and material of the course, for online supports from</td></tr>
</table>

Reading list	Textbooks and References [1] George E. Rejda, *Principles of Risk Management and Insurance*, 9th edition – 2007, McGraw Hill.

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (1-3) and Program/Student Learning Outcomes (SLO) (a -j) is shown in the following table:

CLO	Program Learning Outcomes									
	a	b	c	d	e	f	j	h	i	j
1		x			x					
2		x	x		x					
3			x		x					

Course learning outcomes

- **CLO1.** Learn and apply the risk management process to two major areas of concern for corporations: liability risk and financial risk.
- **CLO3.** Understand techniques used in dealing with possible risk at work as well as in daily life, including Life Insurance, Health Insurance, Social Insurance, Property Insurance, Auto Insurance, etc.
- **CLO2.** Develop an understanding of what risk is, how it can be measured and transferred, why individuals care about risk, and why corporations care about risk.

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking

appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
1	Chapter 1: Risk in Our Society	CLO1 CLO2	Lecture Class discussion	Assignment
2	Chapter 2: Insurance and Risk	CLO1 CLO2 CLO3	Lecture Class discussion	Assignment
3	Chapter 3: Introduction to Risk Management	CLO1 CLO2	Lecture Class discussion	Assignment
4	Chapter 4: Advanced Topics in Risk Management	CLO1 CLO2	Lecture Class discussion	Assignment
5	Chapter 5: Types of Insurers and Marketing System	CLO1 CLO2 CLO3	Lecture Class discussion	Assignment
6	Chapter 6: Insurance Company and Operations	CLO1 CLO2 CLO3	Lecture Class discussion	Assignment
7	Chapter 7: Financial Operations of Insurers	CLO1 CLO2 CLO3	Lecture Class discussion	Assignment
8	Chapter 8: Government Regulation of Insurance	CLO1 CLO2 CLO3	Lecture Class discussion	Assignment

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
9	Chapter 9: Fundamental Legal Principles	CLO1 CLO2	Lecture Class discussion	Assignment
10	Chapter 10: Analysis of Insurance Contracts	CLO1 CLO2 CLO3	Lecture Class discussion	Assignment
11-15	Group Presentation on the following topics: - Life Insurance (Chapters 11-13) - Individual Health Insurance (Chapter 15) - Retirement Plans (Chapter 17) - Social Insurance (Chapter 18) - Liability Risk (Chapter 19) - Homeowner Insurance (Chapters 20 and 21) - Auto Insurance (Chapter 23)	CLO1 CLO2 CLO3	Class discussion	Presentation

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
Progress Assessment (30%) • Attendance • Presentation • Quiz	x		
Midterm exam (30%)	x		x
Final exam (40%)	x	x	x

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Rubrics (optional)

6. Date revised:

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS
Course Name: CONSTRUCTION PLANNING AND SCHEDULING
Course Code: **CM303IU**

1. General Information

Course name	*CM303IU – Construction Planning And Scheduling* *CM303IU – Hoạch định tiến độ dự án*
Module designation	*This course is designed to provide students knowledge about time management for construction projects. The time management is one of the most crucial issues in construction management. Students are introduced functions of planning, different techniques of scheduling, i.e. bar charts, critical path method, PERT, … and their applications. The applications and practices of Microsoft Project software are also provided in the course.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☒ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	5
Person responsible for the module	Dr. Nguyen, Hoai Nghia, Dr. Nguyen, Van Tiep, MSc. Nguyen, Pham Duy Phương
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 127.5 Contact hours (lecture, exercise, laboratory session, etc.): 37.5

	Private study including examination preparation, specified in hours[1]: 90
Credit points	**3 credits (Theory: 03 + Practice: 00)** **4.64 ECTS**
Number of periods	**Theory: 45** **Practice: 00**
Required and recommended prerequisites for joining the module	- Prerequisites: - Corequisites: - Previous course: CM202IU (Construction Measurement and Cost Estimating)
Module objectives/intended learning outcomes	**Overall objectives** Upon successful completion of this course, the students are expected to have knowledge of construction planning; planning methods; resource management; risk management. Students who complete the course will be able to perform the following tasks: (1) Understand planning process, activities, tools and techniques. (2) Be able to develop a project schedule using different techniques, tools, and MS Project software.
Content	*The description of the contents should clearly indicate the weighting of the content and the level.* Weight: lecture session (3 hours) Teaching levels: I (Introduce); T (teach); U (Utilize)

Topic	Weight	Level
Concept of planning	1	I
Bar charts	1	I
Critical path method	2	I
Resource management	1	T
Overlapping network models	3	T, U
Critical chain scheduling method	1	T
Risk and scheduling	1	T

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

	Program evaluation and review	1	T
	Microsoft Project software applications and practices	4	T, U
Examination forms	Constructed-response test		
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.		
Reading list	Textbook: [1] Thomas E Uher, Programming and Scheduling Techniques, 2003, 1st edition.		

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-2) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: Understand planning process, activities, tools and techniques.
(2) CLO2: Be able to develop a project schedule using different techniques, tools, and MS Project software.

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		X	X							
CLO2			X		X	X				

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems

as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Concept of planning	1	Homework	Lecture Class discussion	[1] Chapter 1
2	Bar charts	2	Homework Quiz	Lecture Class discussion	[1] Chapter 2
3, 4	Critical path method	2	Quiz	Lecture Class discussion	[1] Chapter 3
5	Resource management	2	Presentation Quiz	Lecture Class discussion	[1] Chapter 4
6, 7, 8	Overlapping network models	2	Presentation Quiz	Lecture Class discussion	[1] Chapter 5
9-10	MIDTERM EXAM				
11	Critical chain scheduling method	2	Presentation Quiz	Lecture Class discussion	[1] Chapter 8
12	Risk and scheduling	2	Presentation Quiz	Lecture Class discussion	[1] Chapter 9
13	Program evaluation and review	2	Presentation Quiz	Lecture Class discussion	[1] Chapter 10
14-17	Microsoft Project software applications and practices	2	Presentation Quiz	Lecture Class discussion	[1] Chapter 11
18-19	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2
In-class exercises/quizzes (10%)	Quiz 50%Pass	Quiz 50%Pass
Homework exercises/ Presentation (15%)		Presentation 50%Pass
Attendance (15%)	50%Pass	50%Pass
Midterm exam (20%)	50% Pass	50% Pass
Final exam (40%)		50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: June 06, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS
Course Name: CONSTRUCTION PLANNING AND SCHEDULING PROJECT

Course Code: **CM307IU**

1. General Information

Course name	*CM307IU – Construction Planning And Scheduling Project* *CM307IU – Đồ án hoạch định tiến độ dự án*
Module designation	*A practice construction project is carried out, including time management. Students are supposed to apply knowledge in the courses of construction planning and scheduling to schedule a construction project.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☐ *Specialized knowledge* ☒ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	6
Person responsible for the module	Dr. Nguyen, Hoai Nghia, Dr. Nguyen, Van Tiep, MSc. Nguyen, Pham Duy Phương
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 67.5 Contact hours (lecture, exercise, laboratory session, etc.): 37.5 Private study including examination preparation, specified in hours[1]: 30
Credit points	**1 credit (Theory: 00 + Practice: 01)** **2.45 ECTS**

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td>Number of periods</td><td>Theory: 00
Practice: 30</td></tr>
<tr><td>Required and recommended prerequisites for joining the module</td><td>- Prerequisites:
- Corequisites:
- Previous course: CM303IU (Construction Planning and Scheduling)</td></tr>
<tr><td>Module objectives/intended learning outcomes</td><td>Overall objectives
The objectives of this course are as follows:
• To develop a capacity of planning and scheduling a construction project.
• To enhance a careful, hard-working, serious, and scientific attitude in project scheduling.
Students who complete the course will be able to perform the following tasks:
(1) Develop a capacity of planning and scheduling
(2) Enhance a careful, hard-working, serious, and scientific attitude</td></tr>
<tr><td>Content</td><td>The description of the contents should clearly indicate the weighting of the content and the level.
Weight: lecture session (1 hours)
Teaching levels: I (Introduce); T (teach); U (Utilize)
<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Project requirements and criteria</td><td>1</td><td>I</td></tr>
<tr><td>Quantity measurement</td><td>2</td><td>T</td></tr>
<tr><td>Construction rate identification</td><td>2</td><td>T</td></tr>
<tr><td>Unit price identification</td><td>4</td><td>T</td></tr>
<tr><td>Scheduling</td><td>3</td><td>T</td></tr>
<tr><td>Scheduling adjustment</td><td>2</td><td>T</td></tr>
<tr><td>Oral exam</td><td>1</td><td>T, U</td></tr>
</table></td></tr>
<tr><td>Examination forms</td><td>Constructed-response test</td></tr>
<tr><td>Study and examination requirements</td><td>Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged.
Assignments/Examination: Students must have more than 50/100 points overall to pass this module.</td></tr>
<tr><td>Reading list</td><td>N/A</td></tr>
</table>

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-2) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: Develop a capacity of planning and scheduling
(2) CLO2: To enhance a careful, hard-working, serious, and scientific attitude in project scheduling

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1			x		x					
CLO2					x	x				

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.
(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.
(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.
(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.
(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.
(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership
(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.
(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.
(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities
1	Project requirements and criteria	1	Attendance	Lecture
2, 3	Quantity measurement	1, 2	Attendance Presentation	Oral
4, 5	Construction rate identification	1, 2	Attendance Presentation	Oral
6 ,7 ,8, 9	Unit price identification	1, 2	Attendance Presentation	Oral
10, 11, 12	Scheduling	1, 2	Attendance Presentation	Oral
13, 14	Scheduling adjustment	1, 2	Attendance Presentation	Oral
15	Oral exam	1, 2	Defense	Exam

4. Assessment plan

Assessment Type	CLO1	CLO2
Attendance / Progress report / Final report (70%)	50%Pass	50%Pass
Oral exam (30%)	50%Pass	50%Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: June 06, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name: CONSTRUCTION MEASUREMENT AND COST ESTIMATING

Course Code: **CM202IU**

1. General Information

Course name	*CM202IU – Construction Measurement And Cost Estimating* *CM202IU – Đo bóc khối lượng và ước tính chi phí*
Module designation	*In this course, students will study about quantity measurement and cost estimation. The measured quantity is used to estimate construction cost and developed procurement and contract documents.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☒ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	4
Person responsible for the module	Dr. Nguyen, Hoai Nghia
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 127.5 Contact hours (lecture, exercise, laboratory session, etc.): 37.5 Private study including examination preparation, specified in hours[1]: 90
Credit points	**3 credits (Theory: 03 + Practice: 00)**

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td></td><td>4.64 ECTS</td></tr>
<tr><td>Number of periods</td><td>Theory: 45
Practice: 00</td></tr>
<tr><td>Required and recommended prerequisites for joining the module</td><td>- Prerequisites:
- Corequisites:
- Previous course: Construction Material (CE210IU), Reinforced Concrete 1 (CE304IU), Introduction to Construction Management</td></tr>
<tr><td>Module objectives/intended learning outcomes</td><td>Overall objectives Upon successful completion of this course, the students should be able to demonstrate knowledge of:
• Roles of quantity surveyors and construction industry.
• Measurement and quantification.
• Construction cost estimating.
Students who complete the course will be able to perform the following tasks:
(1) Understand roles of quantity surveyors and construction industry.
(2) Be able to measure and quantify construction quantity
(3) Be able to estimate construction</td></tr>
<tr><td>Content</td><td>The description of the contents should clearly indicate the weighting of the content and the level.
Weight: lecture session (3 hours)
Teaching levels: I (Introduce); T (teach); U (Utilize)
<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Quantity surveyors and construction industry</td><td>2</td><td>I</td></tr>
<tr><td>Measurement and quantification</td><td>6</td><td>T</td></tr>
<tr><td>Forecasting costs and value</td><td>4</td><td>T</td></tr>
<tr><td>Pricing and tendering</td><td>2</td><td>T, U</td></tr>
<tr><td>Related Vietnamese laws and regulations</td><td>1</td><td>T, U</td></tr>
</table></td></tr>
<tr><td>Examination forms</td><td>Constructed-response test</td></tr>
<tr><td>Study and examination requirements</td><td>Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged.
Assignments/Examination: Students must have more than 50/100 points overall to pass this module.</td></tr>
</table>

Reading list	Textbook: • [Duncan Cartlidge, Quantity Surveyor's Pocket Book, 2009, 1st edition. • Parviz F. Rad, Project Estimating and Cost Management, 2002. • Sean D.C. Ostrowski, Measurement Using the New Rules of Measurement, 2013, 1st

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: Understand roles of quantity surveyors and construction industry
(2) CLO2: Be able to measure and quantify construction quantity
(3) CLO3: Be able to estimate construction

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x								
CLO2			x		x	x				
CLO3			x		x	x				

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate

solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1, 2	Quantity surveyors and construction industry	1	Homework	Lecture Class discussion	
3, 4, 5, 6, 7, 8	Measurement and quantification	2	Presentation 1, 2, 3 Homework	Lecture Class discussion	
9	MIDTERM EXAM				
10, 11, 12, 13	Forecasting costs and value	3	Presentation 4, 5 Quiz	Lecture Class discussion	
14, 15	Pricing and tendering	3	Homework Quiz	Lecture Class discussion	
16	Related Vietnamese laws and regulations	3	Homework	Lecture Class discussion	
17	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
In-class exercises/quizzes (25%)	50%Pass	Qz4, Qz5 50%Pass	50%Pass
Homework exercises/ Presentation (15%)		Presentation 50%Pass	Presentation 50%Pass
Midterm exam (20%)	50% Pass	50% Pass	
Final exam (40%)		50% Pass	50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: June 06, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name: Construction Measurement and Cost Estimating Project

Course Code: **CM304IU**

1. General Information

Course name	*CM304IU – Construction Measurement and Cost Estimating Project* *CM304IU – Đồ án đo bóc khối lượng và ước tính chi phí*
Module designation	*In this course, a practice construction project is carried out, including volume measurement and cost estimating. Students are supposed to apply knowledge in the courses of construction measurement and cost estimating to measure volume and estimate cost of a construction project.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☐ *Specialized knowledge* ☒ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	5
Person responsible for the module	Dr. Nguyen, Hoai Nghia,
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 67.5 Contact hours (lecture, exercise, laboratory session, etc.): 37.5 Private study including examination preparation, specified in hours[1]: 30
Credit points	**1 credit (Theory: 00 + Practice: 01)** **2.45 ECTS**

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td>Number of periods</td><td>Theory: 00
Practice: 30</td></tr>
<tr><td>Required and recommended prerequisites for joining the module</td><td>- Prerequisites:
- Corequisites:
- Previous course: CM202IU (Construction Measurement and Cost Estimating)</td></tr>
<tr><td>Module objectives/intended learning outcomes</td><td>Overall objectives are to develop a capacity of measuring and estimating cost of a construction project. To enhance a careful, hard-working, serious, and scientific attitude in measuring and estimating cost..

Students who complete the course will be able to perform the following tasks:
(1) Develop a capacity of measuring and estimating cost.
(2) Enhance a careful, hard-working, serious, and scientific attitude.</td></tr>
<tr><td>Content</td><td>The description of the contents should clearly indicate the weighting of the content and the level.
Weight: lecture session (3 hours)
Teaching levels: I (Introduce); T (teach); U (Utilize)
<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Project requirements and criteria</td><td>1</td><td>I</td></tr>
<tr><td>Volume measurement</td><td>6</td><td>T</td></tr>
<tr><td>Construction rate identification</td><td>3</td><td>T</td></tr>
<tr><td>Cost estimating</td><td>4</td><td>T, U</td></tr>
<tr><td>Oral exam</td><td>1</td><td>T, U</td></tr>
</table></td></tr>
<tr><td>Examination forms</td><td>Constructed-response test</td></tr>
<tr><td>Study and examination requirements</td><td>Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged.
Assignments/Examination: Students must have more than 50/100 points overall to pass this module.</td></tr>
<tr><td>Reading list</td><td>Textbook:
• Duncan Cartlidge, Quantity Surveyor’s Pocket Book, 2009, 1st edition.
References
• Parviz F. Rad, Project Estimating and Cost Management, 2002.</td></tr>
</table>

	• Sean D.C. Ostrowski, Measurement Using the New Rules of Measurement, 2013, 1st edition.

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: Develop a capacity of measuring and estimating cost
(2) CLO2: Enhance a careful, hard-working, serious, and scientific attitude

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1			x		x					
CLO2						x				

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Project requirements and criteria	1		Lecture	
2, 3, 4, 5, 6, 7	Volume measurement	1, 2		Oral	
8, 9, 10	Construction rate identification	1, 2		Oral	
11, 12, 13, 14	Cost estimating	1, 2		Oral	
15	Oral exam	1, 2		Exam	

4. Assessment plan

Assessment Type	CLO1	CLO2
Report/ Attendance (70%)	50%Pass	50%Pass
Oral (30%)		50%Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: June 06, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS
Course Name: CONSTRUCTION COST MANAGEMENT

Course Code: **CM305IU**

1. General Information

Course name	*- (in English): Construction Cost Management* *- (in Vietnamese): Quản lý chi phí xây dựng*
Course designation	*CM305IU – CONSTRUCTION COST MANAGEMENT* *This course is designed to provide students knowledge about cost management for construction projects. The cost management is lasting from pre-contract, procurement, contract signing, post-contract periods to ensure the project budget based on the project scope and quality.*
Course type	☐ *General knowledge* ☐ *Fundamental* *X Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	5
Person responsible for the module	Dr. Nguyen, Hoai Nghia, Dr. Nguyen, Van Tiep, MSc. Nguyen, Pham Duy Phương
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 135 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 45 Private study including examination preparation, specified in hours[1]: 90

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td>Credit points</td><td>3 credits (Theory: 45 + Practice: 0)
4.64 ECTS (optional)</td></tr>
<tr><td>Required and recommended prerequisites for joining the module</td><td>CM202IU (Construction Measurement and Cost Estimating)</td></tr>
<tr><td>Course objectives</td><td>Overall objectives
Upon successful completion of this course, the students should be able to demonstrate knowledge of cost planning and budget setting; understanding requirements and clauses of construction contracts; and understanding cost management during the contract execution.
Students who complete the course will be able to perform the following tasks:
(1) Be able to plan construction project cost and set project budget
(2) Understand requirements and clauses of construction contracts
(3) Understand cost management during the contract execution</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course students will be able to:
<table>
<tr><th>Competency level</th><th>Course learning outcome (CLO)</th></tr>
<tr><td>Knowledge</td><td>CLO2: Understand requirements and clauses of construction contracts
CLO3: Understand cost management during the contract execution</td></tr>
<tr><td>Skill</td><td>CLO1: Be able to plan construction project cost and set project budget</td></tr>
<tr><td>Attitude</td><td>N/A</td></tr>
</table></td></tr>
<tr><td>Content</td><td>The description of the contents should clearly indicate the weighting of the content and the level.
Weight: lecture session (3 hours)
Teaching levels: I (Introduce); T (teach); U (Utilize)
<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Practice procedures</td><td>1</td><td>I</td></tr>
<tr><td>Pre-contract cost management</td><td>4</td><td>I</td></tr>
<tr><td>Procurement systems</td><td>3</td><td>T, U</td></tr>
<tr><td>Construction contracts
Cost control</td><td>4</td><td>T, U</td></tr>
</table></td></tr>
</table>

	Post-contract cost management	2	T, U
	Related Vietnamese laws and regulations	1	I
Examination forms	Constructed-response test		
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.		
Reading list	Textbook: [1] Donald Towey, Cost Management of Construction Projects, 2013, 1st edition. [2] Parviz F. Rad, Project Estimating and Cost Management, 2002.		

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: Be able to plan construction project cost and set project budget
(2) CLO2: Understand requirements and clauses of construction contracts
(3) CLO3: Understand cost management during the contract execution

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1			x	x	x	x				
CLO2		x	x							
CLO3		x	x							

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Practice procedures	1	Homework	Lecture Class discussion	[1] Chapter 1
2, 3, 4, 5	Pre-contract cost management	1	Presentation 1, 2 Homework Quiz	Lecture Class discussion	[1] Chapter 2
6, 7, 8	Procurement systems	2, 3	Presentation 3, 4 Quiz	Lecture Class discussion	[1] Chapter 3, 4
9-10	MIDTERM EXAM				
11, 12, 13, 14	Construction contracts Cost control	2, 3	Presentation 4, 5 Quiz	Lecture Class discussion	[1] Chapter 8
15, 16, 17	Post-contract cost management	2, 3	Homework Quiz	Lecture Class discussion	[1] Chapter 9
17	Related Vietnamese laws and regulations	2, 3	Quiz	Lecture Class discussion	[1] Chapter 10

Week	Topic	CLO	Assessments	Learning activities	Resources
18-19	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
Quizzes (10%)	50%Pass	50%Pass	50%Pass
Presentation (15%)	50%Pass	50%Pass	50%Pass
Attendance (15%)	50%Pass	50%Pass	50%Pass
Midterm Exam (20%)	50%Pass	50%Pass	50%Pass
Final Exam (40%)	50%Pass	50%Pass	50%Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: March 31, 2024

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name: CONSTRUCTION PROCUREMENT AND TENDERING

Course Code: **CM302IU**

1. General Information

Course name	*- (in English): Construction Procurement and Tendering* *- (in Vietnamese): Đấu thầu và mua sắm*
Course designation	*CM302IU – CONSTRUCTION PROCUREMENT AND TENDERING* *This course is designed to provide students knowledge about procurement methods in construction projects. The advantages and disadvantages, procedures, and application of different procurement methods are introduced. The preparation and invitation of tenders are also mentioned in this course.*
Course type	☐ *General knowledge* ☐ *Fundamental* *X Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	5
Person responsible for the module	Dr. Nguyen, Hoai Nghia, Dr. Nguyen, Van Tiep, MSc. Nguyen, Pham Duy Phương
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 135 Contact hours (lecture): 45

<table>
<tr><td></td><td>Private study including examination preparation, specified in hours[1]: 90</td></tr>
<tr><td>Credit points</td><td>3 credits (Theory: 45 + Practice: 0)
4.64 ECTS (optional)</td></tr>
<tr><td>Number of periods</td><td>Theory: 45
Practice: 0</td></tr>
<tr><td>Required and recommended prerequisites for joining the module</td><td>CM305IU (Construction Cost Management)</td></tr>
<tr><td>Course objectives</td><td>Overall objectives
Students who complete the course will be able to perform the following tasks:
(1) Be able to brief the rights, duties and responsibilities of project team members
(2) Understand different procurement methods
(3) Understand tender preparation and invitation procedures</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course students will be able to:
<table>
<tr><th>Competency level</th><th>Course learning outcome (CLO)</th></tr>
<tr><td>Knowledge</td><td>CLO3: Understand tender preparation and invitation procedures</td></tr>
<tr><td>Skill</td><td>CLO2: Understand different procurement methods</td></tr>
<tr><td>Attitude</td><td>CLO1: Be able to brief the rights, duties and responsibilities of project team members</td></tr>
</table></td></tr>
<tr><td>Content</td><td>The description of the contents should clearly indicate the weighting of the content and the level.
Weight: lecture session (3 hours)
Teaching levels: I (Introduce); T (teach); U (Utilize)
<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Briefing the project team</td><td>1</td><td>I</td></tr>
<tr><td>Procurement methods</td><td>5</td><td>T, U</td></tr>
</table></td></tr>
</table>

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

	Preparing for tenders	4	T, U
	Inviting tenders Negotiating and contract awarding	4	T, U
	Related Vietnamese laws and regulations	1	I
Examination forms	Constructed-response test		
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.		
Reading list	Textbook: [1] Mark Hackett and Gary Statham, The Aqua Group Guide to Procurement, Tendering and Contract Administration, 2016, 2nd edition. [2] Martin Brook, Estimating and Tendering for Construction Work, 2008, 4th edition.		

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: Be able to brief the rights, duties and responsibilities of project team members
(2) CLO2: Understand different procurement methods
(3) CLO3: Understand tender preparation and invitation procedures

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x			x	x				
CLO2		x			x	x				
CLO3		x			x	x				

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Briefing the project team	1		Lecture Class discussion	[1] Chapter 1
2, 3, 4, 5, 6	Procurement methods	2	Quiz 1	Lecture Class discussion	[1] Chapter 2
7, 8	Preparing for tenders	3	Presentation 1, 2 Quiz	Lecture Class discussion	[1] Chapter 3, 4
9-10	MIDTERM EXAM		Written exam		
11, 12	Preparing for tenders	3	Presentation 3, 4 Quiz	Lecture Class discussion	[1] Chapter 8
13, 14, 15, 16	Inviting tenders Negotiating and contract awarding	3	Presentation 5, 6, 7 Quiz	Lecture Class discussion	[1] Chapter 9

Week	Topic	CLO	Assessments	Learning activities	Resources
17	Related Vietnamese laws and regulations	3	Quiz	Lecture Class discussion	[1] Chapter 10
18-19	FINAL EXAM		Written exam		

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
In-class exercises/quizzes (10%)	50%Pass	50%Pass	50%Pass
Homework exercises/ Presentation (15%)			50%Pass
Attendance (15%)	50% Pass	50% Pass	50% Pass
Midterm exam (20%)	50% Pass	50% Pass	
Final exam (40%)		50% Pass	50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: March 31, 2024

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Management

COURSE SYLLABUS

Course Name: Building Information Management

Course Code: **CM310IU**

1. General information

Course name	*- (in English): Building Information Management* *- (in Vietnamese): Hệ thống quản lý thông tin công trình*
Course designation	*Face to Face*
Course type	☐ *General knowledge* ☐ *Fundamental* ☒ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the course is taught	Semester V and/or Semester VI
Person responsible for the course	Dr Nguyễn Văn Tiếp Dr Nguyễn Bá Quang Vinh Dr Phạm Thanh Tùng Dr Trần Thanh Hà
Language	English
Relation to curriculum	Compulsory
Teaching methods	Student-centred approach

<table>
<tr><td>Workload (incl. contact hours, self-study hours)</td><td>(Estimated) Total workload: 150 hours
Contact hours (lecture, in class discussions): 45 hours
Private study including examination preparation, specified in hours[1]: 105</td></tr>
<tr><td>Credit points</td><td>03 credits (Theory: 03 + Practice: 00)
4.64 ECTS</td></tr>
<tr><td>Number of periods</td><td>Theory: 45
Practice: 00</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>N/A</td></tr>
<tr><td>Course objectives</td><td>The aim of the course is to provide students with the insight of Building Information Modeling and its development. The applications of BIM in different partnerships of construction industry are also provided.</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course students will be able to:
<table>
<tr><th>Competency level</th><th>Course learning outcome (CLO)</th></tr>
<tr><td>Knowledge</td><td>CLO1. Have sufficient knowedege regarding BIM fundamentals and its historical development stages
CLO2. Have acquired well-founded knowledge regarding applications of BIM with the involvements of stakeholders including owners, architects, engineers, contractors, subcontractors, and fabricators</td></tr>
<tr><td>Skills</td><td>CL03. conduct construction management research, analyze and interpret BIM data, and use engineering judgments to draw conclusions</td></tr>
<tr><td></td><td></td></tr>
</table></td></tr>
<tr><td>Content</td><td>The course will provide students with knowledge in terms of characteristics of Building Information Modeling and its application in construction industry.</td></tr>
<tr><td>Examination forms</td><td>Quiz
Presentation
Multiple choice questions
Case-based exams</td></tr>
</table>

1 When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Study and examination requirements	**Requirements for successfully passing the module:** To pass this course, the students must: • Achieve a composite mark of at least 50; and • Make a satisfactory attempt at all process assessment tasks. **GRADING POLICY** Grades can be based on the following:

Assessment Component	Assessment form	Percentage %
A1. Process assessment	A1.1 Quiz	10
	A1.2 Presentation	10
	A1.3 Attendance	10
A2. Midterm assessment	A2.1 Mid-term exam	20
A3. Final assessment	A3.1 Final exam	50

COURSE POLICIES

Attendance

Regular and punctual attendance at lectures and seminars is expected in this course. University regulations indicate that if students attend less than eighty percent of scheduled classes, they may be refused final assessment. Exemptions may only be made on eligible medical grounds.

Workload

It is expected that the students will spend at least *six* hours per week studying this course. This time should be made up of reading, research, working on exercises and problems, and attending classes. In periods where they need to complete assignments or prepare for examinations, the workload may be greater.

Over-commitment has been a cause of failure for many students. They should take the required workload into account when planning how to balance study with part-time jobs and other activities.

General Conduct and Behaviour

The students are expected to conduct themselves with consideration and respect for the needs of fellow students and teaching staff. Conduct which unduly disrupts or interferes with a class, such as ringing or talking on mobile phones, is not acceptable and students will be asked to leave the class. The use of laptops is also encouraged during law lessons only to search for materials online. More information on student conduct is available on the university webpage.

Keeping informed

The students should take note of all announcements made in lectures or on the course's Blackboard, and another announced mean of communications. From time to time, the university will send important announcements to their

	university e-mail addresses without providing a paper copy. The students will be deemed to have received this information. **Academic honesty and plagiarism** Plagiarism is the presentation of the thoughts or work of another as one's own. Students are also reminded that careful time management is an important part of the study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting, and the proper referencing of sources in preparing all assessment items. The university regards plagiarism as a form of academic misconduct and has very strict rules regarding plagiarism. **Special consideration** Requests for special consideration (for final examination only) must be made to the Office of Academic Affairs within one week after the examination. General policy and information on special consideration can be found at the Office of Academic Affairs. Absence on the Mid-term is not allowed, or in special cases approved by Lecturer can be replaced with relevant Assignment. **Meeting up with the lecturers after classes** Students must make an appointment via emails if they want to meet up with the lecturer after classes and be on time. If there are any changes to the scheduled time, students must inform the lecturer immediately.
Reading list	**Textbooks:** 1. Eastman, C., Teicholz, P., Sacks, R., and Liston, K. (2011). A guide to Building Information Modeling for Owners, Managers, Designers, Engineers, and Contractors, 2nd ed. New Jersey: John Wiley & Sons. 2. Holzer, D. (2015). The BIM Manager's Handbook: Guidance for professionals in architecture, engineering, and construction. West Sussex: John Wiley & Sons. **References:** 1. Dzambazova, T, Krygiel, E., and Demchak, G. (2009). Introducing Revit Architecture 2010 – BIM for beginners. New Jersey: John Wiley & Sons.

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (1-3) and Program/Student Learning Outcomes (SLO) (1 -10) is shown in the following table:

	SLO									
CLO	a	b	c	d	e	f	g	h	i	j
1			x		x					
2			x		x					
3					x					x

Program Learning Outcome:

a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

e) An ability to grasp, analyze and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

f) An ability to use tools and techniques required for identifying, analyzing, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topics	Learning Outcome	Assessment	Teaching and learning activities	Resources
1-2	**BIM introduction** Introduction BIM: New Tools and New Processes What Is Not BIM Technology? What Are the Benefits of BIM? What Challenges Can Be Expected?	CL01		Lecture Class discussion	Lecture Room
3-5	**BIM tools and parametric modeling** The Evolution to Object-Based Parametric Modeling Parametric Modeling of Buildings Beyond Parametric Shapes BIM Environments, Platforms, and Tools Overview of the Major BIM Design Platforms BIM Platforms BIM model development steps	CL01, CL02	Quiz	Lecture Class discussion	Lecture Room
6-7	**BIM for owners and facility managers** BIM Application Areas for Owners BIM Tool Guide for Owners An Owner and Facility Manager's Building Model Leading the BIM Implementation on a Project	CL02, CL03	Quiz	Lecture Class discussion	Lecture Room
8-9	**BIM for contractors** BIM Processes to Develop a Contractor Building Information Model Reduction of Design Errors Using Clash Detection Quantity Takeoff and Cost Estimating Construction Analysis and Planning Integration with Cost and Schedule Control and Other Management Functions Practice of BIM for contractors	CL02, CL03	Quiz Presentation		Lecture Room

Week	Topics	Learning Outcome	Assessment	Teaching and learning activities	Resources
10-14	**BIM for architects and engineers** Scope of Design Services BIM Use in Design Processes Building Object Models and Libraries Practice of BIM for architecture, structure, M&E	CL02, CL03	Quiz Presentation	Lecture Class discussion	Lecture Room
15	**Related Vietnamese laws and regulations** **Reviews**		Quiz	Lecture Class discussion	

4. Assessment plan

Assessment Type	CLO1	CLO2	CL03
In class evaluation (30%)	50% pass	50% pass	50% pass
Midterm examination (20%)	50% pass	50% pass	50% pass
Final examination (50%)	50% pass	50% pass	50% pass

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Rubrics (optional)

N/A

6. Date revised: June 06, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Management

COURSE SYLLABUS

Course Name: Building Information Management Project

Course Code: **CM312IU**

1. General information

Course name	*- (in English): Building Information Management Project* *- (in Vietnamese): Đồ án hệ thống quản lý thông tin công trình*
Course designation	*Face to Face and Self-Study*
Course type	☐ *General knowledge* ☐ *Fundamental* ☐ *Specialized knowledge* ☒ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the course is taught	Semester V and/or Semester VI
Person responsible for the course	Dr Phạm Thanh Tùng Dr Nguyễn Văn Tiếp Dr Nguyễn Bá Quang Vinh Dr Trần Thanh Hà
Language	English
Relation to curriculum	Compulsory
Teaching methods	Independent research approach

<table>
<tr><td>Workload (incl. contact hours, self-study hours)</td><td>Total workload: 50
Contact hours (lecture and laboratory session): 15
Private study including examination preparation, specified in hours[1]: 35</td></tr>
<tr><td>Credit points</td><td>01 credits (Theory: 00 + Practice: 01)
2.45 ECTS</td></tr>
<tr><td>Number of periods</td><td>Theory: 00
Practice: 30</td></tr>
<tr><td>Required and recommended prerequisites for joining the course</td><td>Building Information Management (CM310IU)</td></tr>
<tr><td>Course objectives</td><td>Students will study how to establish a BIM model and investigate its application for a construction project in practice.</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course students will be able to:
<table>
<tr><td>Competency level</td><td>Course learning outcome (CLO)</td></tr>
<tr><td>Knowledge</td><td>CLO1. synthesize the BIM knowledge learnt
CLO2. understand fundamental steps used for BIM modelling in practice</td></tr>
<tr><td>Skill</td><td>CLO3. use specialized software; and apply tools and techniques for establishing a three-dimensional BIM model for a real case</td></tr>
<tr><td>Attitude</td><td>CLO4. be proactive in carrying out independent research</td></tr>
</table></td></tr>
<tr><td>Content</td><td>The course will provide essential skills for students on how to carry out fundamental steps for Building Information Modelling for a real project. Based on the knowledge learnt and skills, students understand the applicability of BIM models in the construction industry.</td></tr>
<tr><td>Examination forms</td><td>Project Report</td></tr>
</table>

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Study and examination requirements	**Requirements for successfully passing the module:** ● achieve a composite mark of at least 50 ● 80 % is compulsory for the class sessions ● 100% is compulsory for the laboratory sessions **Special consideration** Requests for special consideration (for final examination only) must be made to the Office of Academic Affairs within one week after the examination. General policy and information on special consideration can be found at the Office of Academic Affairs.
Reading list	**Textbooks:** 1. Allen, E. and Rand, P., 2016. Architectural detailing: function, constructibility, aesthetics. John Wiley & Sons. 2. Grondzik, W.T. and Kwok, A.G., 2019. *Mechanical and electrical equipment for buildings*. John wiley & sons. **References:** 1. Holzer, D. (2015). The BIM Manager's Handbook: Guidance for professionals in architecture, engineering, and construction. West Sussex: John Wiley & Sons. 1. Dzambazova, T, Krygiel, E., and Demchak, G. (2009). Introducing Revit Architecture 2010 – BIM for beginners. New Jersey: John Wiley & Sons.

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (1-4) and Program/Student Learning Outcomes (SLO) (a-j) is shown in the following table:

	SLO									
CLO	a	b	c	d	e	f	g	h	i	j
1			x							
2		x	x							
3					x	x				
4							x			

(*) Refer to ABET student outcomes

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessment	Learning activities	Resource
1	Project introduction Illustration of a BIM model development (architecture)	CLO1, CLO2	Attendance	Lecture	
2-3	Illustration of a BIM model development (architecture) cont.	CLO2	Attendance	Lecture	Software
4-6	Illustration of a BIM model development (structure) cont.	CLO2	Attendance	Lecture	Software
7-14	BIM model checking	CLO2, CLO3, CLO4	Attendance Presentation	Oral	
15	Oral exam	CLO1 CLO2 CLO3 CLO4	Defense	Exam	

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3	CLO4
In class evaluation (50%)	50% pass	50% pass	50% pass	50% pass
Final examination (50%)	50% pass	50% pass	50% pass	50% pass

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Rubrics (optional)

6. Date revised: June 06, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Management

COURSE SYLLABUS

Course Name: Construction Jobsite Management

Course Code: **CM402IU**

1. General Information

Course name	- *(in English): Construction Jobsite Management* - *(in Vietnamese): Quản lý thi công công trường*
Course designation	*In this course, students will study roles, responsibilities, and authority of project participants. They also study how to manage project participants, material, safety, waste, and environment. The jobsite layout design and control are also a part of the course*
Course type	☐ *General knowledge* ☐ *Fundamental* ☒ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	7 or 8
Person responsible for the module	Dr. Nguyen, Hoai Nghia, Dr. Nguyen, Van Tiep, MSc. Nguyen, Pham Duy Phương, Dr. Tran Thanh Ha
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 135 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 45

	Private study including examination preparation, specified in hours[1]: 90
Credit points	**03 credits (Theory: 03 + Practice: 00)** **4.64 ECTS**
Number of periods	**Theory: 45** **Practice: 00**
Required and recommended prerequisites for joining the module	None
Module objectives/intended learning outcomes	**Overall objectives** are to provide students with the insight of jobsite management including jobsite layout design and control; labor management, material management, safety management, waste management, and environment management; and meeting skills. Students who complete the course will be able to perform the following tasks: (1) Having knowledge of project participants' roles, responsibilities, and authority (2) Having knowledge of designing and controlling jobsite (3) Having knowledge to manage labor, material, safety, waste, and environment on construction site
Content	*The description of the contents should clearly indicate the weighting of the content and the level.* Weight: lecture session (3 hours) Teaching levels: I (Introduce); T (teach); U (Utilize)

Topic	Weight	Level
Construction project team	2	I
Jobsite layout and control	3	T
Meeting, negotiations, and dispute resolution	2	T
Jobsite labor relations and control	2	T, U
Material management	1	T, U
Personnel and safety management	3	T, U

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

	Waste and environmental management and sustainable construction practices	2	T, U
Examination forms	Constructed-response test		
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.		
Reading list	Textbook: [1] Minks, W.R. and Johnston, H. (2017). *Construction Jobsite Management, 4th ed*. Boston: Cengage Learning. [2] Thomas, H.R. and Ellis, R.D. Jr. (2017). *Construction Site Management and Labor Productivity Improvement*. Virginia: ASCE Press. References: [1] Howarth, T. and Greenwood, D. (2018). *Construction Quality Management – Principle and Practice, 2nd ed*. New York: Routledge. [2] Fisk, E.R. and Reynolds, W.D. (2014). *Construction Project Administration, 10th ed*. New Jersey: Pearson		

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-j) is shown in the following table:

(1) CLO1: A deep understanding of project participants' roles, responsibilities, and authority
(2) CLO2: An enhanced ability to design and control jobsite
(3) CLO2: An enhanced ability to manage labor, material, safety, waste, and environment.

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1	x	x		x	x					
CLO2	x	x		x	x					
CLO3	x			x	x					

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for

managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect, and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Theory

Week	Topic	CLO	Assessment	Learning activities	Resources
1-2	**Construction project team** Roles, responsibilities, and authority of project participants Traditional contract project delivery system Construction management delivery system Design-Build delivery system	1	Quiz 1	Lecture Class discussion	[1] Chapter 1, 2
3-5	**Jobsite layout and control** Material Handling Labor productivity Equipment management Site constraints Jobsite Security Organizing Jobsite layout	1, 2	Quiz 2 Presentation 1	Lecture Class discussion	[1] Chapter 6
6-7	**Meeting, negotiations, and dispute resolution** Partnering meeting and workshop session Contractor's preconstruction	1, 3	Quiz 3	Lecture Class discussion	[1] Chapter 7

Week	Topic	CLO	Assessment	Learning activities	Resources
	planning and organization meeting Project meeting Post project review and evaluation Negotiations Dispute resolution				
8-9	**Jobsite labor relations and control** Labor productivity Jobsite labor organization Labor agreements Supervision and control of labor	1, 3	Quiz 4	Lecture Class discussion	[1] Chapter 8
10	**Material management** Material management plans Material procurement Delivery and receiving Storing Distribution	1, 3	Presentation 2	Lecture Class discussion	[2] Chapter 6
11-13	**Personnel and safety management** Safety policy Accident prevention Substance abuse Personal protective equipment Hazardous materials communication Safety communication Accident reporting and investigation Environmental protection and safety	1, 3	Quiz 5	Lecture Class discussion	[1] Chapter 9
14-15	**Waste and environmental management and sustainable construction practices** Jobsite environmental management plans Waste management in construction phase Storm water management Indoor air quality and requirements during construction	3	Quiz 6	Lecture Class discussion	[1] Chapter 13
16-17	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
In-class exercises/quizzes (10%)	Qz1, Qz2, Qz3, Qz4, Qz5 50%Pass	Qz2 50%Pass	Qz3, Qz4, Qz5, Qz6, 50%Pass
Homework exercises/ Presentation (20%)		Presentation 1 50%Pass	Presentation 2 50%Pass
Midterm exam (20%)	50% Pass	50% Pass	
Final exam (50%)		50% Pass	50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: June 12, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Management

COURSE SYLLABUS

Course Name: Contract Management – FIDIC contracts

Course Code: **CM404IU**

1. General Information

Course name	*CM404IU – Contract Management – FIDIC contracts* *CM404IU – Quản lý hợp đồng – Hợp đồng FIDIC*
Module designation	*In this course, students will study knowledge of construction contract management and the FIDIC contracts.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☒ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	7 or 8
Person responsible for the module	Dr. Nguyen, Hoai Nghia, Dr. Nguyen, Van Tiep, MSc. Nguyen, Pham Duy Phương
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 127.5 Contact hours (lecture, exercise, laboratory session, etc.): 37.5 Private study including examination preparation, specified in hours[1]: 90
Credit points	**3 credits (Theory: 03 + Practice: 00)** **4.64 ECTS**
Number of periods	**Theory: 45**

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

	Practice: 00
Required and recommended prerequisites for joining the module	- Prerequisites: - Corequisites: - Previous course:
Module objectives/intended learning outcomes	**Overall objectives** are to provide students with the insight of contract management and the FIDIC contracts' contents. Students who complete the course will be able to perform the following tasks: (1) Having knowledge of contract management (2) Having knowledge of FIDIC contracts and its applications
Content	*The description of the contents should clearly indicate the weighting of the content and the level.* Weight: lecture session (3 hours) Teaching levels: I (Introduce); T (teach); U (Utilize)

Topic	Weight	Level
Introduction to conditions of contract	1	I
Insurance and security	1	T
Administration of the contract	1	T, U
Defaults and disputes	1	T, U
Subcontracts	1	T, U
Change Orders and Variations	1	T, U
Delays and extensions	1	T, U
Interim valuations	1	T, U
Completion of the project	1	T, U
FIDIC contracts	5	T, U
Related Vietnamese laws and regulations	1	T

Examination forms	Constructed-response test
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged.

	Assignments/Examination: Students must have more than 50/100 points overall to pass this module.
Reading list	Textbook: [1] Goldfayl, G. (2011). Construction contract administration, 2nd ed. Sydney: A UNSW press book. [2] FIDIC contracts. References: [1] Murdoch, J. and Hughes W. (2000). Construction contracts – Law and management, 3rd ed. London: Spon Press

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-j) is shown in the following table:

(1) CLO1: A deep understanding of contract management
(2) CLO2: A deep understanding of FIDIC contracts and its applications

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1	x		x	x						
CLO2	x		x	x			x			

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect, and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as

part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Theory

Week	Topic	CLO	Assessment	Learning activities	Resources
1	**Introduction to conditions of contract** The contract Standard conditions of contract Definitions of contractual terms Contractual obligations The contract documents The works The site Quantities Schedules of rates Special conditions	1	Quiz 1	Lecture Class discussion	[1] Chapter 1
2	**Insurance and security** Insurance Security	1	Quiz 2	Lecture Class discussion	[1] Chapter 2
3	**Administration of the contract** Administration The works Progress and programming of the works Contract sum adjustments Notices	1	Quiz 3	Lecture Class discussion	[1] Chapter 3
4	**Defaults and disputes** Insolvency Default Termination Disputes	1	Quiz 4	Lecture Class discussion	[1] Chapter 4
5	**Subcontracts** Subcontracts Provisional sums Separate contracts	1	Presentation 1	Lecture Class discussion	[1] Chapter 5

Week	Topic	CLO	Assessment	Learning activities	Resources
	Provisional quantities				
6	**Change Orders and Variations** Change orders Variations Procedures Valuations Errors in quantities	1	Quiz 5	Lecture Class discussion	[1] Chapter 6
7	**Delays and extensions** Extensions of time for delay Extensions and reductions of time for variations Delay or disruption costs Counting of days Force majeure	1	Quiz 6	Lecture Class discussion	[1] Chapter 7
8	**Interim valuations** Interim valuations Retention Payment of workers and subcontractors Rise and fall	1	Quiz 7	Lecture Class discussion	[1] Chapter 8
9	**Completion of the project** Practical completion Defects liability period Final claim, certificate and payment	1	Quiz 8	Lecture Class discussion	[1] Chapter 9
10-14	**FIDIC contracts** Introduction and principle Types of FIDIC contracts Responsibilities of the main parties' clauses Management of projects clauses Tests on completion clauses Financial clauses and procedures clauses Suspension and termination clauses Risk, liability, and force majeure clauses Claims, disputes and arbitration clauses	2	Presentation 2	Lecture Class discussion	[2]

Week	Topic	CLO	Assessment	Learning activities	Resources
15	**Related Vietnamese laws and regulations**	2	Quiz 9	Lecture Class discussion	[2]
16-17	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2
In-class exercises/quizzes (10%)	Qz1, Qz2, Qz3, Qz4, Qz5 Qz6, Qz7, Qz8 50%Pass	Qz9 50%Pass
Homework exercises/ Presentation (20%)	Presentation 1 50%Pass	Presentation 2 50%Pass
Midterm exam (20%)	50% Pass	50% Pass
Final exam (50%)	50% Pass	50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: June 12, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name: VALUE ENGINEERING

Course Code: **CM403IU**

1. General Information

Course name	- *(in English): Value Engineering* - *(in Vietnamese): Kỹ thuật giá trị*
Course designation	*In this course, students will study about value engineering (VE) method that is a process to identify opportunities to remove unnecessary costs while assuring that quality, reliability, performance, and other critical factors will meet or exceed the customer's expectations.*
Course type	☐ *General knowledge* ☐ *Fundamental* *X Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	8
Person responsible for the module	Dr. Nguyen, Hoai Nghia
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 135 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 45 Private study including examination preparation, specified in hours[1]: 90
Credit points	3 credits (Theory: 45 + Practice: 0) 4.64 ECTS *(optional)*
Number of periods	Theory: 45

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

	Practice: 0
Required and recommended prerequisites for joining the module	None
Course objectives	This course provides students with related knowledge of value engineering including project scope and budget; preparation of cost models; planning for value engineering services; function analysis; creativity and interpersonal skills; life cycle costing; risk assessment and analysis. Students who complete the course will be able to perform the following tasks: (1) Understand the objectives of value engineering (2) Understand project scope and budget (3) Be able to apply value engineering technique
Course learning outcomes	Upon the successful completion of this course students will be able to:

Competency level	**Course learning outcome (CLO)**
Knowledge	CLO1: Understand the objectives of value engineering CLO2: Understand project scope and budget
Skill	CLO3: Be able to apply value engineering technique
Attitude	

Content

The description of the contents should clearly indicate the weighting of the content and the level.

Weight: lecture session (3 hours)

Teaching levels: I (Introduce); T (teach); U (Utilize)

Topic	Weight	Level
Introduction	1	I
Project scope and budget	2	T
Preparation of cost model	2	T
Planning for VE services	2	T, U
Planning for VE services	1	T, U
Creativity and interpersonal skills	1	T
Life cycle costing	2	T, U
Integrating VE into the construction industry	2	T

	VE applications to risk assessment and analysis	2	T
Examination forms	Constructed-response test		
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.		
Reading list	Textbook: •Alphonse Dell'Isola, Value Engineering: Practical Applications for Design, Construction, Maintenance & Operations, 1997, 1st edition. •John Kelly, Steven Male, Value Management in Design and Construction, 2005, 1st edition.		

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: Understand the objectives of value engineering
(2) CLO2: Understand project scope and budget
(3) CLO3: Be able to apply value engineering technique

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x								
CLO2		x								
CLO3			x	x						

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Introduction	1	Quiz	Lecture Class discussion	
2, 3	Project scope and budget	2	Presentation Quiz	Lecture Class discussion	
4, 5	Preparation of cost model Planning for VE services	1, 3	Presentation Quiz	Lecture Class discussion	
6, 7	Planning for VE services Function analysis	1, 3	Presentation Quiz	Lecture Class discussion	
8	Function analysis	1, 3	Presentation Quiz	Lecture Class discussion	
9	MIDTERM EXAM				
10	Creativity and interpersonal skills	1, 3	Presentation Quiz	Lecture Class discussion	
11, 12	Life cycle costing	1, 3	Presentation Quiz	Lecture Class discussion	
13, 14	Integrating VE into the construction industry	1, 3	Presentation Quiz	Lecture Class discussion	
15, 16	VE applications to risk assessment and analysis	1, 3	Presentation Quiz	Lecture Class discussion	
17	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
In-class exercises/quizzes (10%)	50%Pass	Qz4, Qz5 50%Pass	50%Pass
Homework exercises/ Presentation (30%)		Presentation 1 50%Pass	Presentation 1 50%Pass
Midterm exam (20%)	50% Pass	50% Pass	
Final exam (40%)		50% Pass	50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. **Date revised:** March 31, 2024

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Management

COURSE SYLLABUS

Course Name: Construction Engineering

Course Code: **CE311IU**

1. General information

Course name	*CE311IU – Construction Engineering* *CE311IU – Kỹ thuật thi công*
Module designation	*CE311IU – Construction Engineering* *This course is designed to provide students knowledge about construction engineering, including earthwork, foundation construction, wood construction, concrete construction, masonry construction, and steel construction.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☒ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	3
Person responsible for the module	Dr. Nguyen, Hoai Nghia
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 127.5 Contact hours (lecture, exercise, laboratory session, etc.): 37.5 Private study including examination preparation, specified in hours[1]: 90
Credit points	**3 credits (Theory: 03 + Practice: 00)** **4.64 ECTS**

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Number of periods	**Theory: 45** **Practice: 00**
Required and recommended prerequisites for joining the module	- Prerequisites: - Corequisites: - Previous course: CE304IU - Reinforced concrete 1
Module objectives/intended learning outcomes	**Overall objectives** are to equip CE students with knowledge about construction engineering, including earthwork, foundation construction, wood construction, concrete construction, masonry construction, and steel construction. Students who complete the course will be able to perform the following tasks: (1) Knowing the construction industry and its related matter (2) Caculating the earthwork volume and knowing earthwork construction methodology (3) Calculating the volume and knowing various construction methodology of various construction works such as: foundation, masonry, concrete works, …
Content	*The description of the contents should clearly indicate the weighting of the content and the level.* Weight: lecture session (3 hours) Teaching levels: I (Introduce); T (teach); U (Utilize)

Topic	Weight	Level
Introduction	1	I
Earthmoving materials and operation	2	T, U
Excavating and lifting	1	T, U
Loading and hauling	1	T, U
Compacting and finishing	1	T, U
Foundation	1	T, U
Wood construction	2	T, U
Concrete construction	3	T
Concrete from design	2	T, U
Masonry construction	1	T, U

	Steel construction	1	T
Examination forms	Constructed-response test		
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.		
Reading list	Text book: [1] S. W. Nunnally, (2014). *Construction Methods and Management*, Pearson, 8th edition. [2] R. L. Peurifoy, C. J. Schexnayder, R. L. Schmitt, and A. Shapira. (2018). *Construction Planning, Equipment, and Methods*, McGraw-Hill Education 9th edition.		

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (1-3) and Program/Student Learning Outcomes (SLO) (a -j) is shown in the following table:

	SLO									
CLO	a	b	c	d	e	f	g	h	i	j
1	x									
2			x		x					
3			x		x					

Program Learning Outcome:

a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

e) An ability to grasp, analyze and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

f) An ability to use tools and techniques required for identifying, analyzing, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership
h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.
i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.
j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Introduction	1	HW1	Lecture, Discussion, HW1	[1] Chapter 1
2, 3	Earthmoving materials and operation	2	HW2 and/or Quiz1	Lecture, HW2 and/or Quiz1	[1] Chapter 2
4	Excavating and lifting	2	Presentation HW3 and/or Quiz2	Lecture, HW3 and/or Quiz2	[1] Chapter 3
5	Loading and hauling	2	Presentation HW4 and/or Quiz3	Lecture, HW4 and/or Quiz3	[1] Chapter 4
6	Compacting and finishing	2	Presentation HW5 and/or Quiz4	Lecture, HW5 and/or Quiz4	[1] Chapter 5
7	Foundation	3	Quiz5	Lecture, Quiz5	[1] Chapter 10
8	Wood construction	3	Quiz6	Lecture, Quiz6	[1] Chapter 11
9-10	FINAL EXAM				
11-13	Concrete construction	3	Quiz7	Lecture, Quiz7	[1] Chapter 12
14, 15	Concrete from design	3	HW6	Lecture, HW6	[1] Chapter 13
16	Masonry construction	3	Quiz8	Lecture, Quiz8	[1] Chapter 14
17	Steel construction	3	Quiz9	Lecture, Quiz9	[1] Chapter 15
18-19	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
In-class exercises/quizzes/ attendance (10%)		Qz1, Qz2, Qz3, Qz4 60%Pass	Qz5, Qz6, Qz7, Qz8, Qz9 60%Pass
Homework exercises/ Presentation (20%)	HW1 50%Pass	HW2, HW3, HW4, HW5, 50% Pass Presentations 60% Pass	HW6 50% Pass
Midterm exam (20%)		Q1, Q2, Q3, Q4, Q5, Q6, Q7 50%Pass	
Final exam (50%)			Q1, Q2, Q3, Q4, Q5, Q6, Q7 50%Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: June 06, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Business

COURSE SYLLABUS
Course Name: Business Computing Skills
Course Code: BA120IU

1. General information

Course designation	*This course is designed to combine knowledge of business and information technologies. It explores the breadth of Information and Communications Technology (ICT), including business hardware and software, professional computing ethics and behaviors as well as design information systems. Also, students will be knowledgeable about computing terminology, the fundamentals of database management, presentation graphics and an introduction to data analysis. The course will prepare students to work in a variety of industries, involving business administration, economics, finance, and accounting.*
Semester(s) in which the course is taught	2, 3
Person responsible for the course	Dr. Nguyen, Ngoc Truong Minh
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, Lesson, Practical Problems
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 127.5 Contact hours: 37.5 (7.5 hours of lecture and 30 hours of exercise) Private study including examination preparation, specified in hours[1]: 90
Credit points	**03 credits/4.64 ECTS**
Required and recommended prerequisites for joining the course	None
Course objectives	This course accentuates the abilities of computer systems and their applications in business. The course will provide a solid foundation of knowledge about skills that students must develop to effectively use computerized decision tools for typical business problems. Specific objectives include: ● explore basic relationships of computer products and concepts ● create MS Access objects, enter criteria into data, form expressions and

[1] *When calculating contact time, each contact hour is counted as a full hour because the organization of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.*

create functions, and customize the appearance of forms and reports

- create document templates in MS Word that will help businesses streamline their correspondence, use mail merge, print mailing labels, templates, newsletters, and flyers
- analyze data with practical analysis of real business problems and streamline office tasks to present it in a way the managers can use
- acquire strong ability in using MS Excel software as tools in decision-making. This course will provide a complete learning in MS Excel.

Course Learning Outcomes

Upon the successful completion of this course, students will be able to:

Competency Level	Course Learning Outcomes (CLOs)
Knowledge	CLO1. Summarize different technical knowledge to support management and supervisors. CLO2. Describe written directions and specific documents for business general purposes.
Skills	CLO3. Identify critically the use of information and communications technologies (ICT). CLO4. Classify Internet and office skills including e-mail management, web research, and document exchange. CLO5. Generalize technical computer-based skills needed to prepare documents, presentations, and spreadsheets using Microsoft's Office Suite Software (including Access, Word, and Excel).
Attitude	CLO6. Recognize the advantages and disadvantages of ICT and the Internet in general and in business activities particularly.

Content

The description of the contents should clearly indicate the weighting of the content and the level.

Weight: Lecture Session (01 class)[2]

Learning levels: I (Introduce); R (Re-enforce); M (Master)

Topic	Weight	Level
Introduction to Information Systems	**1**	**I**
Computer Hardware and Software	**1**	**I**
The Internet, Personal Email Account	**1**	**I, R**
MS Access – Creating Relational Tables	**1**	**I, R**
MS Access – Basic and Advanced Queries	**1**	**I, R**
MS Access – Forms and Reports Customization	**1**	**I**
MS Word – Creating Templates	**1**	**I, R**
MS Word – Mail Merge and Protecting Documents	**1**	**I**
MS Excel – Formulas and Functions	**1**	**I**
MS Excel – Charting	**1**	**I**
MS Excel – Pivoting Data (Table and Chart)	**2**	**I, R**
MS Excel – Sorting and Filtering	**1**	**I**
MS Excel – Data Validation, What-If Analysis	**2**	**I, R**
MS Excel – Introduction to VBA	**1**	**I**

[2] *Total: 15 classes; 1 class = 03 periods; 01 period = 50 minutes*

Examination forms	Multiple-Choice Questions, Problem-Solving Questions
Study and examination requirements	***Attendance:*** A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed on the basis of their class participation. Questions and comments are strongly encouraged. ***Assignments/Examination:*** Students must have more than 50/100 points overall to pass this course.
Reading list	[1] James A. O'Brien, George Marakas (2017), Introduction to Information Systems, 12th edition, Mc-Graw Hill. [2] Ron McFadyen (2021), Relational Databases and Microsoft Access 365. [3] Joan Lambert, Microsoft Word 2019 [4] Michael Alexander, Dick Kusleika (2019), Excel 2019 Bible, Wiley. [5] Hector Guerrero (2016), Excel Data Analysis Modeling and Simulation, Springer.

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLOs) (1-6) and Program Intended Learning Outcomes (ILO) (1-9) is shown in the following table:

	ILO									
CLOs	1	2	3	4	5	6	7	8	9	10
1			x							
2			x							
3					x					
4						x				
5						x				
6				x		x				

3. Planned learning activities and teaching methods

Week	Topics	CLOs	Assessments	Learning Activities	Resources
1	Introduction to Information Systems	3,6	In-class Ex.	Lecture, Discussion, Group Work	[1]
2	Computer Hardware and Software	3,6	In-class Ex.	Lecture, Discussion, Group Work	[1]
3	The Internet, Personal Email Account	3,4,6	In-class Ex. Quiz 1	Lecture, Discussion	[1]
4	MS Access – Creating Relational Tables	1,2,5	In-class Ex.	Lecture, Discussion	[2]
5	MS Access – Basic and Advanced Queries	1,2,5	In-class Ex.	Lecture, Discussion	[2]
6	MS Access – Forms and Reports Customization	1,2,5	In-class Ex. Quiz 2	Lecture, Discussion	[2]
7	MS Word – Creating Templates	1,2,5	In-class Ex.	Lecture, Discussion	[3]
8	MS Word – Mail Merge and Protecting Documents	1,2,4, 5	In-class Ex. Quiz 3	Lecture, Discussion	[3]

9-10	Midterm	1,2,3, 4,5,6			
11	MS Excel – Formulas and Functions	1,4,5	In-class Ex.	Lecture, Discussion	[4]
12	MS Excel – Charting	1,4,5	In-class Ex.	Lecture, Discussion	[4]
13	MS Excel – Pivoting Data (Table and Chart)	1,4,5	In-class Ex. Quiz 4	Lecture, Discussion	[4]
14	MS Excel – Sorting and Filtering	1,4,5	In-class Ex.	Lecture, Discussion	[4]
15	MS Excel – Data Validation, What-If Analysis	1,4,5	In-class Ex. Quiz 5	Lecture, Discussion	[4]
16	MS Excel – Introduction to VBA	1,4,5	In-class Ex.	Lecture, Discussion	[5]
17	Revision	1,4,5		Review-Test	
18	Final exam	1,4,5			

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
In-class Exercises/Quizzes (30%)	x 70% Pass	x 70% Pass	x 70% Pass	x 70% Pass	x 70% Pass	x 70% Pass
Midterm Exam (30%)	x 70% Pass	x 70% Pass	x 70% Pass	x 70% Pass	x 70% Pass	x 70% Pass
Final Exam (40%)	x 70% Pass			x 70% Pass	x 70% Pass	

Note: % Pass – Target that % of students having scores greater than 70 out of 100.

5. Rubrics (optional)

5.1. Grading checklist

Grading checklist for Written Reports			
Student: …… **HW/Assignment: ……** **Date: ……** **Evaluator: ……**			
	Max.	**Score**	**Comments**
Technical Content (60%)	**60**		
Abstract clearly identifies purpose and summarizes principal content	**10**		
Introduction demonstrates thorough knowledge of relevant background and prior work	**15**		
Analysis and discussion demonstrate good subject mastery	**30**		
Summary and conclusions appropriate and complete	**5**		
Organization (10%)	**10**		

Distinct introduction, body, conclusions	**5**		
Content clearly and logically organized, good transitions	**5**		
Presentation (20%)	**20**		
Correct spelling, grammar, and syntax	**10**		
Clear and easy to read	**10**		
Quality of Layout and Graphics (10%)	**10**		
TOTAL SCORE	**100**		

5.2. Holistic rubric

Holistic rubric for evaluating the entire document, e.g., exercises/quizzes/HW	
Score	**Description**
5	Demonstrates complete understanding of the problem. All requirements of task are included in response.
4	Demonstrates considerable understanding of the problem. All requirements of task are included.
3	Demonstrates partial understanding of the problem. Most requirements of task are included.
2	Demonstrates little understanding of the problem. Many requirements of task are missing.
1	Demonstrates no understanding of the problem.
0	No response/task not attempted.

Note: This rubric is also used to evaluate questions in an exam.

5.3. Analytic rubric

Criteria	**COMPLETELY FAIL Below 10%**	**INADEQUATE 10% - 49%**	**ADEQUATE 50% - 59%**	**ABOVE AVERAGE 60% - 74%**	**EXEMPLARY ≥ 75%**
Organization and clarification	*No evidence of organization and coherence.*	*Does not organize ideas logically and with clarification. Limited evidence of coherence Ideas lack consistence.*	*Generally organized logically, with evidence of progression. Occasionally, there may be a lack of focus or ideas may be tangential.*	*Clear organization and progression. Responds appropriately and relevantly, although some ideas are underdeveloped.*	*Response is focused, detailed and non-tangential. Shows a high degree of attention to logic and reasoning of points. Clearly leads the reader to the conclusion and stirs thought regarding the topic.*

Originality and usefulness of the analysis	*Shows no ability to identify legal issues or a clear inability to gather the facts.*	*Demonstrates an incomplete grasp of the task. There is no overall sense of creative coherence. Arguments are addressed incompletely.*	*Shows ability to identify legal issues, gather the facts and develop claims. Argument is addressed well but no links with evidence.*	*Shows strong ability to identify legal issues, gather the fact and develop claims as well as link claims with evidence. Overall, an acceptable solution is offered and explained.*	*Shows strong ability to identify legal issues, gather the facts and develop claims as well as link claims with evidence. Satisfactory solutions are offered and supported.*
Use of data/information	*Shows no effort to incorporate information from primary and secondary sources.*	*Shows little information from sources. Poor handling of sources.*	*Shows moderate amount of source information incorporated. Some key points supported by sources. Quotations may be poorly integrated into paragraphs. Some possible problems with source citations.*	*Draws upon sources to support most points. Some evidence may not support arguments or may appear were inappropriate. Quotations integrated well into paragraphs. Sources cited correctly.*	*Draws upon primary and secondary source information in useful and illuminating ways to support key points. Excellent integration of quoted material into paragraphs. Source cited correctly.*
Use of frameworks	*Shows no effort to structure problems in correspondence to theoretical frameworks.*	*Shows limited ability to structure problems in correspondence to theoretical frameworks.*	*Shows effort to link problems with the theoretical frameworks. There are still some mistakes.*	*Shows ability to structure problems in correspondence to theoretical frameworks correctly. Minor mistakes in resolving problems.*	*Shows ability to structure problems in correspondence to theoretical frameworks correctly. The problems are well resolved.*
Quality of arguments	*Shows no effort to construct logical arguments. Fails to support analysis.*	*Shows little attempt to offer support for key claims or to relate evidence to analysis. Reasons offered are irrelevant.*	*Shows argument of poor quality. Weak, undeveloped reasons are offered to support key claims.*	*Shows clear, relevant and logical arguments.*	*Shows identifiable, reasonable and sound arguments. Clear reasons are offered to support key claims.*

6. Date revised: April 21st, 2023

VIETNAM NATIONAL UNIVERSITY HCMC

INTERNATIONAL UNIVERSITY

School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name

Course Name: PRINCIPLES OF ACCOUNTING

Course Code: **BA409IU**

1. General Information

Module designation	In this course, students will study the principles of accounting system and related issues of company accounting management.
Semester(s) in which the module is taught	8
Person responsible for the module	Dr. Nguyen, Hoai Nghia
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 135 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 45 Private study including examination preparation, specified in hours[1]: 90
Credit points	3
Required and recommended prerequisites for joining the module	None
Module objectives/intended learning outcomes	The aim of the course is to provide the general knowledge of accounting principles. The cost and profit management and technique applied to financial management are also provided.

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td></td><td>Students who complete the course will be able to perform the following tasks:
(1) An understanding of general knowledge of accounting principles
(2) An understanding of cost and accounting systems</td></tr>
<tr><td>Content</td><td>The description of the contents should clearly indicate the weighting of the content and the level.
Weight: lecture session (3 hours)
Teaching levels: I (Introduce); T (teach); U (Utilize)
<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Uses of accounting information</td><td>2</td><td>I</td></tr>
<tr><td>Analyzing business transactions</td><td>2</td><td>T</td></tr>
<tr><td>Measuring business income</td><td>2</td><td>T</td></tr>
<tr><td>Completing the accounting cycle</td><td>1</td><td>T, U</td></tr>
<tr><td>Internal control</td><td>1</td><td>T, U</td></tr>
<tr><td>Costing system</td><td>2</td><td>T</td></tr>
<tr><td>Accounting system</td><td>2</td><td>T, U</td></tr>
</table></td></tr>
<tr><td>Examination forms</td><td>Constructed-response test</td></tr>
<tr><td>Study and examination requirements</td><td>Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged.
Assignments/Examination: Students must have more than 50/100 points overall to pass this module.</td></tr>
<tr><td>Reading list</td><td>Textbooks:
1. Needles, B.E. Jr., Powers, M., and Crosson, S.V. (2011), Principles of Accounting, 11th ed, Cengage Learning.
References:
1. Peterson, S. (2014). Construction accounting and financial management, 3rd ed. London: Pearson.
2. Halpin, D.W. and Senior, B.A. (2009). Financial management and accounting fundamentals for construction. John Wiley and Sons.</td></tr>
</table>

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: An understanding of general knowledge of accounting principles
(2) CLO2: An understanding of cost and accounting systems

No.	Program Learning Outcome									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x								
CLO2		x								

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1-2	**Uses of accounting information** Accounting as an Information Decision Makers: The Users of Accounting Accounting Measurement The Forms of Business Organization Generally Accepted Accounting Principles	1	Quiz	Lecture Class discussion	
3-4	**Analyzing business transactions** Depreciation and financial analysis Measurement Issues Double-Entry System Business Transaction Analysis Cash Flows and the Timing of Transactions Recording and Posting Transactions	1	Quiz	Lecture Class discussion	
5-6	**Measuring business income** Profitability Measurement: Issues and Ethics Accrual Accounting The Adjustment Process Using the Adjusted Trial Balance to Prepare Financial Statements Cash Flows from Accrual-Based Information	1	Quiz	Lecture Class discussion	
7	**Completing the accounting cycle** From Transactions to Financial Statements Preparing Closing Entries Reversing Entries: An Optional First Step	2	Quiz	Lecture Class discussion	

Week	Topic	CLO	Assessments	Learning activities	Resources
	The Work Sheet: An Accountant's Tool				
8	**Internal control** Management Issues Related to Internal Control Internal Control: Components, Activities, and Limitations Internal Control over Merchandising Transactions Petty Cash Funds	1	Quiz	Lecture Class discussion	
9	MIDTERM EXAM				
10-13	**Costing system** Product Unit Cost Information and the Management Process Product Costing Systems Job Order Costing in a Manufacturing Company A Job Order Cost Card and the Computation of Unit Cost The Process Costing System Patterns of Product Flows and Cost Flow Methods Computing Equivalent Production Preparing a Process Cost Report Using the FIFO Costing Method Preparing a Process Cost Report Using the Average Costing Method	1,2	Quiz	Lecture Class discussion	
14-16	**Accounting system** Accounting Conventions for Preparing Financial Statements Inventory Cost and Valuation	1.2	Quiz	Lecture Class discussion	

Week	Topic	CLO	Assessments	Learning activities	Resources
	Management Issues Related to Cash and Receivables Management Issues Related to Current Liabilities Management Issues Related to Long-Term Assets Management Issues Related to Contributed Capital Management Issues Related to Issuing Long-Term Debt Performance Measurement: Quality of Earnings Issues Accounting for Partners' Equity Inventory Accounts in Manufacturing Organizations Elements of Product Costs				
17	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
In-class exercises/quizzes (10%)	Qz1, Qz2, Qz3, Qz8, Qz9, Qz10 50%Pass	Qz4, Qz5 50%Pass	Qz6, Qz11 50%Pass
Homework exercises/ Presentation (20%)		Presentation 1 50%Pass	Presentation 1 50%Pass
Midterm exam (20%)	50% Pass	50% Pass	
Final exam (50%)		50% Pass	50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. **Date revised: May 14, 2023**

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
Department of Accounting/School of Business

COURSE SYLLABUS

Course Name: Financial Accounting

Course Code: **BA005IU**

1. General information

Course designation	BA005IU– Financial Accounting is the entry-level course which explores the basis of accounting that would be beneficial to students seeking a degree in the business area. Students will be introduced to the importance of accounting within the business environment and how accounting information can be utilized to facilitate business decisions. Students who decide to choose the Accounting and Finance major may go on to take the course Managerial Accounting or Auditing in the following semesters, which will focus on evaluating and auditing firms, and report information to stakeholders.
Semester(s) in which the course is taught	1, 2
Person responsible for the course	Mr. Vu, Tuan Anh
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, lesson, 2 big quizzes, project

Workload (incl. contact hours, selfstudy hours)	(Estimated) Total workload: 135 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 45 Private study including examination preparation, specified in hours[1]: 90
Credit points	3
Required and recommended prerequisites for joining the course	None
Course objectives	This course develops a basic understanding on the theories, principles, and applications of accounting and financial reporting, essentials in the IFRS standard, including topics such as the theory of debit and credit, accounts, special journals, the accounting cycle, notes and interest, accruals and deferrals, cash, receivables, inventory, fixed assets, and the analysis of financial statements. In general, its primary aim is to provide the basic knowledge in preparing and processing accounting transactions to present financial details in a relevant and effective manner, as well as interpreting this accounting information for different types of external and internal investors, management and other accounting information users.

Course learning outcomes	**Upon the successful completion of this course students will be able to:**	
	Competency level	**Course learning outcome (CLO)**

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Knowledge	CLO1. Identify the importance of accounting information in decision making and the role it plays within the business environment CLO2. Compare the relevant procedures of the accounting information life cycle and transformation of accounting information during this process. CLO3. Differentiate the development of accounting principles and policies through accounting theories and undertakings of the accounting professions
Skill	CLO4. Organize individuals or groups to work together to achieve a goal or solve problems arising from day to day business activities. CLO5: Identify the components that help to organize and assign individuals or groups to work together to achieve a goal or solve problems arising from day to day business activities CLO6: Explain the components that help to organize and assign individuals or groups to work together to achieve a goal or solve problems arising from day to day business activities
Attitude	CLO7: Hold skills and knowledge of global citizens CLO8: Practice skills and knowledge of global

Content

The description of the contents should clearly indicate the weighting of the content and the level.

Weight: lecture session (3 hours)

Teaching levels: I (Introduce); T (Teach); U (Utilize)

Topic	Weight	Level
Introduction to Accounting and Business	1	I, T
Analyzing Transactions	2	T, U

	The Adjusting process	1	T, U
	Completing the Accounting cycle	2	T
	Accounting for merchandising business	2	T, U
	Accounting for Inventories	2	T
	Accounting for Receivables	1	T, U
	Accounting for Fixed Assets	1	T, U
	Accounting for current liabilities	0.5	I, T
	Financial Analysis	0.5	I, T

Examination forms	Multiple-choice questions, short-answer questions
Study and examination requirements	**Attendance:** A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed on the basis of their class participation. Questions and comments are strongly encouraged. **Assignments/Examination:** Students must have more than 50/100 points overall to pass this course.
Reading list	[1] Jerry J Weygandt, Paul D Kimmel, Donald E Kieso, Accounting Principles IFRS Version, Global Edition [2] Carl Warren, Accounting With IFRS Essentials: An Asia Edition, 1st Edition

2. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources

1	**Introduction to Accounting and Business** **- The Nature of Accounting and Business** **- Accounting Equation** **- Financial Statements**	1, 4	Quiz1	Lecture, Discussion, Inclass-Quiz	[1]. [2].
2-3	**Analyzing Transactions** **- Double-entry Accounting System** **- Journalizing Entries and Posting** **Them to Accounts** **- Trial Balance**	3	HW1	Lecture, Inclass-Quiz, HW	[1].
4	**The Adjusting Process** **- Adjusting entries** **- Adjusted Trial Balance**	3	Quiz4	Lecture, Group work	[2].
5-6	**Completing the Accounting Cycle** **- Flow of Accounting Information** **- Closing Entries** **- Accounting Cycle**	2	HW2, Quiz6	Lecture, Group work, HW	[1]. [2].
7	**Accounting for Merchandising Businesses** **- Financial Statements for a Merchandising Business** **- Merchandising Transactions**				
8,10	**Inventories** **- Inventory Costing Methods** **- Reporting Merchandising Inventory in the Financial Statements** **- Estimating Inventory Cost**	3		Lecture, Group work	[2].
9	**Midterm**				

11-12	**Receivables** **- Direct write-off method for Uncollectible Accounts** **- Allowance Method for Uncollectible Accounts**	3	HW3	Lecture, Group work, HW	[2]. [1].
13	**Fixed Assets** **- Plant Asset Expenditures** **- Depreciation Methods**	3		Lecture, Group work	[3].
14	**Fixed Assets** **- Plant Asset Disposals** **- Statement preparation Analysis and**	3	HW4	Lecture, Discussion, HW	[2].
15	**Current liabilities** **- Accounting for liabilities** **- Reporting and Analyzing**	3,4	Quiz15	Lecture, Inclass-Quiz	[1]. [2].
16	**Current liabilities** **- Accounting for liabilities** **- Reporting and Analyzing**			Review-Test	
17	**Final exam**				

3. Assessment plan

Assessment Type	**CLO1**	**CLO2**	**CLO3**	**CLO4**
2 big quizzes (10%)	Qz1 60%Pass	Qz6 60%Pass		Qz15 60%Pass
In-class exercises (20%)	HW2 50%Pass		HW1, HW3, HW4 50%Pass	
Midterm exam (30%)		Q3 50%Pass	Q1, Q2 50%Pass	

Final exam (40%)	Part I 50%Pass		Part II.1,2 50%Pass	Part II.3 50%Pass

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

4. Rubrics (optional)

5. Date revised: July 26, 2022

GRADING RUBRIC FOR WRITTEN COURSEWORK

Criteria	COMPLETELY FAIL Below 30%	INADEQUATE 30% – 49%	ADEQUATE 50% - 69%	ABOVE AVERAGE 70% - 89%	EXEMPLARY ≥ 90%
Organisation and clarification	No evidence of organization and coherence	Does not organize ideas logically and with clarification. Limited evidence of coherence Ideas lack consistence	Generally organized logically, with evidence of progression Occasionally, there may be a lack of focus or ideas may be tangential	Clear organization and progression. Responds appropriately and relevantly, although some ideas are underdeveloped	Response is focused, detailed and nontangential. Shows a high degree of attention to logic and reasoning of points. Clearly leads the reader to the conclusion and stirs thought regarding the topic
Originality and usefulness of the analysis	Shows no ability to identify issues or a clear inability to gather the facts	Demonstrates an incomplete grasp of the task. There is no overall sense of creative coherence. Arguments are addressed incompletely.	Shows ability to identify issues, gather the facts and develop claims. Argument are addressed well but no links with evidence	Shows strong ability to identify issues, gather the fact and develop claims as well as link claims with evidence. Overall, an acceptable solution is offered and explained	Shows strong ability to identify issues, gather the facts and develop claims as well as link claims with evidence. Satisfactory solutions are offered and supported

Use of data/information	Shows no effort to incorporate information from primary and secondary sources	Shows little information from sources. Poor handling of sources	Shows moderate amount of source information incorporated. Some key points supported by sources. Quotations may be poorly integrated into paragraphs. Some possible problems with source citations	Draws upon sources to support most points. Some evidence may not support arguments or may appear where inappropriate. Quotations integrated well into paragraphs. Sources cited correctly	Draws upon primary and secondary source information in useful and illuminating ways to support key points. Excellent integration of quoted material into paragraphs. Source cited correctly
Use of frameworks	Shows no effort to structure problems in correspondence to theoretical frameworks	Shows limited ability to structure problems in correspondence to theoretical frameworks	Shows effort to link problems with the theoretical frameworks. There are still some mistakes	Shows ability to structure problems in correspondence to theoretical frameworks correctly. Minor mistakes in resolving problems	Shows ability to structure problems in correspondence to theoretical frameworks correctly. The problems are well resolved
Quality of arguments	Shows no effort to construct logical arguments. Fails to support analysis	Shows little attempt to offer support for key claims or to relate evidence to analysis. Reasons offered are irrelevant.	Shows argument of poor quality. Weak, undeveloped reasons are offered to support key claims	Shows clear, relevant and logical arguments.	Shows identifiable, reasonable and sound arguments. Clear reasons are offered to support key claims.

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name: PROJECT COMMUNICATION MANAGEMENT

Course Code: **CM405IU**

1. General Information

Course name	*- (in English): Project Communication Management* *- (in Vietnamese): Quản lý thông tin dự án*
Course designation	*CM405IU – PROJECT COMMUNICATION MANAGEMENT* *In this course, students will study the knowledge of project communication management and project document administration.*
Course type	☐ *General knowledge* ☐ *Fundamental* *X Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	7
Person responsible for the module	Dr. Nguyen, Hoai Nghia, Dr. Nguyen, Van Tiep, MSc. Nguyen, Pham Duy Phương
Language	English
Relation to curriculum	Elective
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 135 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 45 Private study including examination preparation, specified in hours[1]: 90

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Credit points	3 credits (Theory: 45 + Practice: 0) 4.64 ECTS *(optional)*
Number of periods	Theory: 45 Practice: 0
Required and recommended prerequisites for joining the module	None
Course objectives	**Overall objectives** The aim of the course is to provide students with the insight of project communication management including the effective communication skills. The procedures to handle and record the project data and documents are also provided. Students who complete the course will be able to perform the following tasks: (1) A deep understanding of project communication management including the effective communication skills (2) A deep understanding of procedures to handle and record the project data and documents
Course learning outcomes	Upon the successful completion of this course students will be able to:

Competency level	**Course learning outcome (CLO)**
Knowledge	CLO1: A deep understanding of project communication management including the effective communication skills
Skill	CLO2: A deep understanding of procedures to handle and record the project data and documents
Attitude	N/A

Content

The description of the contents should clearly indicate the weighting of the content and the level.

Weight: lecture session (3 hours)

Teaching levels: I (Introduce); T (teach); U (Utilize)

Topic	Weight	Level
Decentralization and project management	1	I
Communicating to make space for participation	1	T

	Project leadership and communication	2	T
	Project Communications Management Planning	3	I
	Project Communications Management Executing	2	T, U
	Project Communications Management Monitoring and Control	2	T, U
	Use of construction documents on the jobsite	2	I
	Documentation and record keeping at the jobsite	2	I
Examination forms	Constructed-response test		
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.		
Reading list	Textbook: [1] Lauren, B. (2018). Communicating project management. New York: Routledge. [2] Minks, W.R. and Johnston, H. (2017). Construction Jobsite Management, 4th ed. Boston: Cengage Learning. [3] Fisk, E.R. and Reynolds, W.D. (2014). Construction Project Administration, 10th ed. New Jersey: Pearson References: [1] Project Management Institute. (2016). Construction Extension to the PMBOK, 2nd ed. Pennsylvania: Project Management Institute [2] 2. Project Management Institute. (2003). Construction Extension to A guide to the PMBOK, 1st ed. Pennsylvania: Project Management Institute.		

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-2) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: A deep understanding of project communication management including the effective communication skills
(2) CLO2: A deep understanding of procedures to handle and record the project data and documents

No.	Program Learning Outcome									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x				x	x			
CLO2							x	x		

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities
1	**Decentralization and project management** Decentralization Decentralized Development Teams Decentralization and Development Methodologies Agile Development Lean Development How Decentralization Influences the Role of Project Manager Decentralized Project Communication	1	Quiz	Lecture Class discussion
2	**Communicating to make space for participation** Efficiency in Communicating Communicating Efficiency and Participation Participation Leads to Efficiency Theorizing Making Space Through Communication Extensions of Social Space Locating Agency in Participation	1	Quiz Presentation	Lecture Class discussion
3, 4	**Project leadership and communication** Communicating Leadership, Positionality, and Identity Leadership Values Teach Methods of Effective Collaboration Learn About Teams and Organizations Communicate to Include Be Responsible to the Team Empathize with People Keep People on Task Assign Roles to Individuals and Teams Communicate to Clarify the Goal Be Responsible to the Project Empathize to Motivate Action	1	Quiz Presentation	Lecture Class discussion
5, 6, 7	**Project Communications Management Planning** Communications Management Plan Project Documentation Assessment Communications Skills	2	Quiz	Lecture Class discussion

Week	Topic	CLO	Assessments	Learning activities
	Corporate Communication and Social Responsibility Communication Flow for Construction Change Orders, Requests for Information (RFIs), Instructions, and Variation Requests Daily Report Information and Communication Technology (ICT), Project Management Information System (PMIS)			
8, 11	**Project Communications Management Executing** Managing Conflict Managing Meetings Project Documentation and Information Distribution	2	Quiz Presentation	Lecture Class discussion
9-10	MIDTERM EXAM			
12, 13	**Project Communications Management Monitoring and Control** Performance and Progress Reports Other Reporting Systems Contractor Performance Evaluation (CPE)	2	Quiz Presentation	Lecture Class discussion
14, 15	**Use of construction documents on the jobsite** The construction documents Use of the construction documents	2	Quiz	Lecture Class discussion
16, 17	**Documentation and record keeping at the jobsite** Report types and content Cost documentation Correspondence Contractual requirement documentation Meeting minutes Shop drawings	2	Quiz	Lecture Class discussion
18-19	FINAL EXAM			

4. Assessment plan

Assessment Type	CLO1	CLO2
In-class exercises/quizzes (10%)	50%Pass	50%Pass
Homework exercises/ Presentation (10%)	50%Pass	50%Pass
Attendance (10%)	50%Pass	50%Pass
Midterm exam (20%)	50% Pass	50% Pass
Final exam (50%)		50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. **Date revised:** March 31, 2024

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name: CONSTRUCTION QUALITY MANAGEMENT

Course Code: **CM406IU**

1. General Information

Course name	- *(in English): Construction Quality Management* - *(in Vietnamese): Quản lý chất lượng thi công*
Course designation	*CM406IU – CONSTRUCTION QUALITY MANAGEMENT* *In this course, students will study key theories of quality management and plans for quality assurance and control. Requirements of quality assurance and control during construction process are also mentioned.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☒ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	7
Person responsible for the module	Dr. Nguyen, Hoai Nghia, Dr. Nguyen, Van Tiep, MSc. Nguyen, Pham Duy Phương, Dr. Tran Thanh Ha
Language	English
Relation to curriculum	Elective
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 135 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 45

	Private study including examination preparation, specified in hours[1]: 90
Credit points	**03 credits (Theory: 03 + Practice: 00)** **4.64 ECTS**
Number of periods	**Theory: 45** **Practice: 00**
Required and recommended prerequisites for joining the module	None
Module objectives/intended learning outcomes	**Overall objectives** The aim of the course is to equip students with knowledge of quality assurance and control (QAQC) planning and practices during construction period. Students who complete the course will be able to perform the following tasks: (1) A deep understanding of quality management theories (2) An enhanced ability to develop QAQC plans and to apply plans in practice
Content	*The description of the contents should clearly indicate the weighting of the content and the level.* Weight: lecture session (3 hours) Teaching levels: I (Introduce); T (teach); U (Utilize)

Topic	Weight	Level
An overview of the key quality philosophy	2	I
Measuring project performance	2	I
Total Quality Management	2	T, U
Construction quality assurance and control program	2	T, U
Construction project quality management procedure	4	T, U
Quality management systems for health and safety in construction	2	T, U

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

	Related Vietnamese laws and regulations	1	I
Examination forms	Constructed-response test		
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.		
Reading list	Textbook: [1] Howarth, T. and Greenwood, D. (2018). Construction Quality Management – Principle and Practice, 2nd ed.. New York: Routledge. References: [1] Minks, W.R. and Johnston, H. (2017). Construction Jobsite Management, 4th ed. Boston: Cengage Learning. [2] Thomas, H.R. and Ellis, R.D. Jr. (2017). Construction Site Management and Labor Productivity Improvement, Virginia: ASCE Press. [3] Fisk, E.R. and Reynolds, W.D. (2014). Construction Project Administration, 10th ed. New Jersey: Pearson.		

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-2) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: A deep understanding of quality management theories
(2) CLO2: An enhanced ability to develop QAQC plans and to apply plans in practice

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x			x	x				
CLO2		x			x	x				

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1, 2	**An overview of the key quality philosophy** Defining quality Quality theories	1	Quiz	Lecture Class discussion	[1] Chapter 1
3, 4	**Measuring project performance** Developments of key performance indicators Construction KPI Benchmarking	1	Quiz	Lecture Class discussion	[1] Chapter 2
5, 6	**Total Quality Management** Purpose Procedure Continuous improvement Quality plan	1	Quiz Presentation	Lecture Class discussion	[1] Chapter 3, 4
7, 8, 11	**Construction quality assurance and control program** Quality requirement	2	Quiz Presentation	Lecture Class discussion	[1] Chapter 4

Week	Topic	CLO	Assessments	Learning activities	Resources
	Quality management system Quality assurance Quality control QAQC and roles of construction project personnel				
9-10	MIDTERM EXAM				
12, 13, 14, 15	**Construction project quality management procedure** Contract requirement Project stakeholder requirement Quality Policy QAQC plans Quality checklist Jobsite quality control team Testing and inspection QAQC before work execution QAQC during work execution QAQC after work execution Acceptance QAQC documents Related Vietnamese regulations	2	Quiz Presentation	Lecture Class discussion	[1] Chapter 8
16, 17	**Quality management systems for health and safety in construction** Essential components of occupational health and safety management systems Benefit and problems associated with OHS management systems Health and safety management standards and guidance documents Developing an OHS management system	2	Quiz Presentation	Lecture Class discussion	[1] Chapter 9
17	**Related Vietnamese laws and regulations**	2	Quiz	Lecture Class discussion	[1] Chapter 10

Week	Topic	CLO	Assessments	Learning activities	Resources
18-19	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2
In-class exercises/quizzes (10%)	50%Pass	50%Pass
Homework exercises/ Presentation (10%)	50%Pass	50%Pass
Attendance (10%)	50%Pass	50%Pass
Midterm exam (20%)	50% Pass	50% Pass
Final exam (50%)		50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: June 06, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name: PROJECT INTEGRATION MANAGEMENT

Course Code: **CM407IU**

1. General Information

Course name	*- (in English): Project Integration Management* *- (in Vietnamese): Quản lý tích hợp dự án*
Course designation	*CM407IU – PROJECT INTEGRATION MANAGEMENT* *In this course, students will study the knowledge of project integration management throughout the project phases.*
Course type	☐ *General knowledge* ☐ *Fundamental* *X Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	7
Person responsible for the module	Dr. Nguyen, Hoai Nghia, Dr. Nguyen, Van Tiep, MSc. Nguyen, Pham Duy Phương
Language	English
Relation to curriculum	Elective
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 135 Contact hours (please specify whether lecture): 45 Private study including examination preparation, specified in hours[1]: 90
Credit points	3 credits (Theory: 45 + Practice: 0) 4.64 ECTS *(optional)*
Number of periods	Theory: 45

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td></td><td>Practice: 0</td></tr>
<tr><td>Required and recommended prerequisites for joining the module</td><td>None</td></tr>
<tr><td>Course objectives</td><td>Overall objectives

The aim of the course is to provide students with the holistic viewpoint of project integration management. Students are also provided with step by step of project integration management throughout project phases.

Students who complete the course will be able to perform the following tasks:

(1) A deep understanding of holistic viewpoint of project integration management
(2) A deep understanding of procedures of project integration management throughout project phases.</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course students will be able to:
<table>
<tr><th>Competency level</th><th>Course learning outcome (CLO)</th></tr>
<tr><td>Knowledge</td><td>CLO1: A deep understanding of holistic viewpoint of project integration management</td></tr>
<tr><td>Skill</td><td>CLO2: A deep understanding of procedures of project integration management throughout project phases.</td></tr>
<tr><td>Attitude</td><td>N/A</td></tr>
</table></td></tr>
<tr><td>Content</td><td>The description of the contents should clearly indicate the weighting of the content and the level.
Weight: lecture session (3 hours)
Teaching levels: I (Introduce); T (teach); U (Utilize)
<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Fundamentals</td><td>1</td><td>I</td></tr>
<tr><td>Project charter</td><td>2</td><td>I</td></tr>
<tr><td>Project management plans and documents</td><td>3</td><td>T</td></tr>
<tr><td>Project requirement</td><td>1</td><td>T</td></tr>
<tr><td>The scoping of projects</td><td>1</td><td>I</td></tr>
</table></td></tr>
</table>

	Project work breakdown structure	1	T, U
	The directing and managing of the work performed in projects	1	T, U
	The monitoring and controlling of the work performed in projects	1	I
	The integrating and controlling of the changes occurring in projects	1	I
	The controlling and validating of the scope of projects	2	I
	The closing of a project/phase	1	I
Examination forms	Constructed-response test		
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.		
Reading list	Textbook: [1] Sokowski, D.W. (2015). Mastering project management integration and scope. New Jersey: Pearson. References: [1] Project Management Institute. (2016). Construction Extension to the PMBOK, 2nd ed. Pennsylvania: Project Management Institute. [2] Project Management Institute. (2003). Construction Extension to A guide to the PMBOK, 1st ed. Pennsylvania: Project Management Institute.		

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-2) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: A deep understanding of holistic viewpoint of project integration management
(2) CLO2: A deep understanding of procedures of project integration management throughout project phases.

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x			x					
CLO2		x			x					

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities
1	**Fundamentals** The Holistic Viewpoint of Project Integration Management The PMBOK® View of Project Integration Management Some Fundamental Terms and Concepts	1	Quiz	Lecture Class discussion
2, 3	**Project charter** Project Charter—The Single Point of Reference (SPOR) for the Project	2	Quiz	Lecture

Week	Topic	CLO	Assessments	Learning activities
	Inputs to and Activity Tasks for Writing a Project Charter Project Stakeholders Enterprise Environmental Factor Considerations Project Service Provider Engagement The Output: The Project Charter			Class discussion
4, 5, 6	**Project management plans and documents** Project Management Planning The Project Management Master Plan The Change Management Plan The Communications Management The Configuration Management Plan The Cost Baseline The Cost Management Plan The Human Resource Management Plan The Process Improvement Plan The Procurement Management Plan. The Quality Management Plan The Requirements Management Plan. The Risk Management Plan The Schedule Baseline The Schedule Management Plan The Scope Baseline The Scope Management Plan The Stakeholder Management Plan	2	Quiz Presentation	Lecture Class discussion
7	**Project requirement** Understanding Requirements Requirement Classification and Traceability Collecting and Documenting Requirements	2	Quiz Presentation	Lecture Class discussion
8	**The scoping of projects** The PMBOK® Process Define Scope The Holistic View of the scoping of Projects	2	Quiz	Lecture Class discussion
9-10	MIDTERM EXAM			
11	**Project work breakdown structure** The PMBOK® Process Create WBS The Making of a Work (or Scope) Breakdown Structure (WBS or SBS) A WBS Case in Point	2	Quiz Presentation	Lecture Class discussion
12	**The directing and managing of the work performed in projects** The PMBOK® Process Direct and Manage Project Work	2	Quiz Presentation	Lecture Class discussion

Week	Topic	CLO	Assessments	Learning activities
	The Holistic View of Directing and Managing the Work Performed in Projects. Tools and Techniques Aspects of Managing and Leading the Execution of Projects From and For Practical Project Cases			
13	**The monitoring and controlling of the work performed in projects** The PMBOK® View of Monitoring and Controlling Project Work The Holistic View of Monitoring and Controlling Project Work From and for Practical Project Cases	2	Quiz	Lecture Class discussion
14	**The integrating and controlling of the changes occurring in projects** The PMBOK® Process Perform Integrated Change Control The Holistic View of Integrating and Controlling the Changes Occurring in Projects From and for Practical Project Cases	2	Quiz	Lecture Class discussion
15, 16	**The controlling and validating of the scope of projects** The PMBOK® Processes to Validate and Control The Holistic View of the Controlling and Validating of the Scope of Projects From and for Practical Project Cases	2	Quiz	Lecture Class discussion
17	**The closing of a project/phase** The PMBOK® Process Close Project or Phase The Holistic View of the Closing of a Project or a Phase The Project Closure Acceptance Documentation (PCAD)	2	Quiz	Lecture Class discussion
18-19	FINAL EXAM			

4. Assessment plan

Assessment Type	CLO1	CLO2
In-class exercises/ quizzes (10%)	50%Pass	50%Pass
Homework exercises /Presentation (10%)		50%Pass
Attendance (10%)	50% Pass	50% Pass
Midterm exam (20%)	50% Pass	50% Pass
Final exam (50%)		50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. **Date revised:** 31 March, 2024

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC

INTERNATIONAL UNIVERSITY

School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name

Course Name: QUALITY MANAGEMENT

Course Code: **BA018IU**

1. General information

Course designation	*This course introduces the principles of quality management, with emphasis on cross functional problem solving; providing a basic understanding of the philosophy, conceptual frameworks and the tools of the Total Quality Management.*
Semester(s) in which the course is taught	
Person responsible for the course	
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, Tutorial, Assignment, Case Analysis, Quizzes, Group Project
Workload (incl. contact hours, self-study hours)	*(Estimated) Total workload:* *Contact hours (please specify whether lecture, exercise, laboratory session, etc.):* *Private study including examination preparation, specified in hours[1]:*
Credit points	3

[1] When calculating contact time, each contact hour is counted as a full hour because the organization of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Required and recommended prerequisites for joining the course	Production and Operations Management
Course objectives	Understanding of quality terminology and concepts Explaining the relationships of quality management and firm performance Identifying and analyzing organizational and environmental factors that drive quality improvement Understanding Total Quality Management concepts and apply quality control tools Implementation of Plan, Do, Study and Act Cycles Analyzing and evaluating a Define-Measure-Analyze-Improve-Control Project and applying it in practice
Course learning outcomes	Students who complete the course will be able to perform the following tasks: (1) Develop an appreciation of quality management theory, principles, and practices. and strategies for organizational change and transformation (2) Learn within teams (such skills as task assignment and management, conflict resolution and co-operation, consensus building, leadership, and effective communication) and Provide professional business presentations (both oral and written)
Content	Introduction to the principles of quality management, with an emphasis on cross-functional problem solving. This course will provide a basic understanding of the philosophy, conceptual frameworks and the tools of the Total Quality Management.
Examination forms	Multiple choice questions Case study exercises Open-ended questions/problems

Study and examination requirements	To pass this course, the students must: • Achieve a composite mark of at least 50; and • Make a satisfactory attempt at all assessment tasks (see below). **COURSE POLICIES** **Attendance** Regular and punctual attendance at lectures and seminars is expected in this course. University regulations indicate that if students attend less than eighty percent of scheduled classes they may be refused final assessment. Exemptions may only be made on eligible medical grounds. **Workload** It is expected that the students will spend at least *eight* hours per week studying this course. This time should be made up of reading, research, working on exercises and problems, and attending classes. In periods where they need to complete assignments or prepare for examinations, the workload may be greater. Over-commitment has been a cause of failure for many students. They should take the required workload into account when planning how to balance study with part-time jobs and other activities. **General Conduct and Behaviour** The students are expected to conduct themselves with consideration and respect for the needs of fellow students and teaching staff. Conduct which unduly disrupts or interferes with a class, such as ringing or talking on mobile phones, is not acceptable and students will be asked to leave the class. The use of laptops is also encouraged during law lessons only to search for materials online. More information on student conduct is available on the university webpage. **Keeping informed** The students should take note of all announcements made in lectures or on the course's Blackboard, and another announced mean of communications. From time to time, the university will send important announcements to their university e-mail addresses without providing a paper copy. The students will be deemed to have received this information. **Academic honesty and plagiarism** Plagiarism is the presentation of the thoughts or work of another as one's own. Students are also reminded that careful time management is an important part of the study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting, and the proper referencing of sources in preparing all assessment items. The university regards plagiarism as a form of academic misconduct and has very strict rules regarding plagiarism.

	Special consideration Requests for special consideration (for final examination only) must be made to the Office of Academic Affairs within one week after the examination. General policy and information on special consideration can be found at the Office of Academic Affairs. Absence on the Mid-term is not allowed, or in special cases approved by Lecturer can be replaced with relevant Assignment. **Meeting up with the lecturers after classes** **Students must make an appointment via emails if they want to meet up with the lecturer after classes and be on time. If there are any changes to the scheduled time, students must inform the lecturer immediately.**

Reading list	**Textbooks:** - Howard S. Gitlow et. al., Quality Management - 3rd edition, McGraw Hill, 2005. **Reference:** - Evans, Managing for quality and performance excellence -7th edition, Cengage Learning. - D.L. Goetsch and Stanley B. Davis, Quality Management- 5th edition, PrenticeHall, 2006.

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: Develop an appreciation of quality management theory, principles, and practices. and strategies for organizational change and transformation

(2) CLO2: Learn within teams (such skills as task assignment and management, conflict resolution and co-operation, consensus building, leadership, and effective communication) and Provide professional business presentations (both oral and written)

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x								
CLO2						x		x		

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management

performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Introduction to Quality Management Fundamentals of quality: process basics, types of quality, relationship between quality and cost and productivity.	1			
2	**Why Total Quality Management (TQM)** Definitions and basic principles How to realize TQM: three components of TQM, quality and global competitiveness, environment of today. Why Total Quality Management in a Knowledge-Based Economy? Students to form work groups Weekly Quiz	1			
3	**Introducing the Three Pillars of TQM** Quality Planning: Quality parameters- needs of customers and employees. Quality Control: Measuring and process analysis	1, 2			

	Quality Improvement & Problem Solving Method Weekly Quiz				
4	**Behavioral Component of TQM** Establishing a quality culture, conditions for a successful TQM policy, increasing the quality of cooperation processes, TQM & the strategy of change, behavioral component Plan-Do-Study-Act Cycle Discussing Quality Improvement (QI) Story Weekly Quiz	1, 2			
5	**Management components of TQM**: Role of Top Management/ Task-oriented meetings. Roadmap to Business Excellence Barriers to Quality Management Role play Discussing Quality Improvement (QI) Story Weekly Quiz	1, 2			
6	**Technical components of TQM** Quality tools (pareto chart, check sheet, cause-and-effect diagram, histogram, scatter diagram, flow chart) Discussing Quality Improvement (QI) Story	1, 2			
7	Practice quality tools (pareto chart, check sheet, cause-and-effect diagram, histogram, scatter diagram, flow chart) Weekly Quiz	1, 2			
8	Midterm				
9	Process Diagnosis	1, 2			

	Process diagnosis: process variation Diagnostic tools: root-cause analysis, stratification Change concepts				
10	Control charts Stabilizing and improving a process with control charts. Attribute control charts. Variables control charts How to read a control chart: 7 rules. Weekly Quiz				
11	Practice control charts (various attribute and variables control charts) Weekly Quiz	1, 2			
12	Taguichi Loss Function Process Capability (process capability ratio and process capbility index) Team Presentations Weekly Quiz	1, 2			
13	**Six Sigma Quality** Define-Measure-Analyze-Improve-Control (DMAIC) Approach Tools used in Define and Measure Phases Discussing DMAIC Case Team Presentations Weekly Quiz	2			
14	**Six Sigma Quality** Define-Measure-Analyze-Improve-Control (DMAIC) Approach Tools used in Analyze, Improve and Control Phases Discussing DMAIC Case Team Presentations Weekly Quiz	1			
15	Inspection Policy ISO Standards Course Review Team Presentations	1, 2			
16	Final exam				

4. Assessment plan

Assessment Type	CLO1	CLO2
In-class exercises/quizzes (10%)	Qz1, Qz2, Qz3, Qz8, Qz9, Qz10 50%Pass	Qz4, Qz5 50%Pass
Homework exercises/ Presentation (30%)		Presentation 1 50%Pass
Midterm exam (20%)	50% Pass	50% Pass
Final exam (40%)		50% Pass

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Rubrics (optional)GRADING RUBRIC FOR WRITTEN COURSEWORK

MIDTERM EXAMINATION – Subject (ID subject)

Academic year: 2022 – 2023 (term …)

Criteria	INADEQUATE 10% – 49%	ADEQUATE 50% - 59%	ABOVE AVERAGE 60% - 74%	EXEMPLARY ≥ 75%
Organisation and clarification	Does not organise ideas logically and with clarification. Limited evidence of coherence Ideas lack consistence	Generally organised logically, with evidence of progression Occasionally, there may be a lack of focus or ideas may be tangential	Clear organization and progression. Responds appropriately and relevantly, although some ideas are underdeveloped.	Response is focused, detailed and non-tangential. Shows a high degree of attention to logic and reasoning of points. Clearly leads the reader to the conclusion and stirs thought regarding the topic
Originality and usefulness of the analysis	Demonstrates an incomplete grasp of the task. There is no overall sense of creative coherence. Arguments are addressed incompletely.	Shows ability to identify legal issues, gather the facts and develop claims. Argument are addressed well but no links with evidence	Shows strong ability to identify legal issues, gather the facts and develop claims as well as link claims with evidence. Overall, an acceptable solution is offered and explained	Shows strong ability to identify legal issues, gather the facts and develop claims as well as link claims with evidence. Satisfactory solutions are offered and supported

Use of data/information	Shows little information from sources. Poor handling of sources	Shows moderate amount of source information incorporated. Some key points supported by sources. Quotations may be poorly integrated into paragraphs. Some possible problems with source citations	Draws upon sources to support most points. Some evidence may not support arguments or may appear where inappropriate. Quotations integrated well into paragraphs. Sources cited correctly	Draws upon primary and secondary source information in useful and illuminating ways to support key points. Excellent integration of quoted material into paragraphs. Source cited correctly
Use of frameworks	Shows limited ability to structure problems in correspondence to theoretical frameworks	Shows effort to link problems with the theoretical frameworks. There are still some mistakes	Shows ability to structure problems in correspondence to theoretical frameworks correctly. Minor mistakes in resolving problems	Shows ability to structure problems in correspondence to theoretical frameworks correctly. The problems are well resolved
Quality of arguments	Shows little attempt to offer support for key claims or to relate evidence to analysis. The reasons offered are irrelevant.	Shows argument of poor quality. Weak, undeveloped reasons are offered to support key claims	Shows clear, relevant and logical arguments.	Shows identifiable, reasonable and sound arguments. Clear reasons are offered to support key claims.

6. **Date revised: May 14, 2023**

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name: CONSTRUCTION FINANCIAL MANAGEMENT

Course Code: **CM408IU**

1. General Information

Course name	*CM408IU – Construction Financial Management* *CM408IU – Quản lý tài chính xây dựng*
Module designation	*In this course, students will study the general knowledge of financial management including financial ratio, debt and equity, equity, assets, returns. Students also acquire knowledge management related to costs, cash flow and the tools for making financial decision.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☒ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	7
Person responsible for the module	Dr. Nguyen, Hoai Nghia, Dr. Nguyen, Van Tiep, MSc. Nguyen, Pham Duy Phương
Language	English
Relation to curriculum	Elective
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 127.5 Contact hours (lecture, exercise, laboratory session, etc.): 37.5 Private study including examination preparation, specified in hours[1]: 90
Credit points	**3 credits (Theory: 03 + Practice: 00)**

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

	4.64 ECTS
Number of periods	**Theory: 45** **Practice: 00**
Required and recommended prerequisites for joining the module	- Prerequisites: - Corequisites: - Previous course:
Module objectives/intended learning outcomes	**Overall objectives** The aim of the course is to provide the general knowledge of financial management which applied to construction industry. The cost and profit management and technique applied to financial management are also provided. Students who complete the course will be able to perform the following tasks: (1) An understanding of general knowledge of financial and applications to the construction industry (2) An understanding of cost and profit management and technique applied to financial management
Content	*The description of the contents should clearly indicate the weighting of the content and the level.* Weight: lecture session (3 hours) Teaching levels: I (Introduce); T (teach); U (Utilize)

Topic	Weight	Level
Construction financial management	1	I
Analysis of financial statements	3	I
Managing costs	2	T
Managing general overhead costs	1	T
Set profit margins for bidding	1	T
Profit center analysis	1	T
Cash flows for construction projects	1	T
Cash flow for construction company	1	I
Tools for making financial decisions	4	T, U

Examination forms	Constructed-response test

Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.
Reading list	Textbook: [1] Peterson, S. (2014). Construction accounting and financial management, 3rd ed. London: Pearson. References: [1] Guenther, D. A. (2006). Financial reporting and analysis. New York: McGraw Hill. [2] Halpin, D.W. and Senior, B.A. (2009). Financial management and accounting fundamentals for construction. John Wiley and Sons.

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-2) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: An understanding of general knowledge of financial and applications to the construction industry
(2) CLO2: An understanding of cost and profit management and technique applied to financial management

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x			x					
CLO2		x			x	x				

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions;

to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
1	**Construction financial management** What is financial management? Why is construction financial management different? Who is responsible for construction management? What does a financial manager do?	1	Lecture Class discussion	Quiz
2-4	**Analysis of financial statements** Depreciation and financial analysis Quick ratio Current ratio Current liabilities to net worth ratio Debt to equity ratio Fixed assets to net worth ratio Current assets to total assets ratio Collection period Average age of accounts payable Assets to revenues ratio Working capital turns Accounts payable to revenues ratio Gross profit margin General overhead ratio Profit margin Return on assets Return on equity Months in backlog	1	Lecture Class discussion	Quiz
5-6	**Managing costs** Monitoring and controlling construction costs Target levels for CPI and SPI Determining labor burden	2	Lecture Class discussion	Quiz Presentation

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
7	**Managing general overhead costs** What is general overhead? The general overhead budget Items to include in the general overhead budget Estimating general overhead Types of costs	2	Lecture Class discussion	Quiz Presentation
8	**Set profit margins for bidding** The profit equation Contribution margin Projecting break-even volume of work Projecting break-even contribution margin ratio Adjusting the financial mix Profit and overhead markup	1, 2	Lecture Class discussion	Quiz Presentation
9	**Profit center analysis** Sources of profit Allocation of general overhead Profit center analysis	2	Lecture Class discussion	Quiz Presentation
10	**Cash flows for construction projects** Cash flow for projects with progress payments Cash flow for projects with a single payment	2	Lecture Class discussion	Quiz Presentation
11	**Cash flow for construction company** Incorporating construction operations Incorporating general overhead Income taxes, interest, loan payments, and cash balance Determining the minimum monthly balance Fine-tuning, what-if, and sensitivity analysis	2	Lecture Class discussion	Quiz Presentation
12-15	**Tools for making financial decisions** Sunk costs MARR Adjusting life span Net present value Incremental net present value Future worth Annual equivalent Rate of return Incremental rate of return Capital recovery with return Payback period without interest	2	Lecture Class discussion	Quiz Presentation

Week	Content	Learning Outcome	Teaching and learning activities	Assessment
	Payback period with interest Project balance Noneconomic factors in decision making			

4. Assessment plan

Assessment Type	CLO1	CLO2
In-class exercises/quizzes (10%)	50%Pass	50%Pass
Homework exercises/ Presentation (10%)	50% Pass	50%Pass
Attendance (10%)	50% Pass	50% Pass
Midterm exam (20%)	50% Pass	50% Pass
Final exam (50%)		50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: June 06, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

	VIETNAM NATIONAL UNIVERSITY HCMC **INTERNATIONAL UNIVERSITY** **School of Civil Engineering and Construction Management**

COURSE SYLLABUS

Course Name: Business Communication

Course Code: BA006IU

1. General information

Course designation	*This course is designed to provide students with a strong foundation in communicating at the workplace, focusing on: (1) communicating in the digital-age workplace, (2) developing business writing skills, (3) embracing professionalism at work, (2) developing business presentation skills, (4) preparing for successful job search, resumes, cover letters, and job interviews.*
Semester(s) in which the course is taught	**1, 2**
Person responsible for the course	**Nguyen Vu Anh Tram**
Language	**English**
Relation to curriculum	**Compulsory**
Teaching methods	**Lecture, lesson, project, presentation.**
Workload (incl. contact hours, self-study hours)	**(Estimated) Total workload: 135** **Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 45** **Self-study includes examination preparation, specified in hours[1]: 90**
Credit points	**3**

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Required and recommended prerequisites for joining the course	**None**
Course objectives	This course is designed to give students a comprehensive view of communication, its scope and importance in business, and the role of communication in establishing a favourable outside the firm environment, as well as an effective internal communications program. The various types of business communication media are covered. This course also develops an awareness of the importance of succinct written expression to modern business communication.
Course learning outcomes	**Upon the successful completion of this course students will be able to:**

Competency level	Course learning outcome (CLO)
I	LO1. Identify the role and process of communication, as well as different communication methods (listening, speaking, writing)
R	LO2. Discuss contemporary trends, opportunities and challenges of communication in the digital-age workplace
M	LO3. Effectively perform different types of business communication, including business writings, oral presentation and employment correspondence

Content

The description of the contents should clearly indicate the weighting of the content and the level.

Weight: lecture session (3 hours)

Teaching levels: I (Introduce); T (Teach); U (Utilize)

Topic	Weight	Level
Communicating in the Digital-Age Workplace	1	I
Professionalism at Work: Business Etiquette, Ethics, Teamwork, and Meetings	1	T
Business Presentations	1	T, U
Planning Business Messages	0.5	I, T
Organizing and Drafting Business Messages	0.5	I, T
Revising Business Messages	0.5	I, T
Short Workplace Messages and Digital Media	0.5	I, T
Positive Messages	1	T, U
Negative Messages	1	T, U
Persuasive and Sales Messages	1	T, U
Informal Reports	1	I, T
Proposals and Formal Reports	1	I, T
The Job Search and Resumes in the Digital Age	1	T, U
Interviewing and Following Up	1	T, U

Examination forms	**Short-answer questions, Messages writing questions**
Study and examination requirements	. Attend more than 80% of class meetings in order to take the final exam (Your name will be called randomly to answer questions during class disscusion. If you do not show up to answer the question, you will be marked as absent for that class.) . Show respect to the instructor and classmates. . Actively participate in class activities . Fulfil tasks given by instructor after class . Access Blackboard **for announcements, assignments, and materials of the course**
Reading list	**Main textbooks:** **Mary Ellen Guffey & Dana Loewy, Essentials of Business Communication, 11th edition, Thompson South Western.**

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (1-4) and Program/Student Learning Outcomes (SLO) (1-6) is shown in the following table:

CLOs	PLOs									
	a	b	c	d	e	f	g	h	i	j
1						x				
2							x			
3							x	x		

Course Learning Outcomes

- CLO1. Identify the role and process of communication, as well as different communication methods (listening, speaking, writing)
- CLO2. Discuss contemporary trends, opportunities and challenges of communication in the digital-age workplace
- CLO3. Effectively perform different types of business communication, including business writings, oral presentation and employment correspondence

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Chapter 1: Communicating in the Digital-Age Workplace	**2**		**Lecture**	**Textbook, Blackboard**
2	Chapter 11: Professionalism at Work: Business Etiquette, Ethics, Teamwork, and Meetings	**1, 2**	**Assignment 1**	**Lecture**	**Textbook, Blackboard**
3	Chapter 12: Business Presentations	**1 - 3**		**Lecture**	**Textbook, Blackboard**
4	Chapter 2: Planning Business Messages Chapter 3: Organizing and Drafting Business Messages	**1 - 3**		**Lecture**	**Textbook, Blackboard**
5	Chapter 4: Revising Business Messages Chapter 5: Short Workplace Messages	**1 - 3**		**Lecture**	**Textbook, Blackboard**

	and Digital Media				
6	Chapter 6: Positive Messages	**1- 3**	**Assignment 2**	**Lecture**	**Textbook, Blackboard**
7	Chapter 7: Negative Messages	**1 - 3**		**Lecture**	**Textbook, Blackboard**
8	Midterm Review	**1 - 3**	**Presentation**	**Tutorial**	
9	Midterm		**Examination**		
10	Chapter 8: Persuasive and Sales Messages	**3**	**Assignment 3 Presentation**	**Lecture**	**Textbook, Blackboard**
11	Chapter 9: Informal Reports	**3**	**Presentation**	**Lecture**	**Textbook, Blackboard**
12	Chapter 10: Proposals and Formal Reports	**3**	**Presentation**	**Lecture**	**Textbook, Blackboard**
13	Chapter 13: The Job Search and Resumes in the Digital Age	**1 - 3**	**Presentation**	**Lecture**	**Textbook, Blackboard**
14	Chapter 14: Interviewing and Following Up	**3**	**Presentation**	**Lecture**	**Textbook, Blackboard**
15	Group Presentation	**1 - 3**	**Presentation**		
16	Group Presentation	**1 - 3**	**Presentation**		
17	Final exam		**Examination**		

4. Assessment plan

Assessment Type	**CLO1**	**CLO2**	**CLO3**
Presentation (50%)	**A1 70%Pass**	**A1 70%Pass**	**A2 70%Pass**
Midterm exam (20%)		**Q1 60%Pass**	**Q2 60%Pass**
Final exam (30%)		**Q1**	**Q2**

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Date revised: July 12, 2022

GRADING RUBRIC FOR WRITTEN COURSEWORK

MIDTERM EXAMINATION – Subject (ID subject)

Academic year: 2022 – 2023 (term …)

Criteria	INADEQUATE 10% – 49%	ADEQUATE 50% - 59%	ABOVE AVERAGE 60% - 74%	EXEMPLARY ≥ 75%
Organisation and clarification	Does not organise ideas logically and with clarification Limited evidence of coherence Ideas lack consistence	Generally organised logically, with evidence of progression Occasionally, there may be a lack of focus or ideas may be tangential	Clear organization and progression. Responds appropriately and relevantly, although some ideas are underdeveloped	Response is focused, detailed and non-tangential. Shows a high degree of attention to logic and reasoning of points. Clearly leads the reader to the conclusion and stirs thought regarding the topic
Originality and usefulness of the analysis	Demonstrates an incomplete grasp of the task. There is no overall sense of creative coherence. Arguments are addressed incompletely.	Shows ability to identify legal issues, gather the facts and develop claims. Argument are addressed well but no links with evidence	Shows strong ability to identify legal issues, gather the fact and develop claims as well as link claims with evidence. Overall, an acceptable solution is offered and explained	Shows strong ability to identify legal issues, gather the facts and develop claims as well as link claims with evidence. Satisfactory solutions are offered and supported
Use of data/information	Shows little information from sources. Poor handling of sources	Shows moderate amount of source information incorporated. Some key points supported by sources. Quotations may be poorly integrated into paragraphs. Some possible problems with source citations	Draws upon sources to support most points. Some evidence may not support arguments or may appear where inappropriate. Quotations integrated well into paragraphs. Sources cited correctly	Draws upon primary and secondary source information in useful and illuminating ways to support key points. Excellent integration of quoted material into paragraphs. Source cited correctly
Use of frameworks	Shows limited ability to structure problems in correspondence to theoretical frameworks	Shows effort to link problems with the theoretical frameworks. There are still some mistakes	Shows ability to structure problems in correspondence to theoretical frameworks correctly. Minor mistakes in resolving problems	Shows ability to structure problems in correspondence to theoretical frameworks correctly. The problems are well resolved
Quality of arguments	Shows little attempt to offer support for key claims or to relate evidence to analysis. Reasons offered are irrelevant.	Shows argument of poor quality. Weak, undeveloped reasons are offered to support key claims	Shows clear, relevant and logical arguments.	Shows identifiable, reasonable and sound arguments. Clear reasons are offered to support key claims.

VIETNAM NATIONAL UNIVERSITY HCMC

INTERNATIONAL UNIVERSITY

School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name

Course Name: FUNDAMENTALS OF FINANCIAL MANAGEMENT

Course Code: **BA016IU**

1. General information

Course designation	*BA016IU– Fundamentals of Financial Management* provides students with basic concepts of financial management. The course is provided based on foundation knowledge of financial accounting and economics. This course may fulfill requirements of the curriculum for students majoring in business administration in general; however, it is the foundation for students majoring in finance , banking and accounting. For those students that major in finance, banking and accounting, they can take higher level courses in finance after this course, to count for some, Corporate Finance, Financial Institutions and Market, Portfolio Theory and Investment Analysis, International Finance, Business Analysis and Valuation, etc.
Semester(s) in which the course is taught	1, 2
Person responsible for the course	Ms. Tien C. Nguyen
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, lesson, 2 class tests

Workload (incl. contact hours, self-study hours)	*(Estimated) Total workload:* *Contact hours (please specify whether lecture, exercise, laboratory session, etc.):* *Private study including examination preparation, specified in hours[1]:*
Credit points	3
Required and recommended prerequisites for joining the course	Financial Accounting – BA184IU
Course objectives	The aim of this course is to expose students to and familiarize them with the theoretical frameworks and practical matters of financial management.. The learning experience will include: an introduction to financial management; time value of money; techniques of pricing of financial instruments such as bonds and stocks; evaluation of major projects; the relationship between risk and return; an introduction to Capital Asset Pricing Model (CAPM) and Portfolio theory; and cost of capital and capital structuring
Course learning outcomes	Students who complete the course will be able to perform the following tasks: (1) Explain the purpose, goals, and importance of financial management; Understand financial statements; the relationship between risk and return; time value of money; concepts regarding bonds, stocks, and investment projects; capital budgeting alternatives; the concept of cost of capital and capital structure (2) Calculate financial ratios and conduct company's basic financial analysis; convert financial time values; Value bonds, stocks, and investment projects; evaluate capital budgeting alternatives, using the firm's cost of capital in conjunction with internal rate of return and net present value techniques; compute cost of capital and capital structure.
Content	
Examination forms	Multiple-choice questions, short-answer questions, application problems

[1] When calculating contact time, each contact hour is counted as a full hour because the organization of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Study and examination requirements	Attendance: Class Attendance is Mandatory. Roll will be taken by two quizzes' submissions at times of classes. University regulations indicate that if students attend less than eighty percent o f scheduled classes they may be refused final assessment. Exemptions may only be made on medical grounds Assignments/Examination: Students must achieve a composite mark of at least 50; and make a satisfactory attempt at all assessment tasks.
Reading list	[1] Brealey, R.A., Myers, S.C. and Marcus, A.J., *Fundamentals of Corporate Finance*, 5th ed, McGraw Hill 2007 [2] Brigham, E. F. and Houston, J. F. (2007), *Fundamentals of Financial Management*, 11th edn, South- Western [3] Ross, S. A., Westerfield, R. W., and Jordan, B. D. (2010) *Fundamentals of Corporate Finance* - 7th ed, McGraw Hill

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: Explain the purpose, goals, and importance of financial management; Understand financial statements; the relationship between risk and return; time value of money; concepts regarding bonds, stocks, and investment projects; capital budgeting alternatives; the concept of cost of capital and capital structure

(2) CLO2: Calculate financial ratios and conduct company's basic financial analysis; convert financial time values; Value bonds, stocks, and investment projects; evaluate capital budgeting alternatives, using the firm's cost of capital in conjunction with internal rate of return and net present value techniques; compute cost of capital and capital structure.

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x			x					
CLO2					x					

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Introduction to corporate finance Introduction Corporation Goals of the corporation Financial Decision Agency problems Working Capital Management Roles of Financial Manager Why corporations need financial markets? Functions of financial markets and intermediates				
2	Time Value of Money Basic concepts Timeline/ Future values (FV)/ Present values (PV)				

Week	Topic	CLO	Assessments	Learning activities	Resources
	Simple interest rate (SR)/ Compound interest rate(CR) Multiple cash flows Future value of Multiple Cash Flows Present value of Multiple Cash Flows Perpetuity cash flows Present Value of a Perpetuity Ordinary annuity cash flow/ Annuity due cash flow Future Value of an Annuity Present Value of an Annuity				
3	Time Value of Money (Cont.) Growing ordinary annuity cash flow/ Growing annuity due cash flow Future Value of an growing annuity Present Value of an growing annuity Mortgage loans Inflation and time value of money Real versus nominal cash flows Effective annual interest rates (EAR)				
4	Bonds and their evaluation Bond characteristics Bond evaluation Coupon bonds, semi-annual coupon bonds Zero-coupon bonds Bond yield Current yield Yield to maturity (YTM) Rate of return Relationship between market interest rate and bond price Bond premiums and bond discounts				

Week	Topic	CLO	Assessments	Learning activities	Resources
5	Stock and their evaluation Equity versus debt Common stocks Preferred stocks Book values, Liquidation values, and Market values Stock valuation: Dividend Discount Model (DDM) Zero growth common stocks Constant growth common stocks Differential growth common stocks Preferred stocks Growth stocks and Income stocks				
	Midterm				
6	Project Investment Criteria and Capital Budgeting Decision Capital budgeting decision Capital budgeting process Project classifications Net Present Value (NPV) method Internal Rate of Return (IRR) method Payback Period (PP)/ Discount Payback period (DPP) method Profitability Index (PI)				
7	Project Investment Criteria and Capital Budgeting (Cont.) Principles of identifying cash flows Calculating Cash Flows Capital investment Operating cash flows Investment in working capital Terminal-year incremental cash flow Minicase				

Week	Topic	CLO	Assessments	Learning activities	Resources
8	Introduction to Risk, Return and Opportunity Cost of Capital Introduction relationship between Risk and Return Historical overview of risk and return Rates of return Measuring risk Variance and standard deviation Risk and diversification Diversification Asset versus portfolio risk Variance and standard deviation of returns for a two- asset portfolio Unique risk versus market risk				
9	Risk, Return and capital budgeting Measuring market risk Concept of beta Portfolio betas Risk and return Capital Asset Pricing Model (CAPM) Security Market Line (SML) Capital budgeting and Project Risk				

Week	Topic	CLO	Assessments	Learning activities	Resources
10	Capital Structure and Cost of Capital Measuring capital structure Market versus book weight Cost of capital Cost of debt Cost of preferred stocks Cost of equity Cost of retained earning Weighted Average Cost of Capital (WACC) WACC and business evaluation				
11	Revision				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
In-class exercises/quizzes (10%)	Qz1, Qz2, Qz3, Qz8, Qz9, Qz10 50%Pass	Qz4, Qz5 50%Pass	Qz6, Qz11 50%Pass
Homework exercises/ Presentation (20%)		Presentation 1 50%Pass	Presentation 1 50%Pass
Midterm exam (20%)	50% Pass	50% Pass	
Final exam (50%)		50% Pass	50% Pass

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Date revised: May 14, 2023

	VIETNAM NATIONAL UNIVERSITY HCMC **INTERNATIONAL UNIVERSITY** **School of Civil Engineering and Construction Management**

COURSE SYLLABUS

INTRODUCTION TO BUSINESS ADMINISTRATION
BA115IU

1. General information

Course designation	Face to Face
Semester(s) in which the course is taught	
Person responsible for the course	
Language	English
Relation to curriculum	N/A
Teaching methods	Lecture, Tutorial, In-class exercises, Assignment, Research report
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 128 Contact hours: 38 (15 classes, 1 class = 3 periods, 1 period = 50 minutes) Private study including examination preparation, specified in hours: 90
Credit points	3
Required and recommended prerequisites for joining the course	N/A
Course objectives	This course is designed to provide the student with the below objectives - To provide knowledge of functional areas of business management and the integration among them. - To give students a strong awareness of global issues, including an understanding of approaches to business ethics, business environment and multinational issues. - To develop students' basic research, analysis, writing, teaming, and presentation skills.

<table>
<tr><td></td><td>- To develop students' applied critical thinking skills and communication through the development of a portfolio of a firm in an industry in which they are interested.</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course students will be able to:
<table>
<tr><td>Knowledge</td><td>CLO1. Identify and describe concepts that covered in the course such as how changes in the business environment influences on the firm, business ownership, different functions of management, HRM and employee’s motivation as well as the characteristic of marketing mix.</td></tr>
<tr><td>Skills</td><td>CLO2. Explain and interpret issues related to business management.</td></tr>
<tr><td>Attitude</td><td>CLO3. Enhanced groupwork, presentation and project management as well as critical thinking and reflection skills</td></tr>
</table></td></tr>
<tr><td>Content</td><td>Employing the interactive learning and problem-based teaching approach, this course emphasizes the interaction between lecturers and students. The lecture materials will be uploaded in Blackboard to help the students to preview the materials and to concentrate on listening and critical thinking during the lecture. This will help students to interact with the lecturer during the classroom. The sessions for presentations and discussions comprise company case studies as well as answering some theoretical and conceptual questions, which help the students to see how the concepts are applied in the real business context. Students will present the case to the class and discuss with the peers. Guest speakers are invited to talk about selected topics or real-life experiences.</td></tr>
<tr><td>Examination forms</td><td>Written Report
Exam</td></tr>
<tr><td>Study and examination requirements</td><td>GRADING POLICY
Grades can be based on the following: 1. Homework/ assignments/ presentation; 30% ; 2. Midterm exam: 30%; 3. Final Exam; 40%

COURSE POLICIES
Attendance
Your regular and punctual attendance at lectures and related seminars (if any) is expected on this course. University regulations indicate that if students attend less than 80% of scheduled classes, they may be refused final assessment. Regular attendance is essential for successful performance and learning on this course, particularly in view of the interactive teaching and learning approach adopted. Please inform your lecturer if you are unable to attend the class and arrange for a classmate to collect any handouts.
Workload
It is expected that you will spend at least 6 hours per week studying this course. This time should be made up of reading, working on individual assignments, group assignments and attending class lectures. In periods where you need to complete assignments or prepare for examinations, the workload may be greater.
General Conduct and Behaviour</td></tr>
</table>

	You are expected to conduct yourself with considerable respect for the needs of your fellow students and teaching staff. Conduct that unduly disrupts or interferes with a class, such as ringing, or talking on mobile phones, or chatting on the internet, is nor acceptable and students may be asked to leave the class. **Keeping informed** You should take note of all announcements made in lectures, tutorials or on the course website. From time to time, the University will send important announcements to your through website, course website and/ or Announcement Board (of School of Business and/ or Academic Affair) without providing you with a paper copy. You will be deemed to have received this information.
Reading list	**Main textbooks:** William G. Nickels, James M. McHugh, Susan M.McHugh – Understanding Business, 11th edition , McGraw-Hill

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (1-3) and Program/Student Learning Outcomes (SLO) (1-10) is shown in the following table:

CLOs	PLOs									
	a	b	c	d	e	f	g	h	i	j
1	x									
2		x								
3						x	x			

Course Learning Outcomes

- CLO1. Identify and describe concepts that covered in the course such as how changes in the business environment influences on the firm, business ownership, different functions of management, HRM and employee's motivation as well as the characteristic of marketing mix.
- CLO2. Explain and interpret issues related to business management.
- CLO3. Enhanced groupwork, presentation and project management as well as critical thinking and reflection skills

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction

management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Session	Content	Learning Outcomes	Bloom's Taxonomy	Category	Teacher's Material	Student Homework's Material
1	**Chapter 1:** Managing Within The Dynamic Business Environment: Taking Risks And Making Profits	1,2	KN, CR	Lecture	Instructor Manual, Teacher's Resource	Student's book
2	**Chapter 2**: How Economics Affects Business: the Creation and Distribution of Wealth	1, 2, 3	KN, CR	Lecture HBR presentation	Instructor Manual, Teacher's Resource	Student's book
3	**Chapter 5:** Choosing a Form of Business Ownership	1, 2, 3	KN, CR	Lecture, HBR presentation	Instructor Manual, Teacher's Resource	Student's book

4	**Chapter 7**: Management, Leadership, And Employee Empowerment	1, 2, 3	KN, CR	Lecture, HBR presentation	Instructor Manual, Teacher's Resource	Student's book Casestudy
5	**Chapter 8** Adapting Organizations To Today's Markets	1, 2, 3	KN, CR	Lecture, HBR presentation	Instructor Manual, Teacher's Resource	Student's book Casestudy
6	**Chapter 9** Producing World-Class Goods and Services	1, 2, 3	KN, CR	Lecture, HBR presentation	Instructor Manual, Teacher's Resource	Student's book
7	**Chapter10** Motivating Employees And Building Self-Managed Teams	1, 2, 3	KN, CR	Lecture, HBR presentation	Case-study, Teacher's Resource	Case-study, Student's book
8	**Chapter 11** HRM: Finding and Keeping the Best Employees	1, 2, 3	KN, CR	Lecture, HBR presentation	Instructor Manual, Teacher's Resource	Student's book
9	**Chapter 13** Marketing: Building Customer Relationships	1, 2, 3	KN, CR	Lecture, HBR presentation	Instructor Manual, Teacher's Resource	Student's book
10	**Chapter14** Developing and Pricing Products and Services	1, 2, 3	KN, CR	Lecture, HBR presentation	Instructor Manual, Teacher's Resource	Student's book
11	**Chapter 15** Distributing Products Quickly and Efficiently	1, 2, 3	KN, CR	Lecture, HBR presentation	Instructor Manual, Teacher's Resource	Student's book
12	**Chapter 16** Using Effective Promotional Techniques	1, 2, 3	KN, CR	Lecture, HBR presentation	Instructor Manual, Teacher's Resource	Student's book
13	**COURSE REVIEW**	1, 2, 3	KN, CR		Instructor Manual, Teacher's Resource	Student's book
14	**GROUP PRESENTATIO N AND REPORT SUBMISSION**	2, 3	AP, EV	Group Presentation and Report Submission		

15	**GROUP PRESENTATIO N AND REPORT SUBMISSION**	2, 3	AP, EV	Group Presentation and Report Submission		

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
Class participation & preparation (5%)	70% pass		
2 short essays (15%)	70% pass	70% pass	
Group report (10%)	70% pass		70% pass
Midterm Exam (30%)	70% pass	70% pass	
Final exam (40%)	70% pass	70% pass	

5. Date revised: July 12, 2022

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Business

COURSE SYLLABUS

Course Name: Business Communication

Course Code: BA006IU

1. General information

Course designation	*This course is designed to provide students with a strong foundation in communicating at the workplace, focusing on: (1) communicating in the digital-age workplace, (2) developing business writing skills, (3) embracing professionalism at work, (2) developing business presentation skills, (4) preparing for sucessful job search, resumes, cover letters, and job interviews.*
Semester(s) in which the course is taught	1, 2
Person responsible for the course	MSc. Pham Thanh Huyen
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, lesson, project, presentation.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 127.5 Contact hours (lecture, exercise, laboratory session, etc.): 37.5 Self-study includes examination preparation, specified in hours[1]: 90
Credit points	**3 credits/4.64 ECTS**

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td>Required and recommended prerequisites for joining the course</td><td>None</td></tr>
<tr><td>Course objectives</td><td>This course is designed to give students a comprehensive view of communication, its scope and importance in business, and the role of communication in establishing a favourable outside the firm environment, as well as an effective internal communications program. The various types of business communication media are covered. This course also develops an awareness of the importance of succinct written expression to modern business communication.</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course students will be able to:
<table>
<tr><th>Competency level</th><th>Course learning outcome (CLO)</th></tr>
<tr><td>Knowledge</td><td>CLO1. Identify the role and process of communication as a means of achieving organizational objectives.
CLO2. Define communication and explain communication barriers.
CLO3. Identify the different types of writing performed by business professionals in each of the various functional areas of business.</td></tr>
<tr><td>Skill</td><td>CLO4. Strengthen perception skills by embracing professionalism; by recognizing nonverbal responses; by improving listening skill; and by analyzing personal value systems; role and status, and cultural differences in organizational communication.
CLO5. Apply a clear, concise, convincing, and correct style of writing for business purposes.
CLO6. Complete an accurate, complete resume and cover letter.</td></tr>
<tr><td>Attitude</td><td>CLO7. Conduct well-prepared interviews and complete follow-up employment correspondence.
CLO8. Demonstrate the ability to present effective oral reports.</td></tr>
</table></td></tr>
</table>

<table>
<tr><td>Content</td><td>

The description of the contents should clearly indicate the weighting of the content and the level.

Weight: lecture session (3 hours)

Teaching levels: I (Introduce); T (Teach); U (Utilize)

Topic	**Weight**	**Level**
Communicating in the Digital-Age Workplace	1	I
Professionalism at Work: Business Etiquette, Ethics, Teamwork, and Meetings	1	T
Business Presentations	1	T, U
Planning Business Messages	0.5	I, T
Organizing and Drafting Business Messages	0.5	I, T
Revising Business Messages	0.5	I, T
Short Workplace Messages and Digital Media	0.5	I, T
Positive Messages	1	T, U
Negative Messages	1	T, U
Persuasive and Sales Messages	1	T, U
Informal Reports	1	I, T
Proposals and Formal Reports	1	I, T
The Job Search and Resumes in the Digital Age	1	T, U
Interviewing and Following Up	1	T, U

</td></tr>
<tr><td>Examination forms</td><td>Short-answer questions, Messages writing questions</td></tr>
<tr><td>Study and examination requirements</td><td>

. Attend more than 80% of class meetings in order to take the final exam (Your name will be called randomly to answer questions during class disscusion. If you do not show up to answer the question, you will be marked as absent for that class.)

. Show respect to the instructor and classmates.

. Actively participate in class activities

. Fulfil tasks given by instructor after class

. Access Blackboard for announcements, assignments, and materials of the course

</td></tr>
<tr><td>Reading list</td><td>

Main textbooks:

Mary Ellen Guffey & Dana Loewy, Essentials of Business Communication, 11th edition, Thompson South Western.

</td></tr>
</table>

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (1-4) and Program Intended Learning Outcomes (ILO) (1-6) is shown in the following table:

	ILO					
CLO	1	2	3	4	5	6
1	x	x		x	x	
2	x	x			x	
3	x	x				
4	x	x	x	x		
5	x	x	x			
6				x	x	x
7				x		x
8	x	x			x	x

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Chapter 1: Communicating in the Digital-Age Workplace	1,2		Lecture	Textbook, Blackboard
2	Chapter 11: Professionalism at Work: Business Etiquette, Ethics, Teamwork, and Meetings	4	Assignment 1	Lecture	Textbook, Blackboard
3	Chapter 12: Business Presentations	8		Lecture	Textbook, Blackboard
4	Chapter 2: Planning Business Messages Chapter 3: Organizing and Drafting Business Messages	3, 5		Lecture	Textbook, Blackboard
5	Chapter 4: Revising Business Messages Chapter 5: Short Workplace Messages and Digital Media	3,5		Lecture	Textbook, Blackboard
6	Chapter 6: Positive Messages	3,5	Assignment 2	Lecture	Textbook, Blackboard
7	Chapter 7: Negative Messages	3,5		Lecture	Textbook, Blackboard
8	Midterm Review	1,2,3,4, 5,8	Presentation	Tutorial	
9	Midterm		Examination		
10	Chapter 8: Persuasive and Sales Messages	3,5	Assignment 3 Presentation	Lecture	Textbook, Blackboard

11	Chapter 9: Informal Reports	3,5	Presentation	Lecture	Textbook, Blackboard
12	Chapter 10: Proposals and Formal Reports	3,5	Presentation	Lecture	Textbook, Blackboard
13	Chapter 13: The Job Search and Resumes in the Digital Age	6	Presentation	Lecture	Textbook, Blackboard
14	Chapter 14: Interviewing and Following Up	7	Presentation	Lecture	Textbook, Blackboard
15	Group Presentation	1,2,4,8	Presentation		
16	Group Presentation	1,2,4,8	Presentation		
17	Final exam		Examination		

4. Assessment plan

Assessment Type	**CLO1**	**CLO2**	**CLO3**	**CLO4**	**CLO5**	**CLO6**	**CLO7**	**CLO8**
Assignments (50%)	A1 70%Pass	A1 70%Pass	A2 70%Pass	A3 70%Pass	A2, 3 70%Pass	A1 70%Pass		Presentation 70%Pass
Midterm exam (20%)	Q1 60%Pass	Q1 60%Pass	Q3 60%Pass	Q2 60%Pass	Q3 60%Pass			
Final exam (30%)				Q1 60%Pass	Q3 60%Pass	Q2 60%Pass	Q2 60%Pass	

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Rubrics (optional)
6. Date revised: Jully 12, 2022

VIETNAM NATIONAL UNIVERSITY HCMC

INTERNATIONAL UNIVERSITY

School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name

Course Name: FUNDAMENTALS OF FINANCIAL MANAGEMENT

Course Code: **BA016IU**

1. General information

Course designation	*BA016IU– Fundamentals of Financial Management* provides students with basic concepts of financial management. The course is provided based on foundation knowledge of financial accounting and economics. This course may fulfill requirements of the curriculum for students majoring in business administration in general; however, it is the foundation for students majoring in finance , banking and accounting. For those students that major in finance, banking and accounting, they can take higher level courses in finance after this course, to count for some, Corporate Finance, Financial Institutions and Market, Portfolio Theory and Investment Analysis, International Finance, Business Analysis and Valuation, etc.
Semester(s) in which the course is taught	1, 2
Person responsible for the course	Ms. Tien C. Nguyen
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, lesson, 2 class tests

Workload (incl. contact hours, self-study hours)	*(Estimated) Total workload:* *Contact hours (please specify whether lecture, exercise, laboratory session, etc.):* *Private study including examination preparation, specified in hours[1]:*
Credit points	3
Required and recommended prerequisites for joining the course	Financial Accounting – BA184IU
Course objectives	The aim of this course is to expose students to and familiarize them with the theoretical frameworks and practical matters of financial management.. The learning experience will include: an introduction to financial management; time value of money; techniques of pricing of financial instruments such as bonds and stocks; evaluation of major projects; the relationship between risk and return; an introduction to Capital Asset Pricing Model (CAPM) and Portfolio theory; and cost of capital and capital structuring
Course learning outcomes	Students who complete the course will be able to perform the following tasks: (1) Explain the purpose, goals, and importance of financial management; Understand financial statements; the relationship between risk and return; time value of money; concepts regarding bonds, stocks, and investment projects; capital budgeting alternatives; the concept of cost of capital and capital structure (2) Calculate financial ratios and conduct company's basic financial analysis; convert financial time values; Value bonds, stocks, and investment projects; evaluate capital budgeting alternatives, using the firm's cost of capital in conjunction with internal rate of return and net present value techniques; compute cost of capital and capital structure.
Content	
Examination forms	Multiple-choice questions, short-answer questions, application problems

[1] When calculating contact time, each contact hour is counted as a full hour because the organization of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Study and examination requirements	Attendance: Class Attendance is Mandatory. Roll will be taken by two quizzes' submissions at times of classes. University regulations indicate that if students attend less than eighty percent o f scheduled classes they may be refused final assessment. Exemptions may only be made on medical grounds Assignments/Examination: Students must achieve a composite mark of at least 50; and make a satisfactory attempt at all assessment tasks.
Reading list	[1] Brealey, R.A., Myers, S.C. and Marcus, A.J., *Fundamentals of Corporate Finance*, 5th ed, McGraw Hill 2007 [2] Brigham, E. F. and Houston, J. F. (2007), *Fundamentals of Financial Management*, 11th edn, South- Western [3] Ross, S. A., Westerfield, R. W., and Jordan, B. D. (2010) *Fundamentals of Corporate Finance* - 7th ed, McGraw Hill

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: Explain the purpose, goals, and importance of financial management; Understand financial statements; the relationship between risk and return; time value of money; concepts regarding bonds, stocks, and investment projects; capital budgeting alternatives; the concept of cost of capital and capital structure

(2) CLO2: Calculate financial ratios and conduct company's basic financial analysis; convert financial time values; Value bonds, stocks, and investment projects; evaluate capital budgeting alternatives, using the firm's cost of capital in conjunction with internal rate of return and net present value techniques; compute cost of capital and capital structure.

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x			x					
CLO2					x					

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Introduction to corporate finance Introduction Corporation Goals of the corporation Financial Decision Agency problems Working Capital Management Roles of Financial Manager Why corporations need financial markets? Functions of financial markets and intermediates				
2	Time Value of Money Basic concepts Timeline/ Future values (FV)/ Present values (PV)				

Week	Topic	CLO	Assessments	Learning activities	Resources
	Simple interest rate (SR)/ Compound interest rate(CR) Multiple cash flows Future value of Multiple Cash Flows Present value of Multiple Cash Flows Perpetuity cash flows Present Value of a Perpetuity Ordinary annuity cash flow/ Annuity due cash flow Future Value of an Annuity Present Value of an Annuity				
3	Time Value of Money (Cont.) Growing ordinary annuity cash flow/ Growing annuity due cash flow Future Value of an growing annuity Present Value of an growing annuity Mortgage loans Inflation and time value of money Real versus nominal cash flows Effective annual interest rates (EAR)				
4	Bonds and their evaluation Bond characteristics Bond evaluation Coupon bonds, semi-annual coupon bonds Zero-coupon bonds Bond yield Current yield Yield to maturity (YTM) Rate of return Relationship between market interest rate and bond price Bond premiums and bond discounts				

Week	Topic	CLO	Assessments	Learning activities	Resources
5	Stock and their evaluation Equity versus debt Common stocks Preferred stocks Book values, Liquidation values, and Market values Stock valuation: Dividend Discount Model (DDM) Zero growth common stocks Constant growth common stocks Differential growth common stocks Preferred stocks Growth stocks and Income stocks				
	Midterm				
6	Project Investment Criteria and Capital Budgeting Decision Capital budgeting decision Capital budgeting process Project classifications Net Present Value (NPV) method Internal Rate of Return (IRR) method Payback Period (PP)/ Discount Payback period (DPP) method Profitability Index (PI)				
7	Project Investment Criteria and Capital Budgeting (Cont.) Principles of identifying cash flows Calculating Cash Flows Capital investment Operating cash flows Investment in working capital Terminal-year incremental cash flow Minicase				

Week	Topic	CLO	Assessments	Learning activities	Resources
8	Introduction to Risk, Return and Opportunity Cost of Capital Introduction relationship between Risk and Return Historical overview of risk and return Rates of return Measuring risk Variance and standard deviation Risk and diversification Diversification Asset versus portfolio risk Variance and standard deviation of returns for a two- asset portfolio Unique risk versus market risk				
9	Risk, Return and capital budgeting Measuring market risk Concept of beta Portfolio betas Risk and return Capital Asset Pricing Model (CAPM) Security Market Line (SML) Capital budgeting and Project Risk				

Week	Topic	CLO	Assessments	Learning activities	Resources
10	Capital Structure and Cost of Capital Measuring capital structure Market versus book weight Cost of capital Cost of debt Cost of preferred stocks Cost of equity Cost of retained earning Weighted Average Cost of Capital (WACC) WACC and business evaluation				
11	Revision				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
In-class exercises/quizzes (10%)	Qz1, Qz2, Qz3, Qz8, Qz9, Qz10 50%Pass	Qz4, Qz5 50%Pass	Qz6, Qz11 50%Pass
Homework exercises/ Presentation (20%)		Presentation 1 50%Pass	Presentation 1 50%Pass
Midterm exam (20%)	50% Pass	50% Pass	
Final exam (50%)		50% Pass	50% Pass

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Date revised: May 14, 2023

VIETNAM NATIONAL UNIVERSITY HCMC

INTERNATIONAL UNIVERSITY

School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name

Course Name: QUALITY MANAGEMENT

Course Code: **BA018IU**

1. General information

Course designation	*This course introduces the principles of quality management, with emphasis on cross functional problem solving; providing a basic understanding of the philosophy, conceptual frameworks and the tools of the Total Quality Management.*
Semester(s) in which the course is taught	
Person responsible for the course	
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, Tutorial, Assignment, Case Analysis, Quizzes, Group Project
Workload (incl. contact hours, self-study hours)	*(Estimated) Total workload:* *Contact hours (please specify whether lecture, exercise, laboratory session, etc.):* *Private study including examination preparation, specified in hours[1]:*
Credit points	3

[1] When calculating contact time, each contact hour is counted as a full hour because the organization of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Required and recommended prerequisites for joining the course	Production and Operations Management
Course objectives	Understanding of quality terminology and concepts Explaining the relationships of quality management and firm performance Identifying and analyzing organizational and environmental factors that drive quality improvement Understanding Total Quality Management concepts and apply quality control tools Implementation of Plan, Do, Study and Act Cycles Analyzing and evaluating a Define-Measure-Analyze-Improve-Control Project and applying it in practice
Course learning outcomes	Students who complete the course will be able to perform the following tasks: (1) Develop an appreciation of quality management theory, principles, and practices. and strategies for organizational change and transformation (2) Learn within teams (such skills as task assignment and management, conflict resolution and co-operation, consensus building, leadership, and effective communication) and Provide professional business presentations (both oral and written)
Content	Introduction to the principles of quality management, with an emphasis on cross-functional problem solving. This course will provide a basic understanding of the philosophy, conceptual frameworks and the tools of the Total Quality Management.
Examination forms	Multiple choice questions Case study exercises Open-ended questions/problems

Study and examination requirements	To pass this course, the students must: • Achieve a composite mark of at least 50; and • Make a satisfactory attempt at all assessment tasks (see below). **COURSE POLICIES** **Attendance** Regular and punctual attendance at lectures and seminars is expected in this course. University regulations indicate that if students attend less than eighty percent of scheduled classes they may be refused final assessment. Exemptions may only be made on eligible medical grounds. **Workload** It is expected that the students will spend at least *eight* hours per week studying this course. This time should be made up of reading, research, working on exercises and problems, and attending classes. In periods where they need to complete assignments or prepare for examinations, the workload may be greater. Over-commitment has been a cause of failure for many students. They should take the required workload into account when planning how to balance study with part-time jobs and other activities. **General Conduct and Behaviour** The students are expected to conduct themselves with consideration and respect for the needs of fellow students and teaching staff. Conduct which unduly disrupts or interferes with a class, such as ringing or talking on mobile phones, is not acceptable and students will be asked to leave the class. The use of laptops is also encouraged during law lessons only to search for materials online. More information on student conduct is available on the university webpage. **Keeping informed** The students should take note of all announcements made in lectures or on the course's Blackboard, and another announced mean of communications. From time to time, the university will send important announcements to their university e-mail addresses without providing a paper copy. The students will be deemed to have received this information. **Academic honesty and plagiarism** Plagiarism is the presentation of the thoughts or work of another as one's own. Students are also reminded that careful time management is an important part of the study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting, and the proper referencing of sources in preparing all assessment items. The university regards plagiarism as a form of academic misconduct and has very strict rules regarding plagiarism.

	Special consideration Requests for special consideration (for final examination only) must be made to the Office of Academic Affairs within one week after the examination. General policy and information on special consideration can be found at the Office of Academic Affairs. Absence on the Mid-term is not allowed, or in special cases approved by Lecturer can be replaced with relevant Assignment. **Meeting up with the lecturers after classes** **Students must make an appointment via emails if they want to meet up with the lecturer after classes and be on time. If there are any changes to the scheduled time, students must inform the lecturer immediately.**

Reading list	**Textbooks:** - Howard S. Gitlow et. al., Quality Management - 3rd edition, McGraw Hill, 2005. **Reference:** - Evans, Managing for quality and performance excellence -7th edition, Cengage Learning. - D.L. Goetsch and Stanley B. Davis, Quality Management- 5th edition, PrenticeHall, 2006.

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: Develop an appreciation of quality management theory, principles, and practices. and strategies for organizational change and transformation

(2) CLO2: Learn within teams (such skills as task assignment and management, conflict resolution and co-operation, consensus building, leadership, and effective communication) and Provide professional business presentations (both oral and written)

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x								
CLO2						x		x		

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management

performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Introduction to Quality Management Fundamentals of quality: process basics, types of quality, relationship between quality and cost and productivity.	1			
2	**Why Total Quality Management (TQM)** Definitions and basic principles How to realize TQM: three components of TQM, quality and global competitiveness, environment of today. Why Total Quality Management in a Knowledge-Based Economy? Students to form work groups Weekly Quiz	1			
3	**Introducing the Three Pillars of TQM** Quality Planning: Quality parameters- needs of customers and employees.	1, 2			

Week	Topic	CLO	Assessments	Learning activities	Resources
	Quality Control: Measuring and process analysis Quality Improvement & Problem Solving Method Weekly Quiz				
4	**Behavioral Component of TQM** Establishing a quality culture, conditions for a successful TQM policy, increasing the quality of cooperation processes, TQM & the strategy of change, behavioral component Plan-Do-Study-Act Cycle Discussing Quality Improvement (QI) Story Weekly Quiz	1, 2			
5	**Management components of TQM**: Role of Top Management/ Task-oriented meetings. Roadmap to Business Excellence Barriers to Quality Management Role play Discussing Quality Improvement (QI) Story Weekly Quiz	1, 2			
6	**Technical components of TQM** Quality tools (pareto chart, check sheet, cause-and-effect diagram, histogram, scatter diagram, flow chart) Discussing Quality Improvement (QI) Story	1, 2			
7	Practice quality tools (pareto chart, check sheet, cause-and-effect diagram, histogram, scatter diagram, flow chart)	1, 2			

Week	Topic	CLO	Assessments	Learning activities	Resources
	Weekly Quiz				
8	Midterm				
9	Process Diagnosis Process diagnosis: process variation Diagnostic tools: root-cause analysis, stratification Change concepts	1, 2			
10	Control charts Stabilizing and improving a process with control charts. Attribute control charts. Variables control charts How to read a control chart: 7 rules. Weekly Quiz				
11	Practice control charts (various attribute and variables control charts) Weekly Quiz	1, 2			
12	Taguichi Loss Function Process Capability (process capability ratio and process capbility index) Team Presentations Weekly Quiz	1, 2			
13	**Six Sigma Quality** Define-Measure-Analyze-Improve-Control (DMAIC) Approach Tools used in Define and Measure Phases Discussing DMAIC Case Team Presentations Weekly Quiz	2			
14	**Six Sigma Quality** Define-Measure-Analyze-Improve-Control (DMAIC) Approach Tools used in Analyze, Improve and Control Phases Discussing DMAIC Case Team Presentations Weekly Quiz	1			

Week	Topic	CLO	Assessments	Learning activities	Resources
15	Inspection Policy ISO Standards Course Review Team Presentations	1, 2			
16	Final exam				

4. Assessment plan

Assessment Type	CLO1	CLO2
In-class exercises/quizzes (10%)	Qz1, Qz2, Qz3, Qz8, Qz9, Qz10 50%Pass	Qz4, Qz5 50%Pass
Homework exercises/ Presentation (30%)		Presentation 1 50%Pass
Midterm exam (20%)	50% Pass	50% Pass
Final exam (40%)		50% Pass

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Rubrics (optional)GRADING RUBRIC FOR WRITTEN COURSEWORK

MIDTERM EXAMINATION – Subject (ID subject)

Academic year: 2022 – 2023 (term …)

Criteria	INADEQUATE 10% – 49%	ADEQUATE 50% - 59%	ABOVE AVERAGE 60% - 74%	EXEMPLARY ≥ 75%
Organisation and clarification	Does not organise ideas logically and with clarification. Limited evidence of coherence Ideas lack consistence	Generally organised logically, with evidence of progression Occasionally, there may be a lack of focus or ideas may be tangential	Clear organization and progression. Responds appropriately and relevantly, although some ideas are underdeveloped.	Response is focused, detailed and non-tangential. Shows a high degree of attention to logic and reasoning of points. Clearly leads the reader to the conclusion and stirs thought regarding the topic
Originality and usefulness of the analysis	Demonstrates an incomplete grasp of the task. There is no overall sense of	Shows ability to identify legal issues, gather the facts and develop claims.	Shows strong ability to identify legal issues, gather the facts and develop claims as well as	Shows strong ability to identify legal issues, gather the facts and develop claims as

	creative coherence. Arguments are addressed incompletely.	Argument are addressed well but no links with evidence	link claims with evidence. Overall, an acceptable solution is offered and explained	well as link claims with evidence. Satisfactory solutions are offered and supported
Use of data/information	Shows little information from sources. Poor handling of sources	Shows moderate amount of source information incorporated. Some key points supported by sources. Quotations may be poorly integrated into paragraphs. Some possible problems with source citations	Draws upon sources to support most points. Some evidence may not support arguments or may appear where inappropriate. Quotations integrated well into paragraphs. Sources cited correctly	Draws upon primary and secondary source information in useful and illuminating ways to support key points. Excellent integration of quoted material into paragraphs. Source cited correctly
Use of frameworks	Shows limited ability to structure problems in correspondence to theoretical frameworks	Shows effort to link problems with the theoretical frameworks. There are still some mistakes	Shows ability to structure problems in correspondence to theoretical frameworks correctly. Minor mistakes in resolving problems	Shows ability to structure problems in correspondence to theoretical frameworks correctly. The problems are well resolved
Quality of arguments	Shows little attempt to offer support for key claims or to relate evidence to analysis. The reasons offered are irrelevant.	Shows argument of poor quality. Weak, undeveloped reasons are offered to support key claims	Shows clear, relevant and logical arguments.	Shows identifiable, reasonable and sound arguments. Clear reasons are offered to support key claims.

6. **Date revised: May 14, 2023**

VIETNAM NATIONAL UNIVERSITY HCMC

INTERNATIONAL UNIVERSITY

School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name

Course Name: LEADERSHIP

Course Code: **BA098IU**

1. General Information

Module designation	This course prepares students for leadership roles in the community and in their professions. It will provide students with the knowledge, skills, and foundation to become an effective leader. Students will develop an understanding of the components that make leadership successful. Students will gain both the theoretical and practical skills necessary for success in both their personal and professional lives. It is intended for students who are interested in gaining a foundation in leadership studies and extended coursework in applied aspects of Leadership.
Semester(s) in which the module is taught	8
Person responsible for the module	Dr. Nguyen, Hoai Nghia
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 135 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 45 Private study including examination preparation, specified in hours[1]: 90
Credit points	3

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td>Required and recommended prerequisites for joining the module</td><td>None</td></tr>
<tr><td>Module objectives/intended learning outcomes</td><td>This introductory course presents leadership using a personal leadership perspective and framework. Students taking this course will have the opportunity to examine their own views on leadership, explore the differences between personal and positional leadership, study characteristics of leaders and learn about the importance of personal development.

Students who complete the course will be able to perform the following tasks:

(1) Increase awareness of leadership and ways to get involved
(2) Develop personal skills of leadership
(3) Learn within teams (such skills as task assignment and management, conflict resolution and co-operation, consensus building, leadership, and effective communication) and Provide professional business presentations (both oral and written)</td></tr>
<tr><td>Content</td><td>The description of the contents should clearly indicate the weighting of the content and the level.
Weight: lecture session (3 hours)
Teaching levels: I (Introduce); T (teach); U (Utilize)
<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Chapter 1: Who is A Leader?</td><td>1</td><td>I</td></tr>
<tr><td>Chapter 2: Leadership Traits and Ethics</td><td>1</td><td>T</td></tr>
<tr><td>Chapter 3: Leadership Behavior and Motivation</td><td>1</td><td>T</td></tr>
<tr><td>Chapter 4: Influencing: Power, Politics, Networking & Negotiation</td><td>2</td><td>T, U</td></tr>
<tr><td>Chapter 5: Contingency leadership Theory</td><td>1</td><td>T, U</td></tr>
<tr><td>Chapter 6: Communication, Coaching, and Conflict Skills</td><td>2</td><td>T</td></tr>
<tr><td>Chapter 7: Dynamic Relationship, Followership & Delegation</td><td>2</td><td>T, U</td></tr>
<tr><td>Chapter 8: Team Leadership</td><td>2</td><td>T</td></tr>
</table></td></tr>
</table>

	Chapter 9: Leading Self-Managed Team	1	T
	Chapter 10: Charismatic and Transformational Leadership	1	T
	Chapter 11: Strategic Leadership and Managing Crises and Change	1	T
Examination forms	Constructed-response test		
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.		
Reading list	Textbooks: [1] Leadership: Theory, Application and Skill Development (2nd Edition), Lussier & Achua References: [2] The Influencer, Kerry Patterson et al		

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-k) is shown in the following table:

(1) CLO1: Increase awareness of leadership and ways to get involved
(2) CLO2: Develop personal skills of leadership.
(3) CLO2: Learn within teams (such skills as task assignment and management, conflict resolution and co-operation, consensus building, leadership, and effective communication) and Provide professional business presentations (both oral and written)

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x								
CLO2						x	x			
CLO3						x				

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including

technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	**Chapter 1: Who is A Leader?** Leadership is Everyone's Business Levels of Analysis of Leadership Theory Leadership Theory Paradigm	1, 2	Quiz	Lecture Class discussion	
2	**Chapter 2: Leadership Traits and Ethics** Traits & Personality of Effective Leaders Leadership Attributes Ethical leadership	1, 2	Quiz	Lecture Class discussion	
3	**Chapter 3: Leadership Behavior and Motivation**	1, 2	Quiz Presentation	Lecture Class discussion	

Week	Topic	CLO	Assessments	Learning activities	Resources
	Leadership Behavior and styles The Leadership Grid				
4-5	**Chapter 4: Influencing: Power, Politics, Networking & Negotiation** Power & Source of Power Organizational Politics Networking Negotiation Ethics and Influencing	1, 2	Quiz Presentation	Lecture Class discussion	
6	**Chapter 5: Contingency leadership Theory** Contingency Leadership Theory and Model Leadership Continuum Theory and Model Path Goal Leadership Theory and Model Normative Leadership and Model	1, 2, 3	Quiz Presentation	Lecture Class discussion	**Contingency leade**
7-8	**Chapter 6: Communication, Coaching, and Conflict Skills** Communication, Feedback & Coaching Managing Conflicts Collaborating Conflict Management Style Model	1, 2, 3	Quiz Presentation	Lecture Class discussion	
9	MIDTERM EXAM				
10-11	**Chapter 7: Dynamic Relationship, Followership & Delegation** Evolution of Dyadic Theory Leader-Member Exchange Theory Followership Delegation	1, 2, 3	Quiz Presentation	Lecture Class discussion	
12-13	**Chapter 8: Team Leadership** The use of Team in Organizations Characteristics of Effective Teams Team Creativity	1, 2, 3	Quiz Presentation	Lecture Class discussion	

Week	Topic	CLO	Assessments	Learning activities	Resources
	Decision Making in Team Meeting Leadership Skills				
14	**Chapter 9: Leading Self-Managed Team** Understanding Self-Management Team Growth Stages and Leadership The Changing Role of Leadership in Self-Managed Teams	1, 2, 3	Quiz Presentation	Lecture Class discussion	
15	**Chapter 10: Charismatic and Transformational Leadership** Charismatic Leadership Transformational Leadership Stewardship and Servant Leadership	1, 2, 3	Quiz Presentation	Lecture Class discussion	
16	**Chapter 11: Strategic Leadership and Managing Crises and Change** Strategic Leadership Crisis Leadership Leading Changes	1, 2, 3	Quiz Presentation	Lecture Class discussion	
17	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
In-class exercises/quizzes (20%)	Qz1, Qz2, Qz3, Qz8, Qz9, Qz10 50%Pass	Qz4, Qz5 50%Pass	Qz6, Qz11 50%Pass
Homework exercises/ Presentation (20%)		Presentation 1 50%Pass	Presentation 1 50%Pass
Midterm exam (20%)	50% Pass	50% Pass	
Final exam (40%)		50% Pass	50% Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. **Date revised: May 14, 2023**

VIETNAM NATIONAL UNIVERSITY HCMC

INTERNATIONAL UNIVERSITY

School of Civil Engineering and Management

COURSE SYLLABUS

Course Name: ADVANCED ARTIFICIAL INTELLIGENCE IN CIVIL ENGINEERING AND CONSTRUCTION MANAGEMENT

Course Code: **CE412IU**

1. General information

Course name	*- Advanced artificial intelligence in civil engineering and construction management* *- Trí tuệ nhân tạo nâng cao trong kỹ thuật và quản lý xây dựng*
Course designation	*The objective of this course is to provide the students with the advanced information of machine learning (ML) and analysis tools with their applications in civil engineering (CE) and construction management (CM). The course will emphasize on 1) traditional supervised algorithms such as support vector machines, 2) ensemble machine learning algorithms including bagging and boosting, 3) deep learning algorithms such as convolution neural networks, 4) fundamentals of tools used to handle large-scale data, and 5) tools used to handle ML algorithms. Fundamentals of these algorithms and tools and their applications in different problems related to CE and CM will be covered along with a course project.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☑ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the course is taught	
Person responsible for the course	*Nguyễn Bá Quang Vinh (PhD)*
Language	English
Relation to curriculum	Elective

Teaching methods	Lecture, presentation, discussion, and assignments
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 127.5 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 37.5 Private study including examination preparation, specified in hours[1]: 90
Credit points	3 credits/**4.64 ECTS**
Number of periods	Theory: 45 Practice: 0
Required and recommended prerequisites for joining the course	Calculus, Mechanics of Material 1, Artificial Intelligence In Civil Engineering And Construction Management
Course objectives	The aim of this course is to - Recognizing problems in CE and CM that AI can be applied. - Have the ability to formulate the problems. - Analyzing and solving the problems using AI tools. - Conducting case study to utilize AI for solving practical problems in CE or CM. - Evaluating the impacts and limitations of different schemes
Course learning outcomes	Upon the successful completion of this course students will be able to:

Competency level	Course learning outcome (CLO)
Knowledge	CLO1. an ability to understand the basic concepts in the field. CLO2. an ability to apply mathematics and AI tools to solve CE and CM problems
Skill	CLO3. an ability to design and conduct experiments, to analyze and interpret CE and CM data, as well as to clean data to apply AI. CLO4. an ability to identify, formulate, and solve CE or CM problems by means of ML.
Attitude	CLO5. Work independently and professionally.

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td>Content</td><td>

The description of the contents should clearly indicate the weighting of the content and the level.

Weight: lecture session (3 hours)

Teaching levels: I (Introduce); T (Teach); U (Utilize)

<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Introduction</td><td>1</td><td>I</td></tr>
<tr><td>Representations, measurements, data types</td><td>1</td><td>T, U</td></tr>
<tr><td>Traditional supervised algorithms ML</td><td>2</td><td>T, U</td></tr>
<tr><td>Ensemble learning</td><td>3</td><td>T, U</td></tr>
<tr><td>Deep learning</td><td>4</td><td>T, U</td></tr>
<tr><td>Case studies</td><td>1</td><td>T, U</td></tr>
<tr><td>Course project</td><td>3</td><td>T, U</td></tr>
</table>

</td></tr>
<tr><td>Examination forms</td><td>Constructed-response test</td></tr>
<tr><td>Study and examination requirements</td><td>

Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed on the basis of their class participation. Questions and comments are strongly encouraged.

Assignments/Examination: Students must have GPA more than 50/100 points overall to pass this course.

</td></tr>
<tr><td>Reading list</td><td>

<u>Textbooks:</u>

[1] Deep Learning, Ian Goodfellow, Yoshua Bengio, and Aaron Courville, The MIT Press, 2016 (free online: http://www.deeplearningbook.org/)

[2] Hands-on Machine Learning with Scikit-Learn & Tensorflow, Aurelien Geron, O'Reilly, 2017.

<u>Additional references:</u>

[1] Hands-on Machine Learning with Scikit-Learn & Tensorflow, Aurelien Geron, O'Reilly, 2017.

</td></tr>
</table>

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (1-5) and Program Intended Learning Outcomes (ILO) (a-k) is shown in the following table:

	ILO										
CLO	a	b	c	d	e	f	g	h	i	j	k
1		x									
2		x	x								
3				x	x						
4			x	x	x						
5						x	x				

Program Intended Learning Outcome:

(a) Understanding the physical world and using knowledge of mathematics and natural sciences to represent it in pursuing and establishing research by the use of quantitative and quantitative

methods.

(b) Understanding the fundamentals of the civil engineering field (e.g., construction geology, material science, construction physics, surveying, structural theory, technical design, construction informatics, soil mechanics, fluid mechanics, and computational techniques, analyzing data for design, build, and appraisal construction)

(c) Ability to analyze and prepare investment projects and understand their economic, environmental, and social impacts

(d) Awareness of professional and ethical responsibilities of a civil engineer; ability to make rational decisions based on an ethical argumentation, think critically in order to find innovative and effective solutions for interdivision aqualitative and quantitative problems.

(e) Ability to function as a member of a multidisciplinary team (including multi-national and mixed-gender teams) as well as having good knowledge of management and organization to be able to take on leadership roles

(f) Recognition of the need for and ability to engage in life-long learning in order to work efficiently in situations in which new technologies emerge regularly, as well as take part in developing new technologies by engaging in research works having the ability to interpret and use empirical datasets, integrate technical literature and databases to solve specific civil engineering problems or fill knowledge gaps.

(g) Ability to communicate matters related to civil engineering to colleagues in the same profession or the general public, effectively using oral, written, and other forms of communication.

(h) A broad education necessary to understand the impacts of civil engineering solutions in a global and social context

(i) A broad understanding of contemporary issues in civil engineering in the national, regional, and global level

(j) Ability to use techniques, skills, and modern engineering tools necessary for engineering practice, including identifying tasks of civil engineering, analyzing, abstracting, and formulating, along with being able to develop concepts, plans, and methods for proof and forecast (e.g., documented evidence for stability, energy efficiency, noise protection, flood protection, water supply)

(k) Ability to use English in both technical and daily life situations.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	**Introduction**: ML in modern CE and CM, Real-world application examples. Recapitulation of linear algebra required for ML	1,2,3,4, 5	Attendance Q&A Homework 1	Reading materials before class; Attending the lecture; Discussion;	[1] Chapter 1 [2] Chapter 1
2	**Representations, measurements, data types:** Tools for data exploratory analysis and correlation analysis	1,2,3,4, 5	Attendance Q&A Homework 2	Reading materials before class;	[2] Chapter 2

Week	Topic	CLO	Assessments	Learning activities	Resources
				Attending the lecture; Discussion;	
3	**Traditional supervised algorithms ML:** Concept and implement in Python: - Linear Regression - Logistic regression,	1,2,3,4, 5	Attendance Q&A Homework 3	Reading materials before class; Attending the lecture; Discussion;	[2] Chapter 4
4	**Traditional supervised algorithms ML (cont.):** Concept and implement in Python: - Support vector machine, - Decision tree	1,2,3,4, 5	Attendance Q&A Homework 4	Reading materials before class; Attending the lecture; Discussion;	[2] Chapter 5, 6
5	**Ensemble learning:** Concept and implement in Python of bagging model	1,2,3,4, 5	Attendance Q&A Homework 5	Reading materials before class; Attending the lecture; Discussion;	[2] Chapter 7
6	**Ensemble learning (cont.):** Concept and implement in Python of boosting model	1,2,3,4, 5	Attendance Q&A Homework 6	Reading materials before class; Attending the lecture; Discussion;	[2] Chapter 7
7	**Ensemble learning (cont.):** Concept and implement in Python of typical Ensemble Learning models	1,2,3,4, 5	Attendance Q&A Homework 7	Reading materials before class; Attending the lecture; Discussion;	[2] Chapter 7
8	**Deep learning:** Concept and implement in Python of simple Artificial Neural Networks	1,2,3,4, 5	Attendance Q&A Homework 8	Reading materials before class; Attending the lecture; Discussion;	[1] Chapter 6
9-10	**Midterm exam**		Writing		
11	**Deep learning (cont.):** Concept and implement in Python of Multi-Layer Perceptron Neural Networks	1,2,3,4, 5	Attendance Q&A Homework 11	Reading materials before class; Attending the lecture; Discussion;	[2] Chapter 11

Week	Topic	CLO	Assessments	Learning activities	Resources
12	**Deep learning (cont.):** Concept and implement in Python of Convolutional Neural Networks	1,2,3,4, 5	Attendance Q&A Homework 12	Reading materials before class; Attending the lecture; Discussion;	[2] Chapter 13
13	**Deep learning (cont.):** Concept and implement in Python of Recurrent Neural Networks	1,2,3,4, 5	Attendance Q&A Homework 13	Reading materials before class; Attending the lecture; Discussion;	[2] Chapter 14
14	**Case studies:** Invited speaker for new application of ML and DL	1,2,3,4, 5	Attendance Q&A Homework 14	Reading materials before class; Attending the lecture; Discussion;	
15	**Course project**	1,2,3,4, 5	Attendance Q&A Presentation	Reading materials before class; Attending the lecture; Discussion;	
16	**Course project (cont.)**	1,2,3,4, 5	Attendance Q&A Presentation	Reading materials before class; Attending the lecture; Discussion;	
17	**Course project (cont.)**	1,2,3,4, 5	Attendance Q&A Presentation		
18	**Final exam**		Writing		

4. Assessment plan

- The type of assessment is grading based on exam questions. The range of scores is from 0 to 100.
- The final GPA of students is integrated from 3 components, including progress assessment, mid-term exam, and final exam. The contribution of each component (in percentage) is shown in the table below.

No	Assessment Type (% contribute to GPA)	CLO1	CLO2	CLO3	CLO4	CLO5
1	**Progress Assessment (PA, 40%)**					
1.1	Class attendance (25% of PA)					Attended 80%Pass
1.2	In-class activity: Discussion and doing Quizzes in class (25% of PA)					Participated in class Q&A 60%Pass
1.3	Homeworks (50% of PA)			HW1-14, Submitted 80%Pass	HW1-14, Submitted 80%Pass	HW1-14, Submitted 80%Pass
2	**Midterm exam (Mid, 30%)**	Q1-5, 60%Pass	Q1-5, 60%Pass		Q1-5, 60%Pass	
3	**Final exam (Fin, 30%)**	Q1-5, 60%Pass	Q1-5, 60%Pass		Q1-5, 60%Pass	

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Date revised: March 29 2024

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Management

COURSE SYLLABUS

Course Name: Reinforced Concrete 2

Course Code: **CE310IU**

1. General information

Course name	*- (in English) Reinforced concrete 2* *- (in Vietnamese) Bê tông cốt thép 2*
Module designation	*CE310IU – Reinforced Concrete 2* *Analysis and design of prestressed concrete members; beam; slabs. Analysis and design of composite slabs. Current building code and standards are referred to extensively in this course.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☑ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	6
Person responsible for the module	Assoc. Prof. Cao Thanh Ngoc Tran
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 127.5 Contact hours (lecture, exercise, laboratory session, etc.): 37.5 Private study including examination preparation, specified in hours[1]: 90
Credit points	3 credits (Theory: 3 + Practice: 0) **4.64 ECTS** *(optional)*

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Number of periods	Theory: 45 Practice: 0
Required and recommended prerequisites for joining the module	Reinforced Concrete 1 – CE304IU
Module objectives/intended learning outcomes	**Overall objectives** are to equip CE students with knowledge about prestressed concrete and composite structures Students who complete the course will be able to perform the following tasks: (1) Identify and calculate loadings to prestressed and composite structures. (2) Design prestressed and composite structures under ultimate, serviceability and transfer limit states. (3) Design and analyze the prestressed and composite members: simply supported beams, continuous beams and composite slabs
Content	*The description of the contents should clearly indicate the weighting of the content and the level.* Weight: lecture session (3 hours) Teaching levels: I (Introduce); T (teach); U (Utilize)

Topic	Weight	Level
Principles of prestressing	1	I
Design for the serviceability limit state	3	T, U
Prestress losses	2	T, U
Calculation of deflection, End blocks	1	T, U
Analysis and design at the ultimate limit state	1	T, U
Design of simply supported presstressed concrete beams	2	T, U
Continuous members	2	T, U
Introduction to composite structures	1	T, U
Design of the steel beam for conditions during construction The composite section at the ultimate state: moment & shear	2	T, U

Examination forms	Constructed-response test

Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.
Reading list	Text book: [1] Hurst, M.K., *"Prestressed Concrete Design"*, 2nd edition. [2] Mosley, W.H., Hulse, R. and Bungey, J.H., *"Reinforced Concrete Design to EuroCode 2"*, 6th edition, Macmillan, London, 2007 [3] Eurocode 2: Design of Concrete Structures – Part 1-1: General rules and rules for buildings

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program Intended Learning Outcomes (a-j) is shown in the following table:

(1) CLO1: Identify and calculate loadings to prestressed and composite structures.
(2) CLO2: Design prestressed and composite structures under ultimate, serviceability and transfer limit states.
(3) CLO3: Design and analyze the prestressed and composite members: simply supported beams, continuous beams and composite slabs.

	Program Learning Outcomes									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1	x		x							
CLO2			x					x		
CLO3			x					x		

Program Learning Outcome:

a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.
b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.
c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.
d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.
e) An ability to grasp, analyze and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.
f) An ability to use tools and techniques required for identifying, analyzing, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team

whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership
h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.
i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.
j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Principles of prestressing Methods of prestressing Analysis of concrete under working loads	1	Quiz 1	Lecture, Discussion	[1] Chapter 1,2,3
2, 3, 4	Design for the serviceability limit state • Determination of minimum section properties • Design of prestress force • Stresses under the quasi-permanent loading • Magnel diagram construction • Design of tendon profiles • Width of cable zone	2	Quiz 1	Lecture, Discussion	[1] Chapter 9
5,6	Prestress losses	2	Quiz 1	Lecture, Discussion	[1] Chapter 4
7	Calculation of deflection, End blocks,	2	Quiz 1	Lecture, Discussion	[2] Chapter 11
8	Analysis and design at the ultimate limit state, Quiz 1	2	Quiz 1	Lecture, Discussion	[1] Chapter 8
9-10	MIDTERM EXAM				
11-12	Design of simply supported presstressed concrete beams	3	Quiz 2	Lecture, Discussion	[2] Chapter 11

13, 14	Continuous members	3	Quiz 2	Lecture, Discussion	[1] Chapter 11
15	Introduction to composite structures Design procedure for composite slab	3	Quiz 2	Lecture, Discussion	[2] Chapter 12
16, 17	Design of the steel beam for conditions during construction The composite section at the ultimate state: moment & shear. Quiz 2	3	Quiz 2	Lecture, Discussion	[2] Chapter 12
18-19	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
In-class exercises/quizzes/ attendance (30%)	Quiz 1 60%Pass		Quiz 2 60%Pass
Midterm exam (20%)		50%Pass	
Final exam (50%)			50%Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: 15 May 2024

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Management

COURSE SYLLABUS

Course Name: Tall Buildings

Course Code: **CE407IU**

1. General information

Course name	*- (in English) Tall Buildings* *- (in Vietnamese) Nhà cao tầng*
Module designation	*CE407IU – Tall Buildings* *The course aims at the development of ability for design of high-rise buildings. It offers the student with an opportunity to gain real life design experience, and to develop the ability to identify and solve civil engineering problems in a feasible and creative way, and to apply design procedures, codes of practice and computer software to design conventional steel and concrete high-rise buildings*
Course type	☐ *General knowledge* ☐ *Fundamental* ☑*Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	3
Person responsible for the module	Assoc. Prof. Cao Thanh Ngoc Tran and Dr. Nguyen Linh Khanh Pham
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 127.5 Contact hours (lecture, exercise, laboratory session, etc.): 37.5

	Private study including examination preparation, specified in hours[1]: 90
Credit points	3 credits (Theory: 3 + Practice: 0) **4.64 ECTS** *(optional)*
Number of periods	Theory: 45 Practice: 0
Required and recommended prerequisites for joining the module	Reinforced Concrete 2 – CE310IU Foundation Engineering – CE309IU Foundation Project – CE402IU
Module objectives/intended learning outcomes	**Overall objectives** are to equip CE students with knowledge about the design of high-rise buildings. Students who complete the course will be able to perform the following tasks: (1) Identify and calculate lateral loadings to superstructures of tall buildings. (2) Calculate the lateral loading to each structural member. (3) Conduct basic calculations on various foundation designs and supporting structures
Content	*The description of the contents should clearly indicate the weighting of the content and the level.* Weight: lecture session (3 hours) Teaching levels: I (Introduce); T (teach); U (Utilize)

Topic	Weight	Level
Introduction	1	I
Wind Loadings	3	T, U
Earthquake Loadings	2	T, U
Lateral resistance systems	2	T, U
Sheet pile wall	1	T
Braced cut	1	T
Foundation design	2	T, U
Foundation failure and Repair: Residential and Light Commercial Buildings	2	T

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

	Foundation failure and Repair: High rise and heavy construction	2	T
Examination forms	Constructed-response test		
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.		
Reading list	Text book: [1] Taranath, B.S. 2012, Reinforced Concrete Design of Tall Buildings, CRC Press, Boca Raton, FL. [2] Das, B. M. (2015). Principles of Foundation Engineering (7th ed.). Cengage Learning [3] Brown, R. W. (2001). Practical foundation engineering handbook. McGraw-Hill Education		

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program Intended Learning Outcomes (a-j) is shown in the following table:

(1) CLO1: Identify and calculate lateral loadings to superstructures of tall buildings
(2) CLO2: Calculate the lateral loading to each structural member.
(3) CLO3: Conduct basic calculations on various foundation designs and supporting structures

	PLO									
CLO	a	b	c	d	e	f	g	h	i	j
1			x			x				x
2			x			x				x
3			x			x				x

Program Learning Outcome:

a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature

research, collect and interpret data based on the methods of academic research.

e) An ability to grasp, analyze and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

f) An ability to use tools and techniques required for identifying, analyzing, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Introduction	1	Quiz 1	Lecture, Discussion	[1] Chapter 1
2, 3, 4	Wind Loadings • Static wind loadings • Dynamic wind loadings	1	Quiz 1	Lecture, Discussion	[1] Chapter 4
5,6	Earthquake Loadings: • Linear SDF systems • Inelastic SDF systems • MDF systems • Design Codes	1	Quiz 1	Lecture, Discussion	[1] Chapter 5
7, 8	Lateral resistance systems	2	Quiz 1	Lecture, Discussion	[1] Chapter 3
9-10	MIDTERM EXAM				
11-12	Sheet pile wall	3	Quiz 2	Lecture, Discussion	[2] Chapter 9
13, 14	Braced Cut	3	Quiz 2	Lecture, Discussion	[2] Chapter 10

Week	Topic	CLO	Assessments	Learning activities	Resources
15	Foundation design (Focus on structural designs)	3	In-class exercise	Lecture, Discussion	[2] Chapter 5& 11
16, 17	Foundation failure and Repair	3	Presentation	Lecture, Discussion	[3] Chapter 2&3
18-19	FINAL EXAM				

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
In-class exercises/quizzes/ attendance (30%)	Quiz 1 60%Pass		Quiz 2 60%Pass
Midterm exam (20%)		50%Pass	
Final exam (50%)			50%Pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: 15 May 2024

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Management

COURSE SYLLABUS
Course Name: SUSTAINABLE CONSTRUCTION
Course Code: **CE415IU**

1. General information

Course name	- *Sustainable Construction* - *Xây dựng bền vững*
Course designation	*This course provides students with knowledge of green building, including green building fundamentals, green building assessment, green building design, and green building implementation.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☒ *Specialized knowledge* ☐ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the course is taught	Semester 7
Person responsible for the course	MSc. Đinh Viết Duy, Dr. Pham Thanh Tung
Language	English
Relation to curriculum	☐ Compulsory ■ Elective
Teaching methods	Lecture, presentation, discussion, and assignments
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 127.5 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): - Lecture: 28.5 - Discussion: 9 Private study including examination preparation, specified in hours: 90
Credit points	3 credits (Theory: 3 + Practice: 0) 4.64 ECTS *(optional)*
Number of periods	Theory: 15 Practice: 0

<table>
<tr><td>Required and recommended prerequisites for joining the course</td><td>- Prerequisites:
- Corequisites:
- Previous course: Civil Architecture</td></tr>
<tr><td>Course objectives</td><td>The aim of this course is to provide:
An understanding of green building fundamentals, including main concepts, major concerns, and notable movement.
An understanding of green building assessment, including the use of LEED Building Rating System and Green Globes Building Rating Tools.
An understanding of green building design, including sustainable site and landscape, low-energy building, hydrologic cycle, building materials and products, carbon footprint, and indoor environmental quality.
An understanding of green building implementation, including construction operations and commissioning, green building economics, and sustainable construction.</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course students will be able to:
<table>
<tr><th>Competency level</th><th>Course learning outcome (CLO)</th></tr>
<tr><td>Knowledge</td><td>CLO1: Demonstrate green building fundamentals
CLO2: Present green building implementations</td></tr>
<tr><td>Skill</td><td>CLO3: Assessing sustainability aspects in construction
CLO4: Applying green building design in construction</td></tr>
<tr><td>Attitude</td><td></td></tr>
</table></td></tr>
<tr><td>Content</td><td>The description of the contents should clearly indicate the weighting of the content and the level.
Weight: lecture session (3 hours)
Teaching levels: I (Introduce); T (Teach); U (Utilize)
<table>
<tr><th>Topic</th><th>Weight</th><th>Level</th></tr>
<tr><td>Green Building Fundamentals</td><td>2</td><td>I,</td></tr>
<tr><td>Green Building Assessment</td><td>3</td><td>T, U</td></tr>
<tr><td>Green Building Design</td><td>7</td><td>T, U</td></tr>
<tr><td>Green Building Implementation</td><td>3</td><td>I, T</td></tr>
</table></td></tr>
<tr><td>Examination forms</td><td>Constructed-response test</td></tr>
<tr><td>Study and examination requirements</td><td>Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed on the basis of their class participation. Questions and comments are strongly encouraged.
Assignments/Examination: Students must have GPA more than 50/100 points overall to pass this course.</td></tr>
</table>

Reading list	• Textbooks: [1] C.J., Kibert, Sustainable Construction Green Building Design and Delivery, 4th ed., Wiley, 2016. • Reference: [1] Hu., Ming, Green building costs: the affordability of sustainable design, Taylor & Francis, 2024. [2] M., Montoya, Green building fundamentals : practical guide to understanding and applying fundamental sustainable construction practices and the leed system, 2nd ed., Pearson, 2011.

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) and Program/Student Learning Outcomes (PLO) is shown in the following table:

	PLO									
CLO	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
1	x					x				
2	x					x				
3			x	x						
4			x	x						

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments activities	Learning activities	Resources
1	Green Building Background	1	Attendance	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 1, 2
2	Ecological Design	1	Attendance Quiz 1	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 3
3	Green Building Assessment	2	Attendance	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 4
4	LEED Building Rating System Green Globes Building Assessment System	2	Attendance Quiz 2 Presentation 1	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 5, 6
5-6	Green Building Design Process	3	Attendance Quiz 3	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 7
7	Sustainable Site and Landscape	3	Attendance	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 8
8	Low-Energy Building Strategies	3	Attendance	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 9
9-10	**MIDTERM EXAM**		**WRITING**		
11	Built Environment Hydrologic Cycle	3	Attendance	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 10
12	Building Materials and Products	3	Attendance	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 11
13	Built Environment Carbon Footprint	3	Attendance	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 12
14	Indoor Environmental Quality	3	Attendance Presentation 2	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 13

Week	Topic	CLO	Assessments activities	Learning activities	Resources
15	Construction Operations and Commissioning	4	Attendance	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 14
16	Green Building Economics	4	Attendance Quiz 4	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 15
17	The Cutting Edge of Sustainable Construction	4	Attendance Presentation 3	Reading materials before class; Doing the lecture; Discussion;	[1] Chapter 16
18-19	**FINAL EXAM**		**WRITING**		

4. Assessment plan

No	Assessment Type (% contribute to GPA)	CLO1	CLO2	CLO3	CLO4
1	**Progress Assessment (PA, 30%)**				
1.1	Class attendance (25% of PA)	Attended 80%Pass	Attended 80%Pass	Attended 80%Pass	Attended 80%Pass
1.2	Quizzes (25% of PA)	Quiz 1 60%Pass	Quiz 2 60%Pass	Quiz 3 60%Pass	Quiz 4 60%Pass
1.3	Presentations (50% of PA)		P1 80%Pass	P2 80%Pass	P3 80%Pass
2	**Midterm exam (Mid, 20%)**	60%Pass	60%Pass	60%Pass	
3	**Final exam (Fin, 50%)**			60%Pass	60%Pass

Note: %Pass: Target that % of students having scores greater than 50 out of 100.

5. Rubrics

6. Date revised: 15 May 2024

7. Course coordinator/Lecturer

- Shool/Department: School of Civil Engineering and Management
- Email: pttung@hcmiu.edu.vn

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Management

COURSE SYLLABUS

Course Name: Construction Project

Course Code: **CE403IU**

1. General information

Course name	*CE311IU – Construction Project* *CE403IU – Đồ án kỹ thuật thi công*
Module designation	*In this course, students are supposed to apply the knowledge in the courses of construction engineering and construction management to this project composing of calculating loads for construction, designing formwork for column, slab and beam, safety measure, preparing the schedule of concrete frame construction (optional), and finally writing a report.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☐ *Specialized knowledge* ☒ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	3
Person responsible for the module	Dr. Nguyen, Hoai Nghia
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, project, and defense.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 60 Contact hours (please specify whether lecture, exercise, laboratory session, etc.): 21 Private study including examination preparation, specified in hours[1]: 39

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Credit points	**1 credit (Theory: 00 + Practice: 01)**
Number of periods	**Theory: 00** **Practice: 30**
Required and recommended prerequisites for joining the module	- Prerequisites: - Corequisites: - Previous course: CE311IU - Construction Engineering
Module objectives/intended learning outcomes	**Overall objectives** Students who complete the course will be able to perform the following tasks: (1) Designing the construction formwork system for the concrete structure and the construction methodology. (2) Designing the construction methodology for the sub-structure, including: pressed piles, bored piles, pile caps (individually). (3) Performing the design in the calculation note, drawing, and defense.
Content	*The description of the contents should clearly indicate the weighting of the content and the level.* Weight: lecture session (3 hours) Teaching levels: I (Introduce); T (teach); U (Utilize)

Topic	Weight	Level
Project guidance	1	I
Structure dimensions Material characteristics Formwork layout arrangement	1	T, U
Load determination Slab formwork design	1	T, U
Load determination Beam forwork design	1	T, U
Load determination Column formwork design	1	T, U
Sub-structure methodology (individual assignment)	1	T, U

	Construction methodology and safety measure	1	T, U
Examination forms	Defense		
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation, report, and defense. Examination: Students must have more than 50/100 points overall to pass this module.		
Reading list	Text book: [1] S. W. Nunnally, (2014). *Construction Methods and Management*, Pearson, 8th edition. [2] R. L. Peurifoy, C. J. Schexnayder, R. L. Schmitt, and A. Shapira. (2018). *Construction Planning, Equipment, and Methods*, McGraw-Hill Education 9th edition.		

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (CLO) (1-3) and Program/Student Learning Outcomes (SLO) (1 -10) is shown in the following table:

	SLO									
CLO	a	b	c	d	e	f	g	h	i	j
1			x							
2			x			x				
3						x				

Program Learning Outcome:

a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

e) An ability to grasp, analyze and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

f) An ability to use tools and techniques required for identifying, analyzing, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate

solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Project guidance			Lecture	Lecture note
2	Structure dimensions Material characteristics Formwork layout arrangement	1,3	Attendance/ report	Project checking	[1] Chapter 13
3	Load determination Slab formwork design	1,3	Attendance/ report	Project checking	[1] Chapter 13
4	Load determination Beam forwork design	1,3	Attendance/ report	Project checking	[1] Chapter 13
5	Load determination Column formwork design	1,3	Attendance/ report	Project checking	[1] Chapter 13, 14
6	Sub-structure methodology (individual assignment)	2,3	Attendance/ report	Project checking	[1] Chapter 10
7	Construction methodology and safety measure	1,2,3	Attendance/ report	Project checking	[1] Chapter 11
	DEFENSE			Project defense	

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
Attendance (30%)			

Assessment Type	CLO1	CLO2	CLO3
Report – Calculation note (20%)	Slab. Beam , column formwork design 50%Pass	Sub-structure design 50%Pass	Calculation note performance 50% Pass
Report – Drawing (20%)	Design-based performance 50% pass	Design-based performance 50% pass	Standard compliance 50% pass
Defense (30%)	Questions related to design 50% pass	Questions related to design 50% pass	

Note: %Pass: % students have scores greater than 50 out of 100.

5. **Date revised:** June 06, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name: Feasibility study and appraisal project

Course Code: **CM401IU**

1. General Information

Course name	*CM401IU – Feasibility study and appraisal project* *CM401IU – Đồ án lập và thẩm định dự án đầu tư*
Module designation	*A practice construction project is carried out, including construction project feasibility study and appraisal. Students are supposed to apply the knowledge in the courses of construction project feasibility study and appraisal to this project composing of composing a feasibility study of a construction project including project scope, objectives, needs analysis, financial analysis, economic analysis, … and finally writing a report.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☐ *Specialized knowledge* ☒ *Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	4
Person responsible for the module	Dr. Nguyen, Hoai Nghia, MSc. Nguyen, Pham Duy Phương
Language	English
Relation to curriculum	Compulsory
Teaching methods	Lecture, presentation, and assignments.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 67.5 Contact hours (lecture, exercise, laboratory session, etc.): 37.5 Private study including examination preparation, specified in hours[1]: 30

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Credit points	**1 credit (Theory: 00 + Practice: 01)** **2.45 ECTS**
Number of periods	**Theory: 00** **Practice: 30**
Required and recommended prerequisites for joining the module	- Prerequisites: - Corequisites: - Previous course: CM308IU – Project Feasibility Study and Appraisal
Module objectives/intended learning outcomes	**Overall objectives** are to equip IU students with knowledge and skills of compiling a project feasibility study Students who complete the course will be able to perform the following tasks: (1) developing a project feasibility study (2) presenting and defense the project feasibility study
Content	*The description of the contents should clearly indicate the weighting of the content and the level.* Weight: lecture session (3 hours) Teaching levels: I (Introduce); T (teach); U (Utilize)

Topic	Weight	Level
Project feasibility study requirements and criteria	1	I
Project scope, objectives, needs, and the related documents	1	T, U
Technical analysis	2	T, U
Total construction investment amount	2	T. U
Financial analysis	3	T, U
Economic analysis	2	T, U
Project risk analysis	1	T, U
Project environmental impact (EIA)	1	I

Examination forms	Constructed-response test
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the class sessions. Students will be assessed based on their class participation. Questions and comments are strongly encouraged.

	Assignments/Examination: Students must have more than 50/100 points overall to pass this module.
Reading list	Textbook: [1] Knut Samset, *Early Project Appraisal – Making the Initial Choices*, 2010, 1st edition. References: [1] William B. Brueggeman, Jeffrey D. Fisher, *Real Estate Finance and Investments*, 2008, 13th edition. [2] David C. ling, Wayne R. Archer, *Real Estate Principles – a Value Approac*h, 2008, 2nd edition.

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-j) is shown in the following table:

(1) CLO1: developing a project feasibility study
(2) CLO2: presenting and defense the project feasibility study

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x		x		x				
CLO2							x	x		

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods

Week	Topic	CLO	Assessments	Learning activities	Resources
1	Project feasibility study requirements and criteria	1	Lecture	Lecture	
2	Project scope, objectives, needs, and the related documents	1	Attendance Presentation	Oral	
3-4	Technical analysis	1	Attendance Presentation	Oral	
5-6	Total construction investment amount	1	Attendance Presentation	Oral	
7-9	Financial analysis	1	Attendance Presentation	Oral	
10-11	Economic analysis	1	Attendance Presentation	Oral	
12-13	Project risk analysis	1	Attendance Presentation	Oral	
14	Project environmental impact (EIA)	1	Attendance Presentation	Oral	
15	Oral exam	2	Defense	Oral	

4. **Assessment plan**

Assessment Type	CLO1	CLO2
Attendance (30%)		
Report (50%)	Content 50%Pass	Design-based performance 50% pass
Defense (20%)	Questions related to design 50% pass	Questions related to design 50% pass

Note: %Pass: % students have scores greater than 50 out of 100.

5. **Date revised:** June 06, 2023

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name: Internship

Course Code: **CM306IU**

1. General Information

Course name	- *(in English): Internship* - *(in Vietnamese): Thực tập tốt nghiệp*
Course designation	*CM306IU – Internship* *This course is an internship and is designed to supplement traditional classroom-based learning with experiential learning. The internship provides students with the opportunity to practically apply knowledge gained in their courses of Construction Management.*
Course type	☐ *General knowledge* ☐ *Fundamental* ☐ *Specialized knowledge* *X Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	3
Person responsible for the module	Dr. Nguyen, Hoai Nghia, MSc. Nguyen, Pham Duy Phương, Dr. Nguyen, Van Tiep, Dr. Pham Thanh Tung
Language	English
Relation to curriculum	Compulsory
Teaching methods	Apprenticeship.
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 240 Contact hours (lecture, exercise, laboratory session, etc.): 0 Private study including examination preparation, specified in hours[1]: 240
Credit points	3 credits (Theory: 0 + Practice: 45) 7.36 ECTS *(optional)*

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

<table>
<tr><td>Number of periods</td><td>Theory: 0
Practice: 45</td></tr>
<tr><td>Required and recommended prerequisites for joining the module</td><td>Construction Planning and Scheduling, Construction Cost Management</td></tr>
<tr><td>Course objectives</td><td>Overall objectives are to equip IU students with practical knowledge and skills at a construction company.

Students who complete the course will be able to perform the following tasks:
(1) applying theories and principles learned in academic coursework to specific situations with the internship experience based on practical works experience under supervision and guidance
(2) observing and analyzing the daily functioning of the work-place and reflecting on how people within the organization carry out its mission.
(3) getting motivated and confident about career options after graduating</td></tr>
<tr><td>Course learning outcomes</td><td>Upon the successful completion of this course students will be able to:
<table>
<tr><th>Competency level</th><th>Course learning outcome (CLO)</th></tr>
<tr><td>Knowledge</td><td>CLO1: applying theories and principles learned in academic coursework to specific situations with the internship experience based on practical works experience under supervision and guidance</td></tr>
<tr><td>Skill</td><td>CLO2: observing and analyzing the daily functioning of the work-place and reflecting on how people within the organization carry out its mission.</td></tr>
<tr><td>Attitude</td><td>CLO3: getting motivated and confident about career options after graduating</td></tr>
</table></td></tr>
<tr><td>Content</td><td>The description of the contents should clearly indicate the weighting of the content and the level.
(1) Internship Registration: register internship through Edusoft or form.
(2) Internship Application and Student Performance</td></tr>
</table>

	Record. (3) Student Progress Report: The purpose of this report is to track student progress and ensure that students meet their required time commitment. This report is to be completed by the student and must be submitted to the Program Assistant no later than the last working day of each week. 5 points will be deducted from your final grade each time a progress report is submitted late. (4) Supervisor & Advisor Evaluations: This questionnaire helps ensure that the DCE receives a complete and fair assessment of each student's performance from the site supervisor and advisor. At the completion of the internship, students are responsible for requesting their site supervisor and advisor to complete and send this form to their advisor and then submit to the Program Assistant. (5) Final Report: In order to receive credit and a final grade for an approved internship student, must submit the final report. See below for suggested final report requirements. This report is to be completed by the student and must be submitted to the Program Assistant no later than the due date (to be defined later). 10 points will be deducted from your final grade when the final report is submitted late.
Examination forms	Defense
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the internship. Students will be assessed based on their internship participation. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.
Reading list	Textbook: [1] All related textbook in the CM program. References:

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-j) is shown in the following table:

- CLO1: applying theories and principles learned in academic coursework to specific situations with the internship experience based on practical works experience under supervision and guidance
- CLO2: observing and analyzing the daily functioning of the work-place and reflecting on how people within the organization carry out its mission.

- CLO3: getting motivated and confident about career options after graduating

No.	Program Learning Outcome									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1		x	x		x	x				
CLO2		x	x		x	x			x	
CLO3							x	x	x	

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Planned learning activities and teaching methods (report guidelines)

The final report is the culmination of your entire internship experience. It should be, at a minimum, 6-10 pages in length and be both descriptive and analytical in nature. Specifically, it should address the following:

(1) Describe the organization at which you did your internship and the nature of the work in which it is involved.

(2) Include descriptions of your daily tasks and responsibilities, as well as any significant events and

your accomplishments.

(3) Discuss both what you learned and what you wish you had learned, including both general knowledge about the field in which you were working and specific skills gained.

(4) Discuss the dynamics of the internship site, including the effectiveness of your role at the internship site (as you perceived it) and the mentorship that you received.

(5) Include an analysis of how the internship affected your professional development. What did it reveal to you about yourself and your career goals?

(6) *Note: Please use the following format*: Times New Roman of 12-point font; 1.5-spaced and page numbers.

4. Assessment plan

Assessment Type	CLO1	CLO2	CLO3
Company instructor evaluation (50%)	Content 50%Pass	Design-based performance 50% pass	
IU supervisor (50%)	Questions related to design 50% pass	Questions related to design 50% pass	

Note: %Pass: % students have scores greater than 50 out of 100.

5. Date revised: March 31, 2024

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

VIETNAM NATIONAL UNIVERSITY HCMC
INTERNATIONAL UNIVERSITY
School of Civil Engineering and Construction Management

COURSE SYLLABUS

Course Name: Thesis

Course Code: **CM420IU**

1. General Information

Course name	*- (in English): Thesis* *- (in Vietnamese): Luận văn tốt nghiệp*
Course designation	*CM420IU – Thesis* *In the thesis, students can carry out project feasibility study or construction design/ compile bidding documents/ specifications/ contracts/ schedules for the construction projects or construction packages, including footings-foundations, slabs, beams, columns, construction general layout, … Student can also apply knowledge to do research topic in construction management.*
Course type	☐ *General knowledge* *Fundamental* ☐ *Specialized knowledge* *X Internship/Project/Thesis* ☐ *Others:…….*
Semester(s) in which the module is taught	9
Person responsible for the module	Dr. Nguyen, Hoai Nghia, MSc. Nguyen, Pham Duy Phương, Dr. Nguyen, Van Tiep, Dr. Pham Thanh Tung
Language	English
Relation to curriculum	Compulsory
Teaching methods	Monitoring
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: 150 Contact hours (whether lecture, exercise, laboratory session): 30 Private study including examination preparation, specified in hours[1]: 120

[1] When calculating contact time, each contact hour is counted as a full hour because the organisation of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

Credit points	10 credits (Theory: + Practice: 150) 24.55 ECTS *(optional)*
Number of periods	Theory: 0 Practice: 150
Required and recommended prerequisites for joining the module	Accumulating at least 120 credits, Internship (CM306IU), Business research method (BA161IU) CEM faculties and/or Industrial experts will be assigned to supervise the student in performing his/ her thesis. Students will work one-on-one with their thesis advisor (CEM faculties and/or Industrial experts) and the thesis coordinator to identify times that they will meet and create a plan for completing the graduation thesis.
Course objectives	**Overall objectives** are to equip IU students with the knowledge application from the courses in the program of civil engineering to handle a problem in construction management. Students who complete the course will be able to perform the following tasks: (1) Having the understanding processes in design construction methodology to construct a project in civil engineering (2) Developing general construction plan/ schedule/ specifications/ bidding documents/ contracts or conducting a research (explore, investigate, analyze) to solve a problem in construction management
Course learning outcomes	Upon the successful completion of this course students will be able to:

Competency level	Course learning outcome (CLO)
Knowledge	CLO1: Having the understanding processes in design construction methodology to construct a project in civil engineering
Skill	CLO2: Developing general construction plan/ schedule/ specifications/ bidding documents/ contracts or conducting a research (explore, investigate, analyze) to solve a problem in construction management
Attitude	N/A

Content	*The description of the contents should clearly indicate the weighting of the content and the level.* (1) Student is expected that you will spend full time within 15 weeks to conduct thesis. This time should be made up of reading standards, designing and drawing construction methodology a project; developing specifications/ bidding documents/ contracts;

	conducting a study in construction management and writing thesis report. Students will meet and discuss with advisor every week or dating any time when students get trouble.
Examination forms	Defense
Study and examination requirements	Attendance: A minimum attendance of 80 percent is compulsory for the checking. Students will be assessed based on their monitoring participation. Assignments/Examination: Students must have more than 50/100 points overall to pass this module.
Reading list	Textbook: [1] All related textbook in the CM program. References:

2. Learning Outcomes Matrix (optional)

The relationship between Course Learning Outcomes (1-3) and Program/Student Learning Outcomes (a-j) is shown in the following table:

(1) CLO1: Having the understanding processes in design construction methodology to construct a project in civil engineering
(2) CLO2: Developing general construction plan/ schedule/ specifications/ bidding documents/ contracts or conducting a research (explore, investigate, analyze) to solve a problem in construction management

No.	**Program Learning Outcome**									
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
CLO1	x	x	x							x
CLO2			x	x	x	x	x	x		x

Program Learning Outcome:

(a) An ability to acquire and apply the foundation knowledge in terms of natural and social science to understand principles of construction management.

(b) An ability to understand basic principles of economy management, business management models, digital transformation in construction (BIM, AI), and utilize statistical tools and techniques for economic analysis.

(c) An ability to understand and utilize mathematical tools, problem-solving methods including technical and economic tasks and problems, and professional knowledge in construction management for managing and controlling variety aspects of construction projects.

(d) An ability to identify project objectives, scope and legal documents required as well as to be

able to evaluate social-economic benefits of construction project investments; conduct literature research, collect and interpret data based on the methods of academic research.

(e) An ability to grasp, analyse and evaluate methods and processes in construction management to solve complex problems across time, cost and quality management as well as apply artificial intelligence and building information modelling to improve the project management performance.

(f) An ability to use tools and techniques required for identifying, analysising, and evaluating the problems as well as thinking independently, logically, and critically in seeking appropriate solutions; to work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

(g) An ability to communicate effectively with a range of audiences and actively work individually and as part of an international group as well as become accustomed to the responsibilities of leadership

(h) An ability to comprehensively use English language in construction management, express themselves in a logical and convincing way both orally and in writing and communicate with their specialist colleague.

(i) An ability to recognize ethics and professional responsibility in civil engineering and construction management; and have suitable communication and interaction with people.

(j) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Course outline

No.	Week	Content
1	**1**	- Students contact to advisor to get topic of thesis.
2	**2-15**	- Students conduct thesis - Student will meet advisor every week at suitable time - Advisor inform about acting of student after 8th week and 15th week before submitting the thesis

4. Assessment plan

Students are evaluated based on average score by advisor, reviewer and committee members including 5 members based on following aspects:

Number	Content	Score	Notes
1	Define Problem Statement	Max 15	
2	Thesis Format and Organization	Max 10	
3	English Writing and Grammar	Max 10	

Number	Content	Score	Notes
4	Scientific and Academic Quality	Max 15	
5	Research Methodology	Max 15	
6	Problem Solution	Max 15	
7	Creative Characteristic	Max 10	
8	Future Recommendation	Max 10	
	Total Score	**100**	

Note: %Pass: % students have scores greater than 50 out of 100.

5. **Date revised:** March 31, 2024

Ho Chi Minh, 30/5/2024

DEAN OF SCHOOL OF CIVIL ENGINEERING AND MANAGEMENT

Ph.D Nguyen Hoai Nghia

ĐẠI HỌC QUỐC GIA
THÀNH PHỐ HỒ CHÍ MINH
TRƯỜNG ĐẠI HỌC QUỐC TẾ

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập – Tự do – Hạnh phúc

Phụ lục 3

BẢNG MÔ TẢ SỐ TÍN CHỈ THỰC TẬP CỦA CTĐT ĐƯỢC THỂ HIỆN CỤ THỂ THEO MÔN HỌC ĐỂ ĐẢM BẢO 8TC THỰC TẬP THEO QUY ĐỊNH TẠI THÔNG TƯ 17/2021/TT-BGDĐT

(Kèm theo Quyết định số /QĐ-ĐTĐH ngày tháng năm 2024 của Hiệu trưởng Trường Đại học Quốc tế)

STT	Mã môn học	Tên môn học	Số tín chỉ	Ghi chú
1	CM203IU	Construction Management Project Đồ án quản lý xây dựng	1	
2	CM304IU	Construction measurement and Cost Estimating Project Đồ án đo bóc khối lượng và ước tính chi phí xây dựng	1	
3	CM307IU	Construction Planning and Scheduling Project Đồ án hoạch định và tiến độ xây dựng	1	
4	CM312IU	Building Information Management Project Đồ án hệ thống quản lý thông tin công trình	1	
5	CE403IU	Construction Project Đồ án kỹ thuật thi công	1	Tự chọn 01 trong 02 môn (CM Elective – ListB)
6	CM401IU	Feasibility Study and Appraisal Project Đồ án lập và thẩm định dự án đầu tư	1	
7	CM306IU	Internship Thực tập tốt nghiệp	3	
8	**Tổng cộng**		**8**	