



ASIIN SELF-ASSESSMENT REPORT

PROGRAM LEVEL BACHELOR OF ENGINEERING IN SPACE ENGINEERING

**Provided by
INTERNATIONAL UNIVERSITY (IU),
VIET NAM NATIONAL UNIVERSITY HO CHI MINH CITY
(VNUHCM)**

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A About the Accreditation Procedure

1. General Data

| | |
|--|--|
| Website of the Higher Education Institution | International University – VNU-HCM https://hcmiu.edu.vn/ |
| School/Department offering the Degree Program | Department of Physics https://physics.hcmiu.edu.vn/en/ |

2. Seals applied for

| Name of the degree program (in original language) | (Official) English translation of the name | Labels applied for¹ | Previous accreditation (issuing agency, validity) | Involved Technical Committees (TC)² (will be completed by ASIIN) |
|--|---|---------------------------------------|--|---|
| Kỹ sư Kỹ thuật Không gian | Bachelor of Engineering in Space Engineering | ASIIN, EUR-ACE® Label | | TC 02 - Electrical Engineering/ Information Technology; TC 05 - Physical Technologies, Materials and Processes |

¹ ASIIN Seal for degree programs; EUR-ACE® Label: European Label for Engineering Programs; Euro-Inf®: Label European Label for Informatics; Eurobachelor®/Euromaster® Label: European Chemistry Label; AMSE Label: for medical programs; EQAS Food Label: for programs related to food studies.

² TC: Technical Committee for the following subject areas: TC 01 - Mechanical Engineering/Process Engineering; TC 02 - Electrical Engineering/Information Technology; TC 03 - Civil Engineering, Geodesy and Architecture; TC 04 - Informatics/Computer Science; TC 05 - Materials Science, Physical Technologies; TC 06 - Engineering and Management, Economics; TC 07 - Business Informatics/Information Systems; TC 08 - Agriculture, Nutritional Sciences and Landscape Architecture; TC 09 – Chemistry, Pharmacy; TC 10 - Life Sciences; TC 11 - Geosciences; TC 12 - Mathematics; TC 13 - Physics.

B Characteristics of the Degree Program

| Name | Final degree (original/English translation) | Areas of Specialisation | Corresponding level of the EQF ³ | Mode of Study | Double/Joint Degree | Duration | Credit points/unit | First time of offer |
|-------------------|---|--|---|--|---|----------|---------------------------|---------------------|
| Space Engineering | Kỹ sư /B.Eng. | Space science, digital signal processing, digital image processing, satellite applications, global navigation satellite systems, remote sensing, geolocation-based applications and big data | 6 | Full time | No | 4 years | 152 credits (243.14 ECTS) | 2016 |
| Name | Intake rhythm | Intake Capacity per cohort | Average starting cohort size | Average number of graduates per cohort | Average time required to complete studies | | | |
| Space Engineering | Annually | Max. 30 students | 12 students | 4.5 students | 9 semesters (4.5 years) | | | |

³ EQF = The European Qualifications Framework for lifelong learning

The Department of Physics was established on September 26th, 2008, according to decision No. 333/QĐ-ĐHQĐ-TCHC of the President of the International University. The Department has been in charge of teaching all fundamental courses of Physics for other departments in our university. The courses are built to equip students with basic knowledge as well as practical skills such as Classical Mechanics, Thermodynamics, Electromagnetism, Optics, Quantum Physics, and Physics Laboratories.

In 2016, the International University officially opened the undergraduate Space Engineering program in the Department of Physics according to decision No. 261/QĐ-ĐHQĐ dated April 14th, 2016, of the Chancellor of VNU-HCM. The Space Engineering program trains engineers in the application of satellite technology, including signal processing and analysis, satellite imagery, remote sensing technology, and satellite navigation. The curriculum of the SE program is designed to offer students the following: (1) Mathematics, (2) Physics, (3) Sciences for space engineers, (4) Development of technical solutions, such as signals and information systems, image processing, geographic information system (GIS), and satellite communication systems, (5) Programming for mobile devices using global positioning systems (GPS), (6) Big data analytics for satellite technology and business, and (7) Experiment in eight laboratories with 15 credits, focusing on analyzing and interpreting satellite signals.

Curriculum overview of Space Engineering program

| No. | Course ID | Course | Credit | | | ECTS |
|---------------------------------|-----------|--|-----------|----------|-----------|--------------|
| | | | Theory | Practice | Total | |
| Semester 1 | | | 14 | 2 | 16 | 25.56 |
| 1 | PH019IU | General Physics 1 | 4 | 0 | 4 | 6.16 |
| 2 | PH020IU | General Physics 1 Laboratory | 0 | 2 | 2 | 4 |
| 3 | MA001IU | Calculus 1 | 4 | 0 | 4 | 6.16 |
| 4 | PH018IU | Introduction to Space Engineering | 2 | 0 | 2 | 3.08 |
| 5 | EN007IU | Writing AE1 | 2 | 0 | 2 | 3.08 |
| | EN008IU | Listening AE1 | 2 | 0 | 2 | 3.08 |
| 6 | PT001IU | Physical training 1 | 0 | 0 | 0 | 0 |
| Semester 2 | | | 16 | 1 | 17 | 26.64 |
| 7 | PH021IU | General Physics 2 | 3 | 0 | 3 | 4.62 |
| 8 | PH022IU | General Physics 2 Laboratory | 0 | 1 | 1 | 2 |
| 9 | MA003IU | Calculus 2 | 4 | 0 | 4 | 6.16 |
| 10 | PE016IU | Marxist-Leninist political economy | 2 | 0 | 2 | 3.08 |
| 11 | EN011IU | Writing AE 2 | 2 | 0 | 2 | 3.08 |
| | EN012IU | Speaking AE2 | 2 | 0 | 2 | 3.08 |
| 12 | PT002IU | Physical training 2 | 0 | 0 | 0 | 0 |
| 13 | PE015IU | Marxist-Leninist philosophy | 3 | 0 | 3 | 4.62 |
| Summer semester (Year 1) | | | 8 | 0 | 8 | 12.32 |
| 14 | EE050IU | Introduction to computer for engineers | 3 | 0 | 3 | 4.62 |
| 15 | PE008IU | Critical thinking | 3 | 0 | 3 | 4.62 |
| 16 | PE017IU | Scientific socialism | 2 | 0 | 2 | 3.08 |
| Semester 3 | | | 19 | 2 | 21 | 33.26 |
| 17 | PH023IU | General Physics 3 | 2 | 0 | 2 | 3.08 |
| 18 | PH024IU | General Physics 3 Laboratory | 0 | 1 | 1 | 2 |

| | | | | | | |
|--|---------|--|-----------------|---------------|-----------|----------------------|
| 19 | PH030IU | Probability and statistics for engineers | 3 | 0 | 3 | 4.62 |
| 20 | PH026IU | Differential equations | 2 | 0 | 2 | 3.08 |
| 21 | EE057IU | Programming for engineers | 3 | 0 | 3 | 4.62 |
| 22 | EE058IU | Programming for engineers Laboratory | 0 | 1 | 1 | 2 |
| 23 | PE018IU | History of Vietnamese Communist Party | 2 | 0 | 2 | 3.08 |
| 24 | PH027IU | Earth observation and the environment | 3 | 0 | 3 | 4.62 |
| 25 | PH025IU | Mathematics for engineers | 4 | 0 | 4 | 6.16 |
| Semester 4 | | | 19 | 2 | 21 | 33.26 |
| 26 | PH037IU | Space Environment | 3 | 0 | 3 | 4.62 |
| 27 | PH029IU | Introduction to Relativity and Modern Physics | 3 | 0 | 3 | 4.62 |
| 28 | PH031IU | Optics and Photonics | 2 | 0 | 2 | 3.08 |
| 29 | PH032IU | Introduction to Signals and Systems | 3 | 0 | 3 | 4.62 |
| 30 | PH033IU | Signals and Systems Laboratory | 0 | 1 | 1 | 2 |
| 31 | PH040IU | Satellite Technology | 3 | 0 | 3 | 4.62 |
| 32 | PH055IU | iOS programming fundamentals | 3 | 1 | 4 | 6.62 |
| 33 | PE019IU | Ho Chi Minh's Thought | 2 | 0 | 2 | 3.08 |
| Summer semester (Year 2) | | | | | 0 | 0 |
| 34 | MP001IU | Military training | 0 | 0 | 0 | 0 |
| Semester 5 | | | 17 | 3 | 20 | 32.18 |
| 35 | PH035IU | Introduction to Space Communications | 3 | 0 | 3 | 4.62 |
| 36 | EE092IU | Digital Signal Processing | 3 | 0 | 3 | 4.62 |
| 37 | EE093IU | Digital Signal Processing Laboratory | 0 | 1 | 1 | 2 |
| 38 | PH047IU | Navigation Systems | 3 | 0 | 3 | 4.62 |
| 39 | PH057IU | Geolocation App Development for iOS | 3 | 1 | 4 | 6.62 |
| 40 | PH038IU | Introduction to Digital Image Processing | 2 | 0 | 2 | 3.08 |
| 41 | PH039IU | Digital Image Processing Laboratory | 0 | 1 | 1 | 2 |
| 42 | PH036IU | Remote Sensing | 3 | 0 | 3 | 4.62 |
| Semester 6 | | | 16 | 4 | 20 | 32.64 |
| 43 | EE105IU | Antenna and Microwave Engineering | 3 | 0 | 3 | 4.62 |
| 44 | EE124IU | Antenna and Microwave Engineering Laboratory | 0 | 1 | 1 | 2 |
| 45 | PH043IU | Satellite Signal And Image Processing Laboratory | 1 | 2 | 3 | 5.54 |
| 46 | PH056IU | Project Management | 3 | 0 | 3 | 4.62 |
| 47 | PH053IU | Big Data Analytics for Remote Sensing | 3 | 0 | 3 | 4.62 |
| 48 | PH054IU | Big Data Analytics for Remote Sensing Laboratory | 0 | 1 | 1 | 2 |
| 49 | PH041IU | Digital Image Processing | 3 | 0 | 3 | 4.62 |
| 50 | PE020IU | Engineering Ethics and Professional Skills | 3 | 0 | 3 | 4.62 |
| Summer semester | | | 3 | 0 | 3 | 4.92 |
| 51 | PH044IU | Internship | 3 | 0 | 3 | 4.92 |
| Semester 7 | | | 14 or 15 | 2 or 1 | 16 | 25.5 or 25.96 |
| 52 | PH042IU | Research Project | 4 | 0 | 4 | 6.56 |
| Electives (choose 4 out of 5 courses below) | | | 10 | 2 | 12 | 19.4 |
| 53 | PH045IU | Fundamental of Surveying | 2 | 1 | 3 | 5.08 |
| 54 | PH049IU | Advanced Remote Sensing | 3 | 0 | 3 | 4.62 |

| | | | | | | |
|-------------------|---------|---|-----------------------|---------------------|------------|-----------------------------|
| 55 | PH046IU | Geographic Information Systems (GIS) and Spatial Analysis | 2 | 1 | 3 | 5.08 |
| 56 | PH048IU | Radio Astrophysics | 3 | 0 | 3 | 4.62 |
| 57 | EE133IU | Emerging Engineering Technologies | 3 | 0 | 3 | 4.62 |
| Semester 8 | | | 10 | 0 | 10 | 16.4 |
| 58 | PH050IU | Thesis | 10 | 0 | 10 | 16.4 |
| Total | | | 128 or 129 | 16 or 15 | 152 | 242.68 or 243.14 |

C Self-assessment for the ASIIN-Seal⁴

1. The Degree Program: Concept, content & implementation

1.1. Objectives and learning outcomes of a degree program

1.1.1. Program Objectives and Intended Learning Outcomes

Bachelor's Program in Space Engineering (SE) is the study program in the Department of Physics, International University (IU), a member of Vietnam National University in Ho Chi Minh City (VNU-HCM), designated by the Chancellor of VNU-HCM on April 14th, 2016 [[Exh.1.1. Decision No. 261/QĐ-DHOG on April 14th, 2016](#)]. This new program offers undergraduate students education courses in space engineering, providing high-quality human capital in space technology in Vietnam. It has been adapted to the Government Strategy on Research and Application of Space Technology to 2020, primarily focusing on building infrastructure and human resources in space technology [[Exh.1.2. Prime Minister Decree No. 137/2006/QĐ-TTg on June 14th, 2006](#)]. The first enrolment of the SE program was in the academic year (AY) 2016-2017.

The SE program was built up with the Conceive Design Implement Operate (CDIO) method by the Department of Physics, based on IU President's Decision on June 4th, 2015 [[Exh.1.3. IU President Decision to establish Drafting Team](#)]. The program was referenced to Circular No. 07/2015 enacted by the Minister of Education and Training (MOET) on the regulations of minimum amount of knowledge, the competency requirements after graduation for each training level, and the process of developing, appraising, and promulgating undergraduate, master, and doctoral degree programs [[Exh.1.4. The Circular No. 07/2015 -TT-BGDĐT on April 16th, 2015](#)]. The SE program has also reflected the IU's vision, mission, and philosophy of education. The first version of the SE program with 141 credits (225.28 ECTS) was approved by the IU's Science and Education Committee (SEC) on September 23rd, 2015 [[Exh.1.5. SEC of IU approval on the SE program](#)].

The quality assurance of all study programs at the university is required and performed annually following the Guidelines from the IU's Office of Quality Assurance and Testing (QATO) and Office of Undergraduate Academic Affairs (OUAA) [[Exh.1.6. Quality assurance handbook](#); [Exh.1.7. Quality assessment plan of IU 2021-2025](#); [Exh.1.8. Improvement review process of undergraduate academic programs](#)]. The IU President assigned the SEC and Quality Assurance (QA) Team of the Department of Physics to support the quality assessment of the SE program [[Exh.1.9. Decision No. 716/QĐ ĐHQG-TCCB dated November 23rd, 2018](#); [Exh.1.10. Decision No. 385 on Quality Assurance Teams on July 30th, 2021](#)]. As per the Education Law of Vietnam in 2019, a bachelor program of engineering (BEng), equivalent to level 7 in the Vietnamese Qualification Framework, must be at least 150 credits and certificates of physical and military training, or at least 30 credits for people who have graduated with a bachelor degree in the same major. [[Exh.1.11. Decree No. 99/2019/ND-CP dated December 30th, 2019, of the Government](#); [Exh.1.12. Circular 17/2021/TT-BGDĐT from MOET, issued on June 22nd, 2021](#); [Exh.1.13. Prime Minister Decree No. 1982/2016/QĐ-TTg on October 18th, 2016](#)]. Accordingly, the SE program was updated based on the VNU-HCM Guidelines [[Exh.1.14. The Guidelines of VNU-HCM to update bachelor programs on January 15th, 2020](#)]. It has also been aligned with the Government Strategy on Development and Application of Space Science and Technology to 2030 [[Exh.1.13. Prime Minister Decree No. 1982/2016/QĐ-TTg on October 18th, 2016](#); [Exh.1.15. Prime Minister Decision No.169/2021/QĐ-TTg on February 4th, 2021](#)]. The program learning outcomes were revised based on the survey analysis of feedbacks from department lecturers, senior students, and stakeholders [[Exh.1.16. Surveying ILOs 2019](#)]. The second version of the SE program with 152 credits (243.14 ECTS) was approved by the SEC of the Physics Department and it has been deployed since the 2019

⁴ Includes the assessment for the European subject-specific seals, where applicable. When the accreditation process is finalized, possible requirements and/or recommendations and deadlines apply to the ASIIN seal as well as to the subject-specific seals.

cohort [[Exh.1.17. The SEC of the Department of Physics approval on the SE program; Exh.1.18. IU President Decision No. 850 on October 26th, 2020](#)].

Competence Profile

Bachelor's Program in Space Engineering provides graduates with good political ethics and moral attitudes, professional knowledge and skills, research skills, and creative thinking. The graduates have abilities to flexibly apply knowledge and skills to solve various problems in space engineering and related fields. The graduates can:

1. Work in software, logistics, and telecommunication companies of exploiting big data analysis, remote sensing, global navigation satellite system (GNSS), and geolocation-based services.
2. Work in worldwide organizations of applying satellite data in urban planning, management of the environment, natural resources, forest, land, and territory.
3. Study in a higher education level and work in worldwide institutes or universities in space science, satellite communication, remote sensing, and GNSS applications.

Program objectives

The goals of the SE program are aligned with the vision, mission, and philosophy of education of IU and the national strategy for developing space science and technology. Accordingly, the program objectives (POs) focus on providing graduates capable of being reliable professionals, leaders, and agents of change who have adequate capabilities to be responsive and adaptive to the challenges met. The graduates will have the knowledge, skills, and attitudes as follows:

- PO1. Broad fundamental knowledge of Mathematics, Physics, and Informatics to meet the requirements of the SE field and pursuit higher education levels.
- PO2. Strong professional knowledge and skills in space science, satellite communication, digital image processing, remote sensing, GNSS, and geolocation-based services to develop applications in space engineering and related fields.
- PO3. Solid skills in research, communication, and teamwork suitable for interdisciplinary contexts and multicultural environments.
- PO4. Good understanding of socioeconomics and politics to effectively contribute to the sustainable development of society and community.

Program-intended learning outcomes

Based on the program objectives, the Intended Learning Outcomes (ILOs) of the SE program has continuously been developed, aiming at enhancing student achievement [[Exh.1.19. Mapping POs and ILOs](#)]. The ILO development is a part of curriculum design and complies with the standard procedure. The ILOs applied since the 2019 cohort are presented in Table 1.1.

Table 1.1 The ILOs grouped by knowledge, skills, and attitudes

| Knowledge, skills, and attitudes | Intended learning outcomes |
|---|---|
| Generic knowledge | ILO1 - Apply knowledge of mathematics, physics, and informatics for solving space engineering problems. |
| Specific knowledge | ILO2 - Apply knowledge of physics and space science for solving problems in satellite technology applications. ILO3 - Apply knowledge and skills of digital signal processing for analyzing satellite communication signals. ILO4 - Develop applications using satellite-based positioning and remote sensing in the era of interdisciplinary science and technology. |
| Specific skills | ILO5 - Perform experiments, analyze data, interpret results, and make conclusions regarding to technical problems in satellite technology applications. |
| General skills | ILO6 - Communicate effectively in career. |

| | |
|-----------|--|
| | ILO7 - Work effectively in a team in space engineering and interdisciplinary areas. |
| Attitudes | ILO8 - Show an understanding of the role and responsibility of an engineer in society. ILO9 - Show abilities of further self-learning and lifelong learning. ILO10 - Recognize the impact of technical solutions and modern technology on the environmental issues and contemporary society. |

1.1.2. Building, reviewing, updating, and adjusting processes of ILOs

Building and revising ILOs of all IU study programs, as shown in Figures 1.1 and 1.2, must follow the procedure and guideline from OUAA and QATO [Exh.1.20. IU Quality Procedure]. ILOs are regularly reviewed after each graduation cohort to be consistent with the objectives and the competence profile. The ten ILOs of the SE program, as presented in Table 1.1, are condensed from 91 expected learning outcomes designed upon the 2016 CDIO standards. The department's academic staff, senior students, and stakeholders participated in developing intended learning outcomes. The result of the feedback survey analysis shows that about 100% of stakeholders agreed with the ILOs, as shown in Table 1.2 [Exh.1.16. Surveying ILOs 2019].

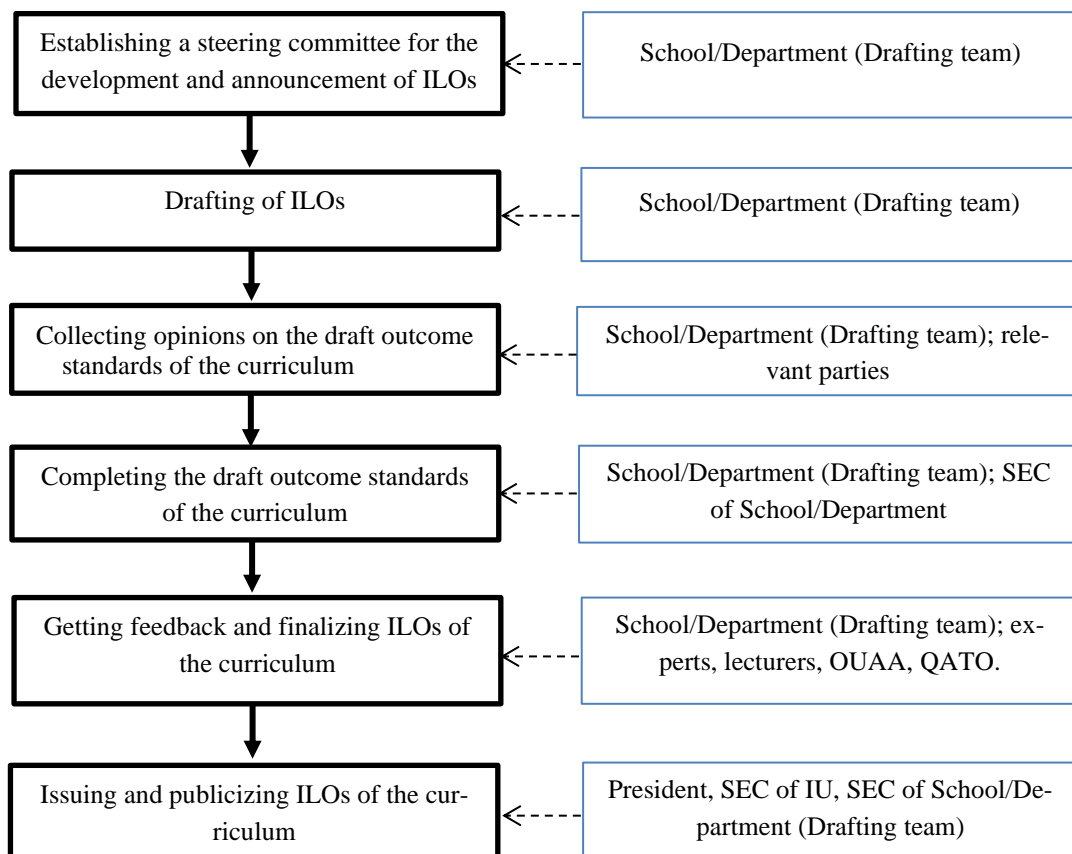


Figure 1.1 The process of building ILOs

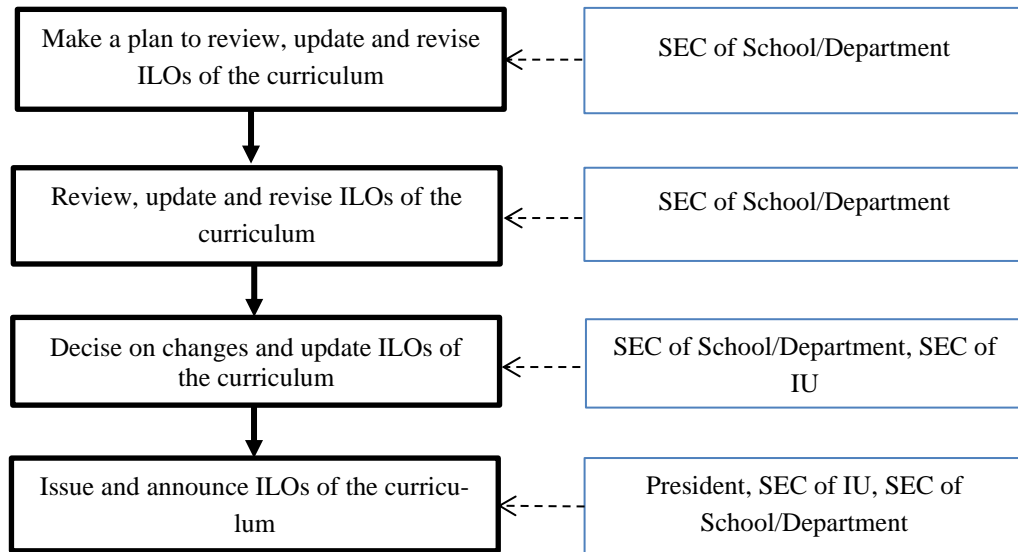


Figure 1.2 The process of reviewing, updating, and revising ILOs

Table 1.2 Agreements of the suggested ILOs from the stakeholders

| Participants | Intended Learning Outcomes | | | | | | | | | |
|---------------------|----------------------------|------|------|------|------|------|------|------|------|-------|
| | ILO1 | ILO2 | ILO3 | ILO4 | ILO5 | ILO6 | ILO7 | ILO8 | ILO9 | ILO10 |
| Stakeholders | 11 | 10 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Senior students | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Lecturers | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Total of agreements | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 29 | 30 | 30 |
| Percentage | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 97% | 100% | 100% |

The SE program is interdisciplinary so it shares common expected learning outcomes with ASIIN Subject Specific Criteria 2 (SSC-2) of the Electrical Engineering and Information Technology, as presented in Table 1.3. Although general knowledge, general skills, and attitudes of the SE program mostly overlap with those of ASIIN SSC-2, the SE program focuses on physical aspects of space science (such as relativity and modern physics, space environment, optics, and photonics) and satellite applications.

Table 1.3 Common learning outcomes between ASIIN SSC-2 and the SE program

| Objectives | SSC-2's learning outcomes | ILOs |
|-----------------------------|--|-------------------------|
| Knowledge and understanding | Graduates have, in particular <ul style="list-style-type: none"> gained a broad fundamental knowledge in mathematics, natural sciences, and engineering, enabling them to deal with complex problems in electrical engineering/information technology. gained an understanding of the broad multidisciplinary context of Engineering Sciences. | ILO1, ILO2, ILO8, ILO10 |
| Engineering analysis | Graduates can <ul style="list-style-type: none"> select and apply suitable modeling, calculating, and testing methods concerning their field of specialization. research technical literature and other sources of information relating to given problems. conduct experiments and computer simulations and explain results. consult database systems, information on norms, guidelines ("codes of good practice"), and safety regulations for these purposes. | ILO3, ILO4, ILO5 |

| Objectives | SSC-2's learning outcomes | ILOs |
|--|--|-------------------------------|
| Engineering design | Graduates <ul style="list-style-type: none"> can design works using modeling, simulation, testing, and integration in a problem-oriented way. develop products for the global market. | ILO3, ILO4, ILO5 |
| Engineering practice and product development | Graduates <ul style="list-style-type: none"> can acquire practical skills in problem solving, research tasks, and system and procedure design. have experience concerning possibilities and limits of materials applications, computational model designs, systems, processes, and tools when solving complex problems, can search technical literature and other information sources. demonstrate the awareness of health, safety, and legal issues, the responsibilities of engineering practice, and the impact of engineering solutions on the environment and society, commit to professional ethics, responsibilities, and norms of engineering practice, employ appropriate scientific methods and new findings in engineering and science for their practical work while taking into consideration of the economic, ecological, technical, and social requirements, recognize the nontechnical effects of engineering activities, develop marketable products for the global market. | ILO3, ILO4, ILO5, ILO8, ILO10 |
| Transferable skills | Graduates can <ul style="list-style-type: none"> analyze and present technical contexts understandingly in their field and related fields. operate on technical tasks in a team and to coordinate them if necessary. show the ability of self-learning and lifelong learning. | ILO6, ILO7, ILO9 |

As summarized in Table 1.4, there are several differences in the ILOs between the SE program and SSC-2. The SE program provides knowledge of signals and communication systems, digital signal processing, antenna, and microwave engineering, space communications, and satellite technology. It focuses on skills for developing modules and applications derived from satellite data for engineering analysis, design, and practice. It builds graduates' capabilities of developing satellite technology applications, such as iOS programming, digital image processing, global navigation satellite systems (GNSS), remote sensing, and big data. The SE program also focuses on capabilities of analysis, design, practice, and development of products with GNSS and remote sensing technologies. For transferable skills, the SE program provides an awareness of project management but no business practices, such as risk and change management.

Table 1.4 Different learning outcomes between ASIIN SSC-2 and the SE program

| Objectives | SSC-2's learning outcomes | ILOs |
|--|---|--|
| Engineering design | Graduates <ul style="list-style-type: none"> have special abilities to develop analogue and digital electric and electronic circuits, devices, and products | Graduates <ul style="list-style-type: none"> have special abilities to develop software, such as apps on mobile devices integrated with GNSS, modules for image/big data processing, or applications using satellite images |
| Engineering practice and product development | Graduates <ul style="list-style-type: none"> know the practice and its demands in production plants. | Graduates <ul style="list-style-type: none"> know the practice and its demands in institute/university laboratories or research projects. |
| Transferable skills | Graduates can <ul style="list-style-type: none"> demonstrate an awareness of project management and business practices, such as risk and change management, and understand their limitations | Graduates can <ul style="list-style-type: none"> demonstrate an awareness of project management and understand their limitations. |

Compared with the ASIIN SSC-5 of Materials Science and Physical Technology, the SE program provides students with similar general knowledge and skills of natural sciences, socio-economic sciences, and politics, as shown in Table 1.5. The students can understand complex phenomena and solve engineering problems of their focal study in an interdisciplinary context. The graduates can pursue higher education levels as well. The graduates of ASIIN SCC-5 and the SE program have similar specific skills in research, analysis, problem-solving, and evaluation of engineering problems of their focal studies. However, as presented in Table 1.6, the specific knowledge for applications is different. ASIIN SSC-5 focuses on material science and engineering, whereas the SE program emphasizes satellite applications.

Table 1.5 Common learning outcomes between ASIIN SSC-5 and the SE program

| Objectives | SSC-5's learning outcomes | ILOs |
|--|---|-------------------------------|
| Subject-specific competences | | |
| Knowledge, comprehension, and application | Graduates <ul style="list-style-type: none"> ● know and comprehend the principles of natural sciences, engineering, technology, and mathematics that are the basis of the subject area of their focal studies, ● have a systematic comprehension of the central elements and concepts of the subject area of their focal studies, ● possess interdisciplinary (coherent) knowledge on the subject areas of their focal studies, ● know additional aspects of subject-related sciences, ● can apply their knowledge and comprehension to conduct developments according to predefined and specific requirements, to realize results and do this in collaboration with a team of engineers, scientists, and representatives of other subject areas, ● have learned fundamental development and planning methods and possess the competency to apply these systematically, ● know the relationship between their discipline and the general expectations of society. | ILO1, ILO8, ILO10 |
| Research, analysis, problem solving and evaluation | Graduates <ul style="list-style-type: none"> ● can carry out literature and data research and using databases and other sources of information, ● have a solid command of methods and procedures to document research results, ● can conduct a comparative analysis between their findings and results from theory and relevant literatures and to draw conclusions relevant to their interest, ● possess the necessary knowledge and comprehension to identify, formulate, and to solve problems, including aspects outside of their area of specialization, using established or newly developed methods, ● can transform generally formulated tasks into feature-oriented requirement profiles and conduct a scientifically based analysis by applying learned methods, ● can apply their knowledge and competencies to analyze developments (material characteristics, products, processes, methods), advance these developments, and communicate these to others, ● are able to apply various methods – mathematical analysis, computer-aided designs or systematic experimental research – to conduct task-specific investigation and/or independently resolve issues of development tasks, ● can select and apply suitable analysis and modelling techniques | ILO2, ILO3, ILO4, ILO5 |
| General and social competences | | |
| | Graduates <ul style="list-style-type: none"> ● can work in teams and can constructively contribute as an individual and as a team member, ● can apply various methods to communicate effectively with the engineering or scientific community and with any community in general, | ILO6, ILO7, ILO8, ILO9, ILO10 |

| Objectives | SSC-5's learning outcomes | ILOs |
|------------|--|------|
| | <ul style="list-style-type: none"> are aware of the health, safety, and legal implications and responsibilities of the engineering practice, as well as the implications resulting from technical-scientific solutions within a social and natural environment. Graduates also commit to appropriately act according to professional ethics, accountability, and norms set by the technical-scientific practice, are aware of the methods and limitations of project management and business practice, such as risk and change management, acknowledge the need and have the ability for independent and lifelong further learning. | |

Table 1.6 Different learning outcomes between ASIIN SSC-5 and the SE program

| Objectives | SSC-5's learning outcomes | ILOs |
|-------------------------------------|---|---|
| Subject-specific competences | | |
| Applications | Graduates <ul style="list-style-type: none"> can combine theory and practice to solve problems related to a setting of Physical Technology, Material Science, or Material Engineering, can initiate respective developments and justify their necessity, are able to select and apply the necessary and suitable devices, tools (hardware and software), and methods, have developed an understanding of applicable techniques and methods and their limitations, can evaluate economic viability, apply safety technology. | Graduates <ul style="list-style-type: none"> can apply fundamental principles of modern physics and space science in analyzing and interpreting problems on satellite technology applications. can apply professional knowledge and skills in digital signal processing and transmission in analyzing signals in satellite communication. can develop applications in satellite-based locations and remote sensing in the context of interdisciplinary science and technology. |

1.2. Name of the degree program

As presented in Table 1.7, the program is named Bachelor's Program in Space Engineering, defined in the MOET Circular No.24/2017/TT-BGDĐT on October 10th, 2017, about the catalog of higher education and training [[Exh.1.21. Circular No.24/2017/TT-BGDĐT on October 10th, 2017](#)]. The name, objectives and ILOs of the program are available on the website of the Department of Physics, student handbook, program specification, and brochure. Furthermore, the name of the degree program has been introduced and explained to high-school students and their parents through admission consulting seminars at high schools, career consulting workshops, and job fairs at the university.

Table 1.7 The field code of the SE program in the directory of higher education and training

| Field code | Name of the degree program (in original language) | English translation of the name |
|------------|---|--|
| 7520121 | Kỹ sư Kỹ thuật Không gian | Bachelor of Engineering in Space Engineering |

1.3. Curriculum

1.3.1. Program content and structure

The development of a curriculum follows the IU Guidelines [[Exh.1.22. Process of developing and implementing curriculum](#)]. The curriculum design must ensure that the ILOs are hierarchically implemented into related courses. The curriculum of the SE program, with 152 credits (243.14 ECTS)

through 4 years, as shown in Table 1.8, was approved and sent to the Office of Undergraduate Academic Affairs (OUAA) for implementation. In semester 7, students choose elective courses for their major [*Exh.1.23. List of Elective courses for SE program*]. In the curriculum, the courses of Physical Education and Military Training are compulsory but not counted in the total credits. The concern abides by Article 7, which is mentioned in MOET's Circular 17/2021/TT-BGDĐT [*Exh.1.12. Circular 17/2021/TT-BGDĐT from MOET, issued on June 22nd, 2021*].

Table 1.8 The curriculum of the SE program

| | | | | | | | | |
|--------|--------------------------------|---|--|---|--|---|--|--|
| Year 1 | S1 (16 credits/ 25.56 ECTS) | Calculus 1 (4 credits/ 6.16 ECTS) | General Physics 1 & Lab (4+2 credits/ 6.16+4 ECTS) | Introduction to Space Engineering (2 credits/ 3.08 ECTS) | Writing + Listening AE1 (4 credits/ 6.16 ECTS) | Physical training 1 (3 credits/ 4.62 ECTS) | | |
| | S2 (20 credits/ 26.64 ECTS) | Calculus 2 (4 credits/ 6.16 ECTS) | General Physics 2 & Lab (3+1 credits/ 4.62 + 2 ECTS) | Writing + Speaking AE 2 (4 credits/ 6.16 ECTS) | Marxist-Leninist philosophy (3 credits/ 4.62 ECTS) | Marxist-Leninist political economy (2 credits/ 3.08 ECTS) | Physical training 2 (3 credits/ 4.62 ECTS) | |
| | S2-Sum (8 credits/ 12.32 ECTS) | Critical thinking (3 credits/ 4.62 ECTS) | Introduction to computer for engineers (3 credits/ 4.62 ECTS) | Scientific socialism (2 credits/ 3.08 ECTS) | | | | |
| Year 2 | S3 (21 credits/ 33.26 ECTS) | Differential 1 equations (2 credits/ 3.08 ECTS) | General Physics 3 & Lab (2+1 credits/ 3.08+2 ECTS) | Programming for engineers & Lab (3+1 credits/ 4.62 + 2 ECTS) | Earth observation and environment (3 credits/ 4.62 ECTS) | Probability and statistics for engineers (3 credits/ 4.62 ECTS) | Mathematics for Engineers (4 credits/ 6.16 ECTS) | History of VN Communist Party (2 credits/ 3.08 ECTS) |
| | S4 (21 credits/ 33.26 ECTS) | Ho Chi Minh's Thought (2 credits/ 3.08 ECTS) | Introduction to Relativity and Modern Physics (3 credits/ 4.62 ECTS) | Optics and Photonics (2 credits/ 3.08 ECTS) | Introduction to Signals and Systems & Lab (3+1 credits/ 4.62 + 2 ECTS) | Satellite Technology (3 credits/ 4.62 ECTS) | iOS programming fundamentals (3+1 credits/ 4.62 + 2 ECTS) | Space Environment (3 credits/ 4.62 ECTS) |
| | S4-Sum (0 credits/ 0 ECTS) | Military training (8 weeks) | | | | | | |
| Year 3 | S5 (20 credits/ 32.18 ECTS) | Project Management (3 credits/ 4.62 ECTS) | Navigation Systems (3 credits/ 4.62 ECTS) | Introduction to Digital Image Processing & Lab (2+1 credits/ 3.08+2 ECTS) | Digital Signal Processing & Lab (3+1 credits/ 4.62 + 2 ECTS) | Introduction to Space Communications (3 credits/ 4.62 ECTS) | Geolocation App Development for iOS & Lab (3+1 credits/ 4.62 + 2 ECTS) | |
| | S6 (20 credits/ 32.64 ECTS) | Remote Sensing (RS) (3 credits/ 4.62 ECTS) | Big Data Analytics for RS & Lab (3+1 credits/ 4.62 ECTS) | Digital Image Processing (3 credits/ 4.62 ECTS) | Antenna and Microwave Engineering & Lab (3+1 credits/ 4.62 ECTS) | Satellite Signal and Image Processing (3 credits/ 4.62 ECTS) | Engineering Ethics & Professional Skills (3 credits/ 4.62 ECTS) | |

| | | | | | | | | |
|---------------|--|--|--|---|--|---|------------------------|--|
| | | 4.62 ECTS) | credits/ 4.62 + 2 ECTS) | | credits/ 4.62 + 2 ECTS) | Lab (1+2 credits/ 1.54+ 4 ECTS) | credits/ 4.62 ECTS) | |
| | S6- Sum (3 credits/ 4.92 ECTS) | Internship (3 credits/ 4.92 ECTS) | | | | | | |
| Year 4 | S7 (16 credits/ 25.5 or 25.96 ECTS) | Research Project (4 credits/ 6.56 ECTS) | Elective course 1 (3 credits/5.08 ECTS) | Elective course 2 (3 credits/4.62 or 5.08 ECTS) | Elective course 3 (3 credits/4.62 ECTS) | Elective course 4 (3 credits/4.6 2 ECTS) | | |
| | S8 (10 credits/ 16.4 ECTS) | Thesis (10 credits/ 16.4 ECTS) | | | | | | |
| Total | | 4 years/ 152 credits/ 243.14 ECTS (Physical training and Military training are not accumulated) | | | | | | |

The curriculum can be classified into four blocks of knowledge: general courses (G), core courses (C), major courses (M), and internship, project, and thesis courses (P). Each course provides learning outcomes that contribute to ILOs at specified levels as follows:

- General courses provide basic knowledge of natural science, social science, and humanities. Natural science courses, including mathematics, physics, and informatics, are distributed in the first two years. Social science courses, including political theory, physical education, and military training, spread over four years.
- Core courses provide essential knowledge and skills of space science and technology. These courses spread from the 1st semester to the 5th semester and consist of three groups: Earth observation from space, satellite communication technology, and fundamentals of satellite technology applications.
- Major courses provide specific knowledge and skills for developing satellite technology applications. These courses are mainly distributed in the 6th semester and are elective courses in the 7th semester.
- Internship, project, and thesis courses provide working skills and attitudes, such as teamwork, communication, and lifelong learning, essential for space engineering and related areas. These courses help students apply knowledge to practice. For the internship in the summer after the 6th semester, students have six weeks to study and work with a supervisor at worldwide research institutes or industrial companies. For the research project in the 7th semester, students can participate in a research project under a supervisor. In the final semester, each student individually conducts a thesis whose topic can be proposed by the student or supervisor.

Table 1.9 The knowledge blocks of the SE program

| Knowledge Block | Number of Credits | Percentage |
|---------------------------------|-------------------|-------------|
| General courses (G) | 65 | 42.8% |
| Core courses (C) | 33 | 21.7% |
| Major courses (M) | 37 | 24.3% |
| Internship, project, thesis (P) | 17 | 11.2% |
| Total | 152 | 100% |

Table 1.9 shows the number of credits for each knowledge block of the SE program. The ILOs are put into practice within individual courses through course's learning outcomes (CLOs) describing knowledge, skills, and attitudes acquired by courses [[Exh.1.24. The SE program mapping between ILOs](#)]

[and courses](#)]. Based on the contribution level of each course to the ILOs, lecturers will define CLOs and then design the course's content, class activities, and assessment. The course syllabus will be discussed with other related lecturers and then approved by the Dean of the school/department. Each course learning outcome is defined based on one of three levels of the Bloom Taxonomy measurement as follows:

- Low (L) or the understanding level: Students can construct meaning from oral, written, and graphic messages by interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining.
- Medium (M) or the applying level: Students can employ procedures for executing or implementing.
- High (H) or the analyzing level: Students can break materials into constituent parts and determine the relationship between different aspects. They can analyze an overall structure/purpose through differentiating, organizing, and attributing.

To guarantee students an understanding of the learning outcomes of each course, the lecturers will give the course syllabi at the beginning of courses. All the syllabi are collected into the student handbook [[Exh.1.25. Student Handbook](#)].

For the internship, research project, and thesis, the IU President has signed Memorandum of Understanding documents (MOUs) of research and academic collaboration with worldwide institutes in the field of space science and technology, such as Korea Astronomy and Space Science Institute (KASI), the University of Tokyo (Japan), and Vietnam National Space Center (VNSC), to support students' practice and research [[Exh.1.26. List of MOUs](#)]. Some of these institutes financially support students. Their academic staff or professionals will supervise students during the internship, research project, and thesis. Moreover, the department's lecturers keep regular contact with academic staff and experts in professional networks, giving students more opportunities to develop their career path.

The internship takes eight weeks under instruction by a supervisor. During the internship, each student can apply learning outcomes (knowledge, skills, and attitudes) to work in a research institute or an industrial company. In the 6th semester, the department's academic advisor collects potential topics from partner departments. Each student will then choose one topic based on the student's GPA and research orientations, and the academic advisor's suggestions. Students can also propose internship topics at organizations that offer them intern positions. The internship flexibly begins after the end of the 6th semester and finishes before the consecutive semester. After the internship, students must submit and present their reports in front of an academic committee of the department. The supervisors and the committee evaluate the internship results [[Exh.1.27. Internship guideline](#); [Exh.1.28. Internship syllabus](#); [Exh.1.29. Samples of internship report](#); [Exh.1.30. Internship evaluation form](#); [Exh.1.31. Internship results](#)].

The research project allows students to participate in an industrial or research project to improve their general, specific, and transferable skills, especially teamwork and attitudes. The procedure of registration, performance, and assessment of the project follows the same manner as the internship. However, several students can participate in one project, and one professional staff member can supervise more than one student. The supervisor can guide the students online if the project host is outside Ho Chi Minh City [[Exh.1.32. List of supervisors for Research Project](#)].

The thesis is compulsory for graduation and in the 8th semester. Each student should discuss study orientations with a supervisor in the preceding semester and register a thesis topic with the department. The students' academic advisor can help introduce supervisors suitable for students' study orientations. The thesis requirements and scope ensure that each student works independently on a scientific and technical topic in space engineering [[Exh.1.33. Thesis guidelines](#); [Exh.1.34. Thesis assessment plan announcement](#)]. Students apply modern scientific methods appropriate to their knowledge and capabilities to achieve the intended goals. At the end of the semester, students must submit their thesis together with the thesis evaluation of supervisors to the department. One academic staff member or external expert will then review the thesis [[Exh.1.35. Sample of thesis advisor form](#); [Exh.1.36. Sample of thesis reviewer form](#)]. Upon the agreement of the supervisor and reviewer, the student will defend the thesis in front of an academic committee. The final score of a thesis is the average of the scores given by the

supervisors, reviewers, and the committee members [[Exh.1.37. Sample of thesis committee form](#); [Exh.1.38. Sample of thesis](#); [Exh.1.39. Thesis result](#)].

The elective courses aim at promoting the achievement of the intended competence profile. The elective courses provide specific knowledge and skills in space engineering, enhancing the accomplishment of ILO3, ILO4, ILO5, and ILO6 in the interdisciplinary scope. The department's academic advisor will support students in choosing courses to complement their competencies suitable for their study orientations.

The IU often offers students opportunities to study abroad. Based on several MOUs, the students can transfer to a foreign university from the IU after completing certain courses. As a member of VNU-HCM, the IU can apply the ASEAN Credit Transfer System, reducing the barriers to student and academic mobility [[Exh.1.40. ACTS - ASEAN Credit Transfer System \(ui.ac.id\)](#)]. The students and their families would financially benefit from this flexibility. According to Article 13 of the [[Exh.1.41. Circular 08/2021/TT-BGDĐT issued on March 18th, 2021](#)] from MOET, a course accumulated from a host institution can be considered equivalent to a course in a program of a home institution by a Scientific Academic Committee. The consideration may be done case by case.

To admit international students undertaking the IU's programs as a host institution, the IU has promulgated a procedure as given on the website of the Center for International Mobility (CIM) at the Office of External and Public Relation (OEPR) [[Exh.1.42. Procedure for full-time international students to apply to IU programs](#)]. For example, in the 1st semester of the AY 2021-2022, two incoming students from Germany participated in a course hosted by the SE program [[Exh.1.43. Exchange student Germany SE 2021-2022](#)].

1.3.2. Periodic review of the curriculum

The survey feedback from the stakeholders about the program objectives, learning outcomes, and curriculum are annually collected as follows:

- Exit Survey is taken by the graduates before the graduation ceremony. QATO collects the answers and returns the relevant information to each school/department. (See <https://qato.hcmiu.edu.vn/Surveys/ExitSurvey?surveyID=2>)
- Alumni Survey is annually taken by alumni. QATO collects the answers and returns the relevant information to each school/department. (See <https://qato.hcmiu.edu.vn/Surveys/AlumniSurvey?surveyID=3>)
- Employer Survey is taken by the intern supervisors and the employers of SE graduates. Each school/department collects feedback on this survey [[Exh.1.44. Surveys from intern supervisors and the employers of SE graduates](#)].
- School Survey is taken annually by academic staff. QATO collects the answers and returns the relevant information to each school/department. (See <https://qato.hcmiu.edu.vn/Surveys/Staff-ServiceQualitySurvey?surveyID=6>)

Based on the feedback analysis [[Exh.1.45. Exit Survey Analysis 2020-2022](#); [Exh.1.46. Alumni Survey Analysis 2020-2022](#); [Exh.1.47. Course Evaluation Survey Analysis 2020-2022](#)], each program is reviewed and justified by the corresponding school/department. If there are any changes of the program learning outcomes, the revision should be approved by the SEC of IU. Then, the Dean and secretary of the school/department will report the curriculum changes to the OUAA. Table 1.10 lists the curriculum amendments of the SE program performed from the AY 2019-2020.

Table 1.10 Curriculum amendments for the SE program

| AY | Details of amendment | Minute of meeting |
|-----------------------|--|---|
| Semester 1, 2019-2020 | - Change the subject structure of Geographical Information System and Spatial Analytics from 3 credits of theory to 2 credits of theory and 1 credit of laboratory. - Discuss an update of the subject content of Optics and Photonics. | [Exh.1.48. MOM of the SEC of the Department of Physics I] |

| | | |
|-----------------------|--|---|
| Semester 1, 2020-2021 | <ul style="list-style-type: none"> - Combine the subject of Geolocation apps development for iOS (3 credits of theory) and the subject of Geolocation apps development for iOS laboratory (1 credit of laboratory) into the subject of Geolocation apps development for iOS (3 credits of theory and 1 credit of laboratory). - Discuss an update of the subject content of Big data analytics for remote sensing. | [Exh.1.49. MOM of the SEC of the Department of Physics 2] |
| Semester 1, 2021-2022 | <ul style="list-style-type: none"> - Change the subject Navigation System from elective to compulsory. - Change the subject of Emerging Engineering Technologies from a compulsory course to an elective course. - Change the ordering of courses in the curriculum. | [Exh.1.50. MOM of the SEC of the Department of Physics 3] |

1.4. Admission requirements

The OUAA and Office of Student Services (OSS) are the offices tasked with advertising all university academic programs. All the information and procedures regarding admission requirements are published in the brochures, handouts, and on the IU website (<https://tuyensinh.hcmiu.edu.vn>). All are easy to find and apply for all applicants [[Exh.1.51. University website \(IU\)](#), [Exh.1.52. Admission regulations; Exh.1.53. Admission procedure](#)]. In cooperation with other university units and newspapers, the OUAA, OSS conduct career-orientation sessions and campus tours reaching students in various high schools in Vietnam [[Exh.1.54. Actual plan for admission campaign at IU](#)]. In addition, the university publishes its new and existing programs in well-established newspapers. High-school students from all over Vietnam and international regions can thus apply for admission to the IU.

Admission schemes

Because admission to the IU is competitive, the university provides several ways to select outstanding students and help the candidates increase their admission chances [[Exh.1.55. Methods and criteria for admission at IU](#)]. Since the AY 2017-2018, the IU admission has been based on candidates' performance obtained from either of the six schemes shown in Table 1.11. For the 4th scheme, during AYs 2017-2018 to 2019-2020, the IU admission is also based on candidates' performance obtained from the results of the Scholastic Aptitude Exam held by the IU (S-4*). After that, it was replaced by the Scholastic Aptitude Exam held by the VNU-HCM [[Exh.1.77. website https://thinangluc.vnuhcm.edu.vn/dgnl](#)].

Table 1.11 The schemes for the admission to the IU, VNU-HCM

| Scheme | Name and rule | Quota in 2023 |
|--------|--|---------------|
| S-1 | National High School Graduation Exam: based on the total score of three subjects that students have registered for their expected programs. | 50% - 70% |
| S-2 | Admission priority of VNU-HCM: excellent students from high schools designated by VNU-HCM, based on the average score of three subjects during the 10 th , 11 th , and 12 th grades. | 5% - 15% |
| S-3 | Enrollment without entrance exam: the best students based on the regulation from MOET on selection and registration, or the best students at the high schools designated by VNU-HCM. | 1% |
| S-4 | Results from the Scholastic Aptitude Exam held by VNU-HCM or VNU. | 10% - 45% |
| S-5 | Admission for candidates with International Baccalaureate: based on GPAs of three years and certificates such as Scholastic Assessment Test (SAT), American College Testing (ACT), International Baccalaureate (IB), Cambridge International Examinations A-Level (A-Level), Australian Tertiary Admission Rank (ATAR), etc. | 5% - 10% |
| S-6 | Academic Records of high schools (applied for twinning programs): based on the average score of three subjects during the 10 th , 11 th and 12 th grades. | 10% - 20% |

Each scheme is selected by taking down the candidates with the highest scores until the corresponding quota is filled. A percentage of the quota for each scheme is varied depending on the IU's recruitment strategy. For example, Table 1.11 presents the schemes with corresponding portions in 2022. MOET and VNUHCM annually assign the quota for all IU programs. Information about the intake policy for worldwide candidates and transferred students from overseas universities to the IU is annually updated and published in the IU admission brochure and website [[Exh.1.56. Admissions announcement](#), [Exh.1.51. University website \(IU\)](#)].

For domestic students, scores obtained from the National High School Graduation Exam annually organized by MOET are valid for admission to all universities. The IU's Admission Committee (ACIU) will determine the admission scores to the IU programs for schemes S-1, S-2, and S-6, annually. Accordingly, potential candidates applying to each program take the combination above that consists of three subjects, for example, A00 (Math - Physics - Chemistry), A01 (Math - Physics - English), B00 (Math - Chemistry - Biology), etc. [[Exh.1.57. Consulting plan for high school students](#)]. The ACIU will decide on a case by case for candidates who register for more than one scheme [[Exh.1.58. Guidance for admission priority](#)].

For international students, the IU announces the admission process for international candidates on the IU website [[Exh.1.59. Procedure for enrolling international students and criteria for enrolling](#); [Exh.1.60. Prospective international student admission guide on IU website](#); [Exh.1.61. Entry requirements and procedures for International Students](#)]. International candidates are those who have graduated from a foreign high school with an at-least average good GPA. They are required to have an interview with the ACIU. If they pass, the IU issues the admission decision so that they can pursue their expected program [[Exh.1.62. Decision of international student admission](#)].

For transferred students from overseas universities, the ACIU screens and interviews applicants for admission [[Exh.1.63. Transfer student application form](#)]. IU students from one program or the twinning program can also be transferred to another program [[Exh.1.64. Regulation of transfer students in IU](#)]. However, their admission scores meet the program admission requirements, and the program admitting transferred students must have enough slots in their quotas. The science and education committee of schools/departments examines their applications and potential transferred credits. The Board of President (BOP) gives the final approval [[Exh.1.65. Proposal and approval of some equivalent courses](#)].

Enrolment

After receiving the official admission announcement from the IU [[Exh.1.66. Admissions announcement for potential students](#), [Exh.1.67. Interview session for potential students](#)], the applicants must follow the enrolment steps as follows:

1. Submit the required documents as in the enrollment guideline (online or offline), including proofs of a high school diploma, official transcripts, international certificates, etc.
2. Pay the tuition fee and other fees (the tuition fee can be refunded only in exceptional cases such as enrollment for military training or sickness).
3. Register for the English Entrance Placement Test.
4. Register for Physical training.

Admission scholarship

In addition to the admission criteria, IU also has its own scholarship eligibility criteria for the students who got high scores in the National high school graduation examination (scheme 1), excellent candidates from high schools (scheme 2), candidates without entrance exam (scheme 3), and students with high scores from the Scholastic Aptitude Exams (scheme 4) every year [[Exh.1.52. Admission regulations](#); [Exh.1.55. Admission scholarship](#)]. This policy is one of the factors that attract excellent and highly qualified students to the programs at IU.

English Entrance Test

The IU programs are taught, learned, and communicated in English. Therefore, students need at least an entry-level English equivalent to 5.0 IELTS to be eligible for studying at the IU [[Exh.1.68. Regulations on English levels](#)]. Students who have yet to have suitable IELTS or TOEFL certificates will take the English entrance test given by the university [[Exh.1.69. Announcement for the English entrance](#)].

test]. This test is like the IELTS test [*Exh.1.70. Guide to the English Placement test, Exh.1.25. Student Handbook*]. Students who have yet to reach the English entry level will have to take suitable English courses organized by the IU. Their English skills will be retested after these courses until they meet the requirements to participate in the courses of their programs. Before graduation, students must have at least a level of English equivalent to 5.5 IELTS [*Exh.1.68. Regulations on English levels*].

Admission to the SE program

Since the AY 2017-2018, the quota of the SE program has been a 30-student cohort. For the schemes S-1 and S-2, the combinations of the three subjects for admission to the SE program consist of A00 (Math - Physics - Chemistry), A01 (Math - Physics - English), A02 (Math - Physics - Biology), and D90 (Math - English - Natural Science). Table 1.12 and Table 1.13 presents the admission criteria and the intake of the SE program since the AY 2017-2018, respectively.

Table 1.12 The admission criteria for the SE program since the AY 2017-2018

| Scheme | Point scale | 2017-2018 | 2018-2019 | 2019-2020 | 2020-2021 | 2021-2022 | 2022-2023 |
|--------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|
| S-1 | 30 | 18.5 | 17 | 18 | 20 | 21 | 21 |
| S-2 | 30 | | | | 22 | 23 | 21 |
| S-4* | 200 | 134.1 | 141 | 140 | | | |
| S-4 | 1200 | | | 775 | 620 | 680 | 630 |

Table 1.13 The intake of the SE program since the AY 2017-2018

| AY | Applied applicants | Offered applicants | Enrolled applicants |
|-----------|--------------------|--------------------|---------------------|
| 2017-2018 | 132 | 41 | 17 |
| 2018-2019 | 198 | 53 | 10 |
| 2019-2020 | 157 | 31 | 8 |
| 2020-2021 | 90 | 26 | 9 |
| 2021-2022 | 134 | 36 | 12 |
| 2022-2023 | 160 | 17 | 14 |

1.5. Workload and credits

The IU programs ensure students graduate on time by setting a standard length of study. This regulation is attached to the student handbook introduced to students when they begin their studies at the university. For the SE program, student graduation requirements are four AYs. An AY consists of two main semesters (odd and even) and one summer semester [*Exh.1.71. IU's academic calendar*]. In addition to participating in volunteer social activities, students can register for military training, internship, and academic improvement in the summer semester. One primary semester consists of 20 lecture weeks (15 weeks for teaching, 02 weeks for midterm exam, 02 weeks for final exams and 01 week for reserve), while the summer semester has eight scheduled lecture weeks (07 weeks for teaching and 01 for final exam). Students need to register for courses six weeks before the semester begins. The department's academic advisors support students in registering for suitable subjects with their ability to meet standard requirements. Students can adjust their study plan during the semester's first two weeks.

Following the IU's Academic Regulation Under Credit System [*Exh.1.72. IU academic regulation under credit system*], each student can register for a number of credits that is greater than 2/3 and less than 3/2 of the average number of credits of the primary semester following the curriculum. Therefore, students with superior academic potential and high GPAs can graduate in 3.5 AYs. Students' academic potential is known from the GPA scores of the previous semester. The student workload of study forms for one credit and the equivalent number of ECTS credits is presented in Table 1.14 [*Exh.1.79. An-*

[nouncement on conversion of ECTS](#)]. Herein, one period equals one hour, but the in-class period includes 50 minutes for face-to-face lectures and 10 minutes for movement. For theoretical lecture and laboratory practice, the self-study period is when students independently do academic activities, such as preparing and studying lecture materials and doing homework or assignments. For the internship, project, and thesis, the self-study period is when students independently explore, study, and experience their topics with the support of their supervisor. Two main semesters are offered a year. Upon request, a few course works can be open for the summer semester. Therefore, a majority of students can accomplish their study program within 4 years. The rest can extend their study time if needed and the maximum length of time allowed for students to finish their program is 6 years [[Exh.1.72. IU academic regulation under credit system](#)]. Following the curriculum of the SE program, the student workload in semesters is shown in Table 1.15. Subsequently, the student workload is an average of 38.92 hours per week in the two main semesters, but it is quite heavy in the 2nd and 3rd years.

Table 1.14 The student work load of study forms for one credit

| Study forms | Equivalent ECTS | In-class periods | Self-study periods | Total periods | Total hours |
|---------------------------------|-----------------|------------------|--------------------|---------------|-------------|
| Theoretical lecture (T) | 1.54 | 15 | 30 | 45 | 42.5 |
| Laboratory practice (L) | 2.00 | 30 | 30 | 60 | 55 |
| Internship, project, thesis (P) | 1.64 | | 45 | 45 | 45 |

Table 1.15 The student work load of the SE program

| Year | Semester | Total credits | ECTS credits | Study forms | | | Total hours | Avg. hours per week |
|--------|----------|---------------|--------------|-------------|---------|-------------|--------------|---------------------|
| | | | | Theory (T) | Lab (L) | Project (P) | | |
| Year 1 | 1 | 16 | 25.56 | 14 | 2 | 0 | 705 | 35.25 |
| | 2 | 17 | 26.64 | 16 | 1 | 0 | 735 | 36.75 |
| | 2-S | 8 | 12.32 | 8 | 0 | 0 | 340 | 42.5 |
| Year 2 | 3 | 21 | 33.26 | 19 | 2 | 0 | 917.5 | 45.875 |
| | 4 | 21 | 33.26 | 19 | 2 | 0 | 917.5 | 45.875 |
| Year 3 | 5 | 20 | 32.18 | 17 | 3 | 0 | 887.5 | 44.375 |
| | 6 | 20 | 32.64 | 16 | 4 | 0 | 900 | 45.00 |
| | 6-S | 3 | 4.92 | 0 | 0 | 3 | 135 | 16.87 |
| Year 4 | 7 | 16 | 25.5 or 25.9 | 10 or 11 | 2 or 1 | 4 | 715 or 702.5 | 35.75 or 35.125 |
| | 8 | 10 | 16.4 | 0 | 0 | 10 | 450 | 22.5 |

1.6. Didactics and Teaching Methodology

Teaching methods reflect the IU's philosophy of education and help students effectively achieve the SE program's learning outcomes [[Exh.1.73. IU's philosophy](#)]. Teaching methods consist of lectures, experiments, assignments, and projects [[Exh.1.74. Course syllabus](#)]. The learning model used is student-centered learning (SCL), such as cooperative learning (CPL), problem-based learning (PBL), project-based learning (PAL), and skill-based learning (SBL). The CPL model directs students to use knowledge and understanding to solve authentic problems. The PBL model is a learning strategy that focuses on problem-solving. Before students learn knowledge, they are given a problem. To be able to solve problems, students are required to learn new knowledge. The PBL is suitable for encouraging critical thinking and cooperative learning and improving problem-solving skills by solving real-world problems. The PAL model is a teaching approach that involves students' interests and motivations, links theoretical concepts learned in the classroom, explores their applications during activities outside the classroom, and provides more opportunities for direct interaction between students. The PAL has the potential to deepen the student understanding and enhance the interaction between students in completing authentic problem-based assignments that occur in everyday life. The SBL model uses a laboratory where independence, thinking skills, collaboration, and active learning are developed simultaneously

as knowledge is obtained. Table 1.16 illustrates examples of the SCL learning model in the SE program. The equipment supporting learning media consists of projectors, computers/laptops, and whiteboards, and tools/equipment in laboratories for practices.

At the beginning of a new semester, lecturers upload course materials, such as course information, lectures, assignments, references, etc., to the IU Blackboard server (Blackboard System: <https://blackboard.hcmiu.edu.vn/>). Accordingly, students can have an overview of the course to achieve CLOs during their studies effectively. The university also offers facilities to study, such as high-speed student wifi, textbooks, journals, proceedings, etc. Lecturers can apply the learning instruments and methods according to their courses. At the end of the semester, lecturers receive feedback on their teaching instruments and methods from students through the QATO's online survey system [*Exh.1.75. Course evaluation*]. Subsequently, they consider choosing suitable teaching instruments and methods next time.

Table 1.16 The SCL learning model applied in the SE program

| Learning model | Examples of the application |
|----------------|---|
| CPL | General Physics (Mechanics, Thermodynamics, Magnetic Electricity, Optics and Modern Physics), Calculus, Probability and Statistics, Differential Equation, Computer, Programming for Engineering and others |
| PBL | General Physics Laboratory, Programming for Engineering Laboratory, Digital Signal Processing Laboratory, Digital Image Processing, Big Data for Remote Sensing and others |
| PAL | Space Environment, iOS programming, Satellite Technology, Navigation System, Remote Sensing, thesis and others |
| SBL | General Physics, Signals and Systems, Digital Signal Processing, Antenna and Microwave Engineering, Satellite Signal and Image Processing |

Since 2016, the university has usually organized various training sessions on teaching methods and pedagogy for lecturers [*Exh.1.76. Plan of training course for staff*]. Experts from worldwide institutes are invited to conduct these sessions. Lecturers also have many opportunities to participate in such training sessions organized by VNU-HCM. Furthermore, they can join seminars on sharing experiments in teaching methods and course learning outcome assessments organized by the other members of VNU-HCM. Through these sessions or seminars, lecturers' knowledge and skills in pedagogy are improved.

2. Exams: System, Concept & Organisation

To organize the academic activities of the undergraduate program, the OUAA releases semester-schedule planning every semester following the IU's academic calendar [*Exh.1.71. IU's academic calendar*]. According to the planning, the schools/departments submit their course planning, consisting of study times, courses, and lecturers, to the OUAA. Then, the OUAA publishes the study schedules of all the bachelor programs on the Edusoft Web. All the IU's lecturers and students have their accounts to log in to this system. Students use their accounts to register subjects and adjust their study plans. Lecturers can download the list of course participants. The midterm exam occurs in the 8th and 9th weeks whereas the final exam is in the 19th and 20th weeks of the semester (followed the regulation on organizing examinations 411/QĐ-DHQT on July 7th, 2020) [*Exh.2.2. IU Exam Regulation*]. The procedure of organizing exams follows the IU's regulations on examination [*Exh.2.3. IU policies for examination organization*]. At the end of the semester, lecturers submit all course documents, such as grades, assignments, project reports, exams, answers, and assessment rubrics/schemes, to the school/department. The grades are also submitted to the OUAA and then available online at the Edusoft Web for students' access. All the documents stored following the MOET's Circular in 2016 are essential for controlling the quality of the study program. [*Exh.2.4. Circular No. 27/2016/TT-BGDĐT issued on December 30, 2016; Exh.2.5. Program specification*].

Syllabi comprise course learning objectives, prerequisites, descriptions, content, assignments, text-book, readings, evaluation procedures, teaching methods, and grading standards. Based on syllabi, students can determine learning methods and strategies to gain their best achievements. Exams to evaluate students' achievements are designed following CLOs planned in syllabi. Various course assessment methods, such as quizzes, exercises, assignments, laboratory tests, midterm exams, final exams, project reports, and presentations, are flexibly used to ensure that the ILOs are achieved [[Exh.1.74. Course syllabus](#); [Exh.2.6. Module Handbook](#)]. The midterm and final exams must be approved by the Dean of the school/department. Students have one 18th week to prepare for the final exam following the IU Academic Regulations [[Exh.1.72. IU academic regulation under credit system](#)]. Since the AY 2021-2022, midterm and final exam papers have been re-formatted to be used by the whole university for measuring the CLOs consistently. The exam as an assessment of learning outcomes is planned, integrated, and ongoing during the semester. Therefore, it can function to describe the development of student learning thoroughly and be able to motivate student learning better. [[Exh.2.5. Program specification](#)]

Each ILO is assessed through different courses and methods to achieve the intended competence. The department assesses students' achievement of learning outcomes by evaluating their performance in each course. Criteria for evaluating students' performance are clearly stated in the assessment plan of each course syllabus. According to the IU's Academic Regulation Under Credit System based on the MOET Circular in 2021 [[Exh.2.7. QĐ 719/QĐ-ĐHQĐ in 2021](#); [Exh.1.72. IU Academic Regulation Under Credit System](#)] the assessment of CLOs consists of different components in the 100-point grading scale.

- The component proportion of the total score of a subject is given as follows:
 - In-class assessment: attendance, active participation, quiz, homework, and assignment: 20 - 40% (offline instruction) or 30 - 60% (online).
 - Midterm exam: 20 - 40% (offline instruction) or 20 - 40% (online).
 - Final exam or essay: 30 - 50% (offline instruction) or 20 - 40% (online).
- For practical subjects, the regulations are as follows:
 - Practical exercises: 70 - 80%.
 - Final exam: 20 - 30%.

Except for the internship, project, and thesis courses, for example, the total score (TS) of the course can be determined using the following formula:

$$TS = 30\% I + 30\% M + 40\% F$$

Wherein:

- I: in-class activities consist of participation (P) (such as attendance and discussion) and assignments/homework (A). They are planned on the course's syllabus to provide students with experience in mastering hard and soft skills. Therefore, the in-class score can be determined as 30%
 $I = 10\% P + 20\% A$.
- M: the midterm exam is sub-summative.
- F: the final exam is summative.

Besides the course score, Grade Point Average (GPA) and cumulative GPA are also used to evaluate students' performance, as presented in Table 2.1. The three types of scores are recorded on the IU's Education server (the Edusoft Web: <http://edusoftweb.hcmiu.edu.vn/>). Only students who achieve the ILOs through these measurements will graduate. Those who fail must retake courses until they meet the expected learning outcome for graduation.

Table 2.1 The predicate of the course, semester GPA and cumulative GPA scores for the undergraduate students

| Classification | Scale 0 to 100 | Scale 0 to 4 | Letter Grade |
|----------------|----------------|--------------|--------------|
| Passing | | | |

| | | | |
|-------------------|---------------------------------|-----|----|
| Excellent | $90 \leq \text{score} \leq 100$ | 4.0 | A+ |
| Very good | $80 \leq \text{score} < 90$ | 3.5 | A |
| Good | $70 \leq \text{score} < 80$ | 3.0 | B+ |
| Average good | $60 \leq \text{score} < 70$ | 2.5 | B |
| Ordinary | $50 \leq \text{score} < 60$ | 2.0 | C |
| No passing | | | |
| Weak | $40 \leq \text{score} < 50$ | 1.5 | D+ |
| Very weak | $30 \leq \text{score} < 40$ | 1.0 | D |
| | $0 \leq \text{score} < 30$ | 0.0 | F |

The course's total score presents students' CLO achievement. Students pass a course when their total score is at least 50 points. Those who fail must retake the course until meeting the requirement. In case of absence because of illness, accident, or unforeseeable circumstances on the exam, students can reserve the study of the course and take the corresponding exam next semester. The maximum period extended for students to fulfill the requirements for graduation is two AYs.

ILOs are measured from CLOs assessed through exams and course evaluations [[Exh.2.8. The assessment and measuring program learning outcomes results](#)]. Exam grades must be directly tied to the CLOs. The lecturer informs the exam methods of the course at the beginning of the course. At the end of the course, the Dean of the school/department checks evaluation reports to see whether the percentage of students having achieved the CLOs meet the expected target of each course. The Dean and the lecturer will discuss the revision and amendment of teaching and learning activities and the change of exam methods based on the course assessment and students' feedback from the QATO's online surveying of the course [[Exh.1.47. Course Evaluation Survey Analysis 2020-2022](#)]. The achievement of the ILOs will be measured every AY. Table 2.2 shows the achievement of the ILOs in the AYs 2020-2023. The achievement rate of all ILOs of the SE program is measured from the average percentage of students achieving each ILO of the courses. Except for 65% of ILO2, the percentage of other ILOs is over 70%, which is relatively high. Table 2.3 summarizes the number of courses meeting the target from the AYs 2020-2023. 83% and 78% of courses met the target value in the AYs 2020-2021, 2021-2022, respectively. However, only 64% met the target in the AY 2022-2023. Also, only 67% and 43% of courses met the target for ILO1 and ILO2. The department and lecturers have to discuss improving the course content, teaching method, and assessment to increase these percentages.

Table 2.2 The achievement of the ILOs over the period 2020-2023

| Course ID | Course name | Intended Learning Outcome (ILO) | | | | | | | | | |
|-----------|---|---------------------------------|----|----|----|----|---|----|----|----|----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| PH018IU | Introduction to space engineering | | 20 | | | | | 20 | | 20 | |
| PH027IU | Earth Observation and Environment | | 19 | | | 19 | | | | | 19 |
| PH029IU | Introduction to relativity and modern physics | | 19 | | | | | 19 | | 19 | |
| PH035IU | Introduction to space communication | 14 | | 14 | | | | 14 | 14 | | |
| PH036IU | Remote sensing | 17 | | | 17 | 17 | | | | | 17 |
| PH037IU | Space environment | | 10 | | | 10 | | | | | 10 |
| PH038IU | Introduction to digital image processing | | | | 13 | 13 | | | 13 | | |
| PH039IU | Digital image processing laboratory | | | | 12 | 12 | | | 12 | | |
| PH040IU | Satellite technology | | | 15 | | | 9 | 6 | | | 15 |

| Course ID | Course name | Intended Learning Outcome (ILO) | | | | | | | | | | |
|-----------|---|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| PH041IU | Digital image processing | | | | 14 | 14 | | | | | 14 | |
| PH043IU | Satellite signal and image processing lab | | | 15 | | 15 | 15 | | | | | 15 |
| PH047IU | Navigation systems | | | | 12 | 12 | | | | | | 12 |
| PH057IU | Geolocation app development for iOS | | | | 23 | 23 | 23 | 23 | | | | |
| PH053IU | Big data analytics for RS | | | | 15 | 15 | | | | | 15 | |
| PH054IU | Big data analytics for RS lab | | | | 10 | 10 | | | | | 10 | |
| PH055IU | iOS programming fundamentals | 11 | | | 11 | 11 | | | 11 | | | |
| PH044IU | Internship | | | | | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| PH042IU | Research project | | | | | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| PH050IU | Thesis | | | | | 16 | | 16 | 16 | 16 | 16 | 16 |
| | Number of students at level 3 or above | 29 | 44 | 38 | 95 | 166 | 60 | 92 | 72 | 90 | 102 | |
| | Total number of students | 42 | 68 | 44 | 127 | 210 | 70 | 121 | 89 | 117 | 127 | |
| | Achievement percentage | 70% | 65% | 85% | 75% | 79% | 86% | 76% | 80% | 77% | 80% | |

Table 2.3 Summary of the number of courses meeting target over the period 2020-2023

| Assessment cycle | 2020 - 2021 | | 2021 - 2022 | | 2022 - 2023 | | % of courses meet target |
|--|-------------|-------|-------------|-------|-------------|-------|--------------------------|
| | Above | Below | Above | Below | Above | Below | |
| ILO1: Apply knowledge of mathematics, physics, and informatics for solving space engineering problems. | 1 | 0 | 3 | 0 | 0 | 2 | 67% |
| ILO2: Apply knowledge of physics and space science for solving problems in satellite technology applications. | 0 | 1 | 2 | 1 | 1 | 2 | 43% |
| ILO3: Apply knowledge and skills of digital signal processing for analyzing satellite communication signals. | 2 | 0 | 3 | 0 | 0 | 1 | 83% |
| ILO4: Develop applications using satellite-based positioning and remote sensing in the era of interdisciplinary science and technology. | 4 | 0 | 7 | 2 | 2 | 3 | 72% |
| ILO5: Perform experiments, analyze data, interpret results, and make conclusions regarding to technical problems in satellite technology applications. | 5 | 2 | 10 | 3 | 5 | 2 | 74% |
| ILO6: Work effectively in a team in space engineering and interdisciplinary areas. | 3 | 0 | 4 | 0 | 2 | 0 | 100% |
| ILO7: Communicate effectively in career | 3 | 2 | 4 | 1 | 4 | 1 | 73% |

| Assessment cycle | 2020 - 2021 | | 2021 - 2022 | | 2022 - 2023 | | % of courses meet target |
|--|-------------|----------|-------------|-----------|-------------|-----------|--------------------------|
| | Above | Below | Above | Below | Above | Below | |
| ILO8: Show an understanding of the role and responsibility of an engineer in society. | 3 | 0 | 5 | 1 | 3 | 1 | 85% |
| ILO9: Show abilities of further self-learning and lifelong learning. | 4 | 1 | 3 | 3 | 3 | 0 | 71% |
| ILO10: Recognize the impact of technical solutions and modern technology on the environmental issues and contemporary society. | 4 | 0 | 6 | 2 | 3 | 1 | 81% |
| Total number courses | 29 | 6 | 47 | 13 | 23 | 13 | 76% |
| % of courses meet target | 83% | | 78% | | 64% | | |

The internship course helps students participate in practical work in industry or academics, getting involved in real experience and gaining knowledge. At the beginning of the internship, students are guided with their aims and assignments. During the internship, each student is supervised by a supervisor at the host company/institute. Meanwhile, students must report their work during the internship once a week to an academic advisor at the school/department for advice and recommendation. At the end of the internship, the supervisor evaluates the student's performance using the assessment form provided by the school/department. Subsequently, students submit their internship report to the school/department and present the internship outcomes to the academic committee assigned by the school/department. The internship score is an average of the supervisor's and committee's scores [[Exh.1.27. Internship guideline](#); [Exh.2.9. Internship report](#); [Exh.2.10. Internship evaluation](#)].

For the project, the course registration, performance, and assessment procedures are like those of the internship. Students will experience working in a research group and implementing some contents/items under the supervision of the project's critical member. The project score is an average of scores given by the supervisor and committee [[Exh.2.11. Project report](#), [Exh.2.12. Project evaluation](#)].

The thesis course is compulsory for graduation and will proceed after students have gained practical experience from the internship. The thesis is an individual student's study under the supervision of a professional. Thesis topics range from solving practical problems to theoretical research. The thesis is considered a final assessment of most of the program ILOs. The regulation on doing a thesis is notified to students by the student handbook and website [[Exh.2.13. Decision 110/QĐ-DHQT issued on 4th April 2008](#); [Exh.1.25. Student Handbook](#)]. The thesis assessment process is announced to the students at the beginning of the semester [[Exh.1.34. Thesis assessment plan announcement](#)]. The thesis performance is throughout three stages: thesis proposal, midterm progressing state, and final thesis defense. Guidelines for the final thesis report format and evaluation rubrics are also notified to students [[Exh.1.33. Thesis guidelines](#); [Exh.1.35. Sample of thesis advisor form](#); [Exh.1.36. Sample of thesis reviewer form](#); [Exh.1.37. Sample of thesis committee form](#)]. At the end of the semester, the final thesis report approved by the supervisor is submitted to the school/department. The supervisor evaluates the student's performance using the assessment form provided by the school/department. The thesis report is checked for plagiarism by the Turnitin system and then sent to a reviewer appointed by the Dean of the school/department [[Exh.2.16. IU policy on plagiarism](#), [Exh.2.17. Turnitin contract](#), [Exh.2.13. Decision 110/QĐ-DHQT issued on 4th April 2008](#)]. If the reviewer's score is at least 50 points, the student is permitted to defend to the committee suggested by the Dean of the school/department and approved by the IU's President. If the reviewer is unsatisfied with the thesis results, reflected by a score of fewer than 50 points, the Dean of the school/department will suggest a meeting between the supervisor and reviewer and then decide whether the student is permitted to defend the thesis or not. The thesis score is an average of scores given by the supervisor, the reviewer, and the committee. The student passes the thesis when the thesis score is at least 50 points. The student's final thesis report is stored in the

school/department and IU's library [[Exh.2.24. Thesis assessment forms](#); [Exh.2.25. Thesis reports](#); [Exh.2.26. Decision on Establishment of Unit of Intellectual Asset Management](#)].

Additionally, the university has issued some regulations and policies to lecturers, staff, and students in educational activities as follows:

- Regulations on professional ethics in teaching and research [[Exh.2.29. Regulations on professional ethics in teaching and research](#); [Exh.2.31. Regulations on R&D contracts](#)].
- Policy on intellectual property [[Exh.2.26. Decision on Establishment of Unit of Intellectual Asset Management](#); [Exh.2.28. VNUHCM decision on IP](#)].
- Regulations on exams associated with exam schedules, question drafting, organizing, marking, and problem handling [[Exh.2.2. IU exam regulation](#)].
- Policy on fraud, exams, and academic integrity [[Exh.2.27. IU regulation on fraud, exams and academic integrity](#)].
- Policy on plagiarism [[Exh.2.16. IU Policy on plagiarism](#), [Exh.2.23. Turnitin screen](#), [Exh.2.17. Turnitin contract](#)].

3. Resources

3.1. Human resource

3.1.1. Academic staff

The academic staff must do teaching, research, and service that are clearly defined in the assignment rules, upon recruitment, and in contracts [[Exh.3.1. IU teaching regulation](#), [Exh.3.2. Labor contracts](#)]. The academic staff of the school/department includes full-time and part-time professors, permanent lecturers, and visiting lecturers. The number of academic staff of a school/department must be sufficient to deliver the curriculum adequately.

The Office of Human Resources Management (OHRM) oversees planning the headcount for every unit. The number of required academic staff is determined by the current student-to-staff ratio (SSR), taking into consideration the lecturer development plan of each school/department. The Dean of the school/department annually proposes the recruitment plan based on the teaching workload. The IU's recruitment plan is based on requests of all the units and the university strategy [[Exh.3.3. Recruitment plan](#); [Exh.3.4. Manpower requisition](#)].

The academic staff of the Department of Physics, serving the SE program as permanent teaching staff, consists of one Associate Professor, three Ph.D. degree holders, and two Master degree holders. Additionally, as planned in the curriculum, permanent lecturers from the School of Electrical Engineering teach the core and major courses, including Introduction to Signals and Systems & Laboratory, Introduction to Space Communications, Antenna and Microwave Engineering & Laboratory, and Digital Signal Processing & Laboratory. The department also invites lecturers and professionals working in worldwide universities/institutes to teach several core and major courses and supervise students for the internship, research project, and thesis.

SSR is measured and monitored annually to ensure the quality of education, research, and service for academic staff and students. As shown in Table 3.1, the SSR index at the Department of Physics in the last five years has been lower than the standard ratio of 20 students per lecturer defined by the MOET [[Exh.3.5. MOET regulation on statistical data on education in 2013](#)].

The department recognizes the increasing SSR over the years due to the growing number of students. In the strategic development plan, the department commits to developing its human resources by encouraging existing staff to take higher degrees, recruiting more PhDs in the future, and inviting more visiting lecturers. A workforce planning of the department is established and deployed to ensure the number of academic staff, especially the number of PhDs, to respond to the number of students for the quality of education, as presented in Table 3.2 [[Exh.3.6. The Department of Physics's development strategic plan](#)].

Table 3.1 SSR of the Department of Physics from the AY 2017-2018 to 2022-2023

| | 2017-2018 | 2018-2019 | 2019-2020 | 2020-2021 | 2021-2022 | 2022-2023 |
|---------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Number of Associate Professors (1) | 1 | 1 | 1 | 1 | 1 | 1 |
| Number of Ph.D. degree holders (2) | 2 | 2 | 2 | 2 | 3 | 3 |
| Number of Master's degree holders (3) | 2 | 2 | 2 | 2 | 2 | 2 |
| Number of Students (4) | 30 | 34 | 38 | 39 | 46 | 51 |
| SSR index = (4)/[(1)+(2)+(3)] | 6.0 | 6.8 | 7.6 | 7.8 | 7.7 | 8.5 |

Table 3.2 The Department of Physics's staff planning from the AY 2021-2022 to 2025-2026

| KPI | Specifications | Quantity |
|-------------------------|---------------------|----------|
| Associate Professors | Lecturer | 1 |
| Ph.D. degree holders | Lecturer | 4 |
| Master's degree holders | Lecturer/Researcher | 2 |
| Visiting lecturers | Lecturer | 5 |

3.1.2. Visiting lecturers

The Department of Physics invites visiting lecturers from other members of the VNU-HCM and the Vietnam National Space Center [[Exh.3.7. Visiting lecturers-CV](#)]. Visiting lecturers have expertise relevant to the program and are accredited by a professional committee with a similar recruitment policy to that for permanent teaching staff. For example, in the AY 2022-2023, we recruited visiting lecturers for courses of satellite technology, global navigation satellite systems, big data analytics, and iOS programming, as shown in Table 3.3. They are experts with extensive experience in these fields, so they can provide students with the essential knowledge and skills of these fields for developing applications of satellite engineering in the current interdisciplinary context.

Table 3.3 Visiting lecturers for the SE program in the AY 2022-2023

| Academic titles | Career titles | Quantity |
|----------------------|---------------------|----------|
| Associate Professors | Lecturer | 1 |
| PhDs | Lecturer/researcher | 7 |
| Masters | Lecturer | 1 |

3.1.3. Scientific orientation

According to the IU's mission of becoming one of the top research universities in Vietnam and Asia, the academic staff of the Department of Physics actively performs different research activities, especially conducting research projects and publishing scientific articles. The academic staff is encouraged to participate in research and technology transfer projects, including international, national, provincial, and industrial projects. The department's students are also encouraged to register and perform scientific projects supervised by the academic staff with the IU's budget. Table 3.4 shows the number of research projects that the staff and students are involved in from AY 2017-2018 to 2022-2023. In addition to the IU and the VNU-HCM's annual budgets, the academic staff can find themselves funding for their research projects from international, national, provincial, and industrial organizations/companies, such as NAFOSTED, VinIF, etc. [[Exh.3.8. Decision for IU research funding grant](#), [Exh.3.9. NAFOSTED](#)

[website](#)]. As presented in Table 3.5, scientific papers resulting from research projects are primarily published in well-recognized journals.

Table 3.4 The number of research projects the department of Physics' lecturers and students from the AY 2017-2018 to 2022-2023

| | 2017-2018 | 2018-2019 | 2019-2020 | 2020-2021 | 2021-2022 | 2022-2023 |
|----------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Academic staff | 1 | 1 | 1 | 0 | 1 | 1 |
| Students | 0 | 0 | 3 | 1 | 1 | 1 |

Table 3.5 The number of publications of the Department of Physics from the AY 2017-2018 to 2022-2023

| | 2017-2018 | 2018-2019 | 2019-2020 | 2020-2021 | 2021-2022 | 2022-2023 |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| SCI-E | 0 | 1 | 3 | 4 | 6 | |
| International conference paper | 1 | 0 | 0 | 0 | 2 | |
| ESCI journal paper | 0 | 0 | 1 | 0 | 0 | |
| Scopus journal paper | 0 | 0 | 0 | 1 | 0 | |
| Non-ISI journal paper | 0 | 0 | 0 | 1 | 0 | |
| Domestic journal paper | 1 | 2 | 2 | 1 | 1 | |
| Book chapter | 1 | 0 | 1 | 0 | 0 | |

Following the IU's regulation on the community and connection services in the last few years, the schools/departments concert extensively and encourage the staff to participate in the community and connection services. These primary activities are: i) incorporating and conducting national projects, ii) organizing seminars and conferences, iii) making connections between students and industrial companies, iv) joining in doctoral dissertation committee, v) delivering public lectures, vi) supporting students' startups, and vii) attending social-work events. At the end of each AY, the IU President decides to commend and reward the staff who performs well on community and connection services [[Exh.3.10. Community connection services](#)].

3.1.4. Supporting staff

At the beginning of each AY, the IU units submit their request for new supporting staff to the BOR. The number of new supporting staff is based on the number of students and current human sources. After a meeting between the BOP and the unit Heads, the planning for new supporting staff will be decided [[Exh.3.11. MOM of human resource planning](#)]. The OHRM oversees deploying the recruitment process for the new supporting staff. The selection criteria for supporting staff are made clear and publicly announced [[Exh.3.12. Recruitment Announcement](#)]. The workload of the supporting staff is considered carefully to ensure that the students are served adequately [[Exh.3.13. Composition of the supporting staff](#); [Exh.3.14. Support staff CV](#)]. The students of the SE program are currently assisted by a secretary and a teaching assistant (TA) of the Department of Physics and 166 staff in other units.

3.1.5. Performance evaluation

The lecturer assessment is systematically applied following the IU's teaching regulations to improve the quality of academic staff [[Exh.3.1. IU teaching regulations](#); [Exh.3.15. Performance Evaluation guideline and results](#); [Exh.3.16. Lecturer's performance evaluation](#)]. It includes three primary parts: teaching, research and service performance. These are measured with parameters during the previous year. Teaching performance consists of workload, consisting of teaching preparation, giving lectures and supervising research, internship, and thesis projects, updating lectures and teaching methods, assessing student learning outcomes, etc., and student course feedback [[Exh.1.75. Course evaluation](#)]. Research performance is based on the number of research conducted, the number of published papers,

the number of conferences attended, international cooperation activities on science and technology, and special tasks assigned by the university or the Dean of school/department. Service performance includes participation in the IU’s activities such as educational and scientific management, labour confederation, communist party, youth union, and others.

3.1.6. Academic staff’s satisfaction

At the end of each year, the IU conducts the School Feedback Survey consisting of 23 questions divided into 4 groups to academic staff. The survey is distributed to assess different working tasks assigned within the year, such as teaching, workloads, public activities, and research, to improve the teaching and learning quality in the whole university. Figure 3.1 presents the analysis results of the Department of Physics on these activities from 2018 to 2022 [Exh.3.17. Faculty feedback]. Most of the department’s academic staff were mostly satisfied with teaching activities and demands for public support. Nevertheless, it was difficult for them to find funding for scientific research, with no more than 50% satisfaction since 2019.

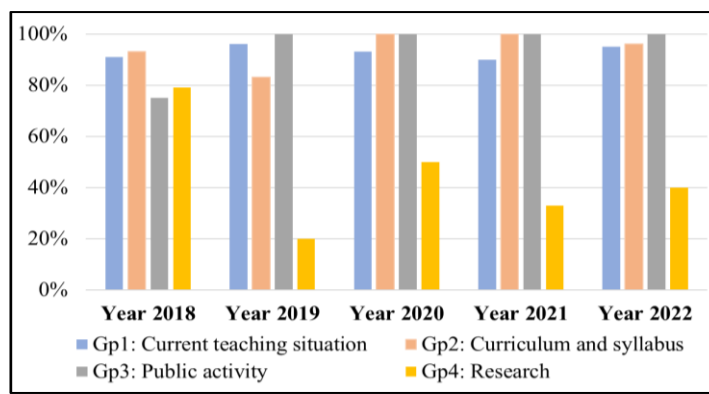


Figure 3.1 The academic staff’s feedback on responsibilities and duties from 2018 to 2022

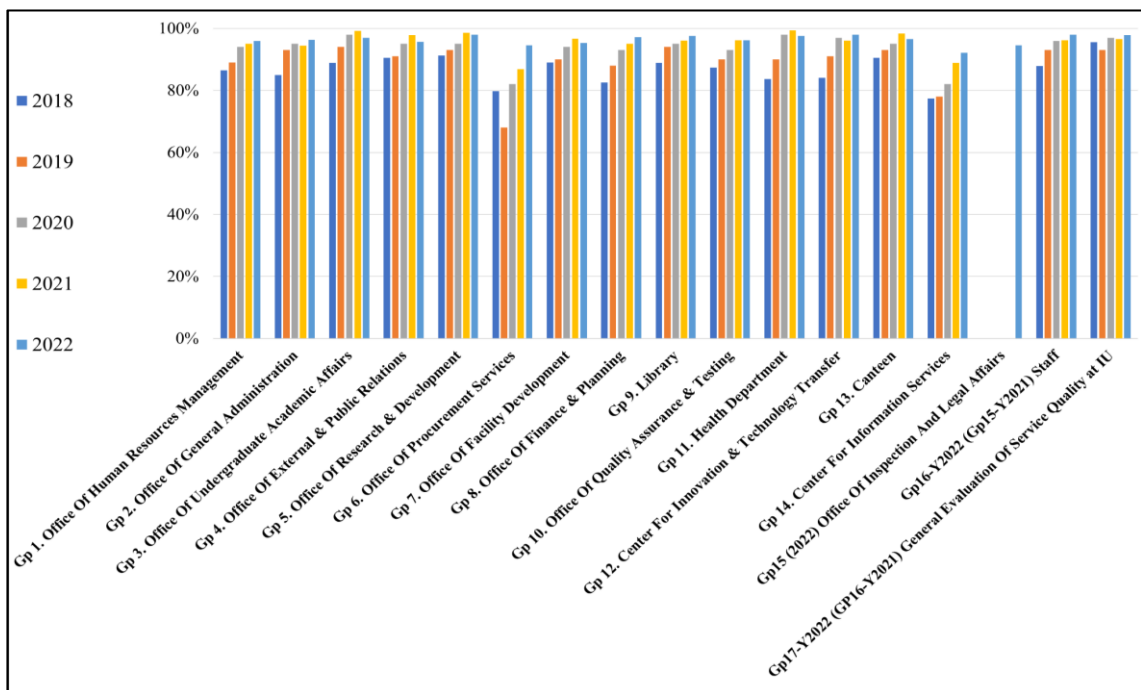


Figure 3.2 The academic staff’s feedback on the service quality from 2018 to 2022

In addition to the School Feedback Survey, the academic staff is encouraged to attend the service-quality survey annually. This survey consists of 71 questions, divided into 16 groups, as shown Figure

3.2. Based on the feedback received, the BOP and the Heads of the units have a meeting to find solutions to improve the service quality. Subsequently, inadequate services and facilities will be addressed for implementing necessary actions and modifications. As in Figure 3.2, most of the academic staff was satisfied with the IU's service quality, with an average of 92% [[Exh.3.18. Report on IU service quality \(for staff\)](#)].

3.1.7. Supporting staff's satisfaction

The contribution of supporting staff is one of the critical factors for the sustainable development of an organization. Therefore, since 2022, the QATO has built and surveyed the IU's work environment for these employees. This survey consists of 7 group questions and aims to measure their competence, workload, salary, training opportunity, and infrastructure satisfaction. It is also an opportunity for respondents to express their desires, opinions, and suggestions. The analysis results are presented in Figure 3.3 [[Exh.3.19. Supporting staff feedback](#)].

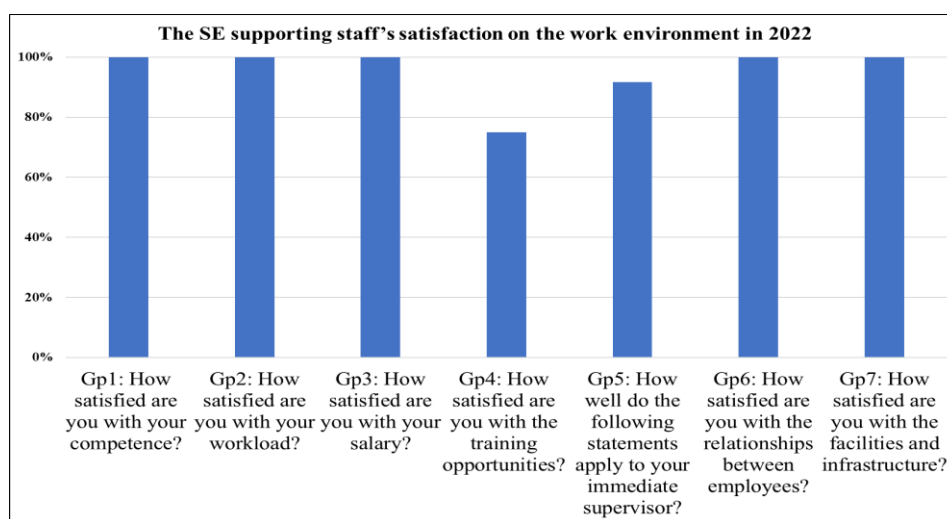


Figure 3.3 The supporting staff's satisfaction on the work environment in 2022

3.1.8. Student's satisfaction

To measure levels of student satisfaction, the QATO performs student surveys on the IU's academic environment and service quality.

For the academic environment, all students are encouraged to do the course evaluation survey before the end of every semester. This survey focuses on key points, including course planning and implementation, teaching and learning methods, exam, supporting conditions, and general evaluation. Meanwhile, exit students and alumni are encouraged to do the survey on the IU' academic environment and their occupational situation before the end of every year. Exit students fulfilling requirements for graduation are surveyed on course objectives and content, teaching activities, training organization and exam, materials and facilities for studying, student support and counseling, and occupational situation. Alumni must also provide information about their current situation, employment situation, competency acquired after graduation, training program, and career orientation. The analysis results of the Department of Physics from the AYs 2017-2018 to 2021-2022 are presented in Figures 3.4, 3.5, and 3.6 for students, exit students, and alumni, respectively [[Exh.1.75. Course evaluation](#); [Exh.3.20. Exit Survey](#); [Exh.3.21. Alumni feedback](#)]. Students were mainly satisfied with the courses they attended during the observed period at an average rate of more than 95%. Exit students are mostly satisfied with the academic environment in the IU. In the AY 2021-2022, some exit students were getting hired while waiting for the Certificate of Completion. Most alumni got their expected job after graduation in the AY 2020-2021, but the satisfaction on their occupational situation decreases in the AY 2021-2022. Moreover, some enrolled graduate studies at international universities [[Exh.3.30. Alumni jobs and studies](#)].

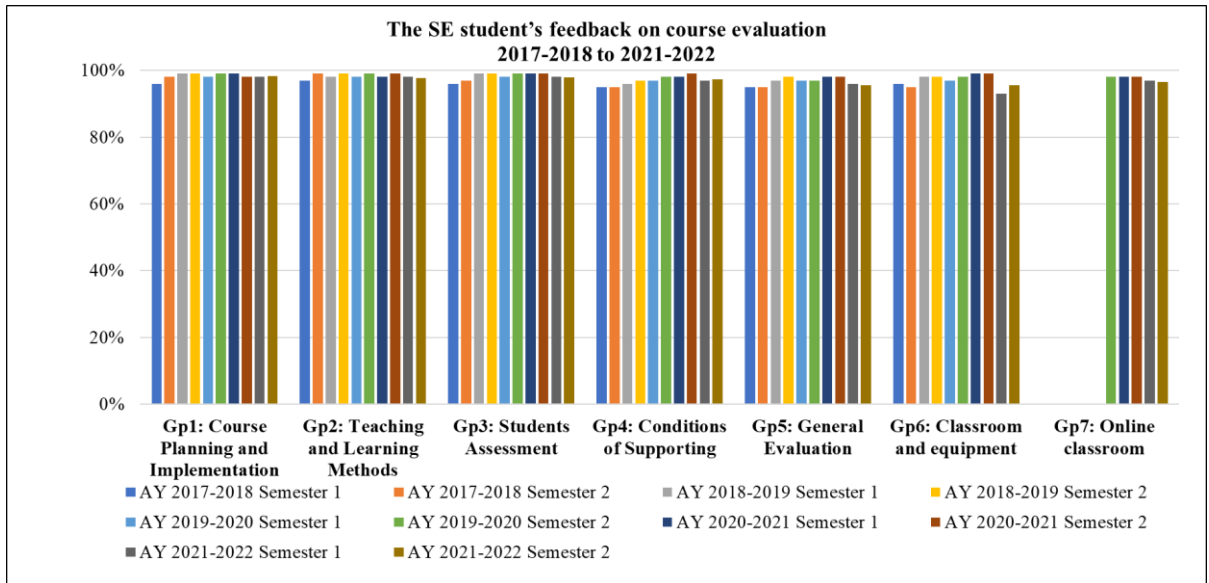


Figure 3.4 The student's feedback on the course evaluation from the AY 2017-2018 to 2021-2022

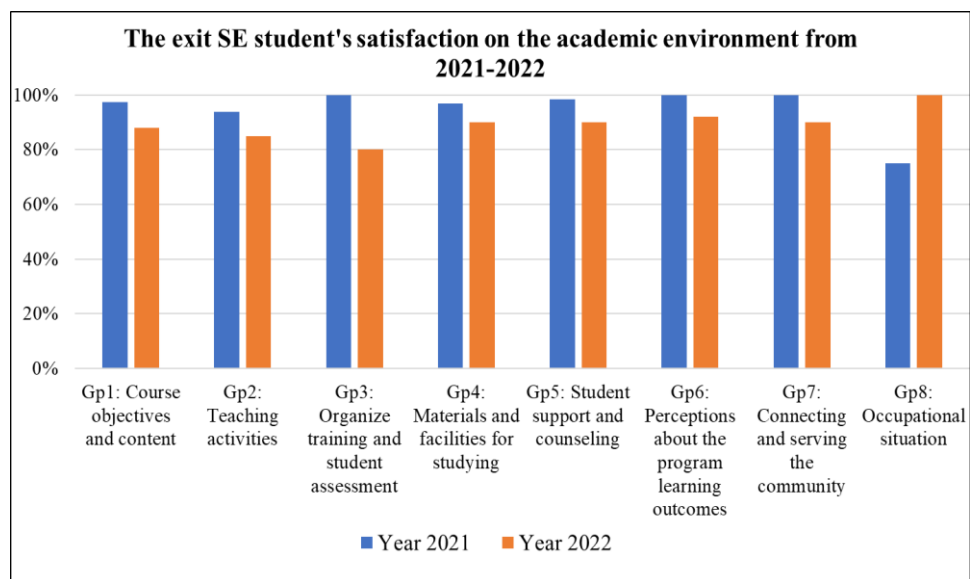


Figure 3.5 The exit student's feedback on the academic environment from 2021 to -2022

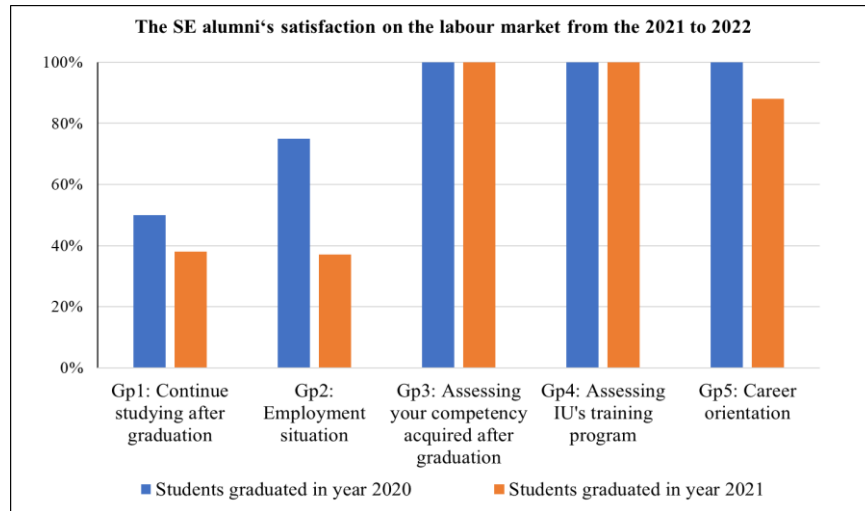


Figure 3.6 The exit student's feedback on the labour market from 2021 to 2022 (this survey is conducted 1 year after students graduate)

For the service quality, the students are encouraged to annually do the survey consisting of 45 questions divided into 14 groups, as shown in Figure 3.7 [Exh.3.22. Report on IU service quality for students]. The survey also collects personal opinions about service quality. The survey results are submitted to the BOP and Heads of Offices, which will plan the service quality improvement. Subsequently, the university units must investigate the plan and consider how they can improve their service quality [Exh.3.23. Improvement activities for support services at IU].

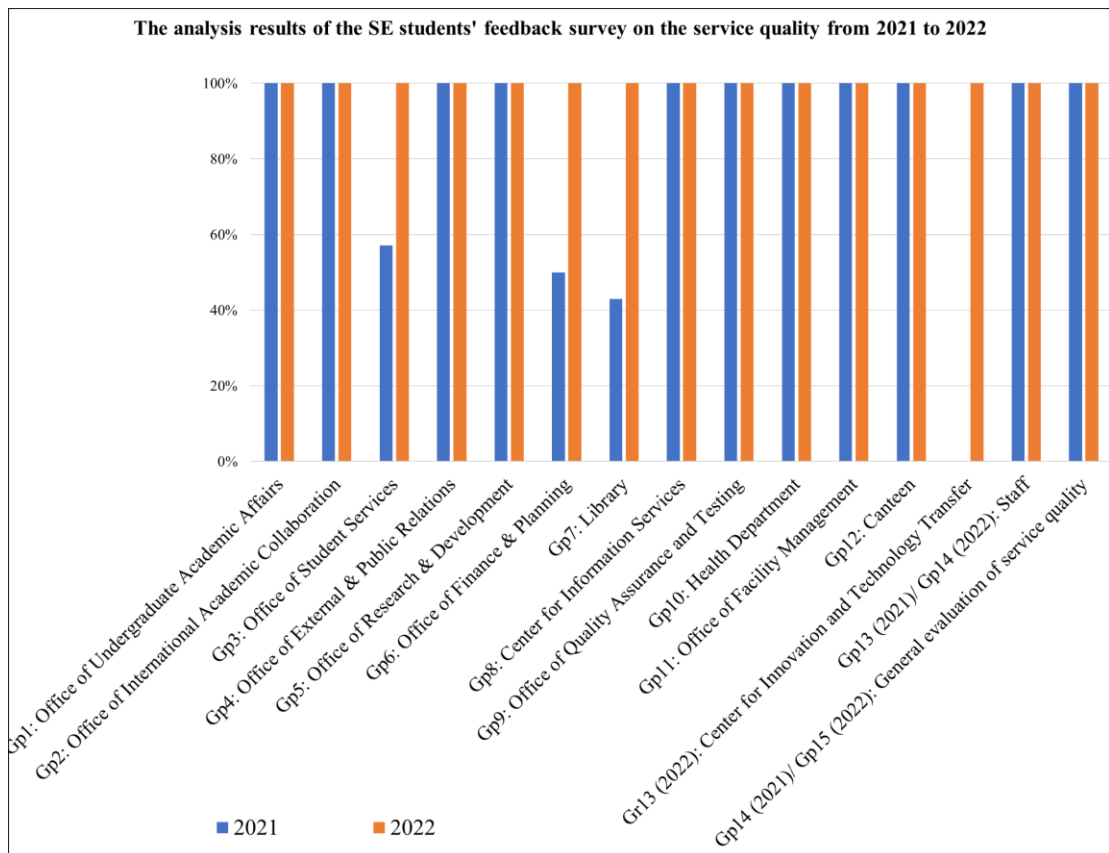


Figure 3.7 The analysis results of the students' feedback survey on the service quality from 2021 to 2022

3.1.9. Staff development

To maintain a high standard of teaching and retain a high-quality teaching workforce, the IU has offered many opportunities and support mechanisms to help the academic staff further develop their professional and teaching skills. One of the IU strategy's important tasks formulated every five years is human resource development [[Exh.3.24. IU development strategy](#)]. The BOP and the unit Heads discuss staff training in the meetings at every AY beginning. The OHRM is responsible for deploying this task, including identifying needs, developing plans, and carrying out activities. The OHRM also supports procedures for the staff to improve their professional knowledge and skills at worldwide universities/institutes. Based on the annual feedback survey of the units, the OHRM plans to organize short courses or workshops, such as pedagogy training, scientific research, management and leadership, and quality assurance [[Exh.3.25. Surveys on training need of staff](#); [Exh.3.26. Plan of training course for staff](#); [Exh.3.27. staff training courses/workshops](#); [Exh.3.28. Training for academic staff](#); [Exh.3.29. Training certification](#)]. The university also encourages the staff to participate in worldwide training courses, helping them keep up with new developments and improve their expertise.

Young academic staff are encouraged to join teaching-skill courses and supported by experienced colleagues. The university usually announces scholarships, such as Endeavour, Fulbright, MOET, and others from university partnerships, to facilitate young staff to pursue Ph.D. studies [[Exh.3.31. Foreign scholarships announcements](#)]. Recently, the university has issued a policy on short-term study and research abroad for the academic staff in 4-6 months through training courses and staff exchanges [[Exh.3.11. MOM of human resource planning](#); [Exh.3.33. Short-term training courses abroad for academic staff](#)]. All school members are encouraged to organize and participate in worldwide conferences to keep updated with the development in science and technology [[Exh.3.34. List of Academic staff attending seminars and conferences](#)]. In addition to academic staff, the service of supporting staff is also crucial for student achievement.

The Department of Physics requires the academic staff to participate in the IU's short courses and workshops on pedagogy training, scientific research, management and leadership, and quality assurance. The staff is also encouraged to attend worldwide conferences [[Exh.3.35. List of Academic staff of the Department of Physics attending seminars and conferences](#)]. In the AY 2017-2018, the department successfully organized one international conference on space science and technology [[Exh.3.36. The conference 2017](#)].

3.2. Funds and equipment

3.2.1. Facility

The university provides excellent facilities, including classrooms, equipment, learning materials, and information technology services to implement the educational program. The university has four campuses. The main campus in Thu Duc City, inside the VNU-HCM campus, serves the undergraduate programs, whereas the second campus in the center of HCMC is mainly for the graduate program. The third one is located in the Central Library of VNUHCM, and the fourth one is located in the Institute for Environment and Resources (IER) (VNUHCM) in Binh Duong province. These both later campuses serve the undergraduate programs. Table 3.6 shows the list of specified room types for educational activities for students. All classrooms are equipped with air conditioners, network-connected computers, projectors, sound systems, and a surrounding wifi network. Additionally, the main campus is currently under construction following the master plan map. Thus, the space for research and study activities will be extended significantly.

Table 3.6 Statistics of classroom, library, centers for learning materials

| No. | Types of room | Quantity | Area (m ²) |
|-----|--|----------|------------------------|
| 1 | Conference room, lecture hall, multi-function hall, office for professors, associate professors, lecturers | 142 | 9775.54 |
| 1.1 | Lecture halls with 100-200 seats | 9 | 1987.6 |

| No. | Types of room | Quantity | Area (m ²) |
|-----|--|----------|------------------------|
| 1.2 | Classrooms with 50-100 seats | 56 | 4136.38 |
| 1.3 | Classrooms with less than 50 seats | 33 | 1622 |
| 1.4 | Office for professors, associate professors, full-time lecturers | 44 | 2029.56 |
| 2 | Libraries | 3 | 1435 |
| 3 | Research Center, Laboratories | 66 | 4732 |

The Office of Facility Development (OFD) and the Office of Finance and Planning (OFP) are responsible for planning and maintaining the IU’s infrastructure facilities [Exh.3.37. Report of facilities; Exh.3.38. Annual staff conference]. Facility development is one of the important tasks of the university strategy. The university always allocates an annual budget to replace old equipment with newer ones, creating a better research and study environment [Exh.3.39. Maintenance contract; Exh.3.40. Bidding works and purchase contract]. The OFD manages the facilities while the OUAA exploits them to organize courses, seminars, conferences, and other academic events [Exh.3.41. Request form for using facilities]. Annually, the schools/departments are encouraged to submit their request for facility improvement to enhance the quality of research and teaching activities [Exh.3.42. Request form for changing, updating or improving existing facilities]. In 2021, more than 90% of the staff and students were satisfied with the infrastructure facilities. Analysis results of their feedback from 2018 to 2022, presented in Figure 3.8, indicate that student satisfaction was constantly high and staff satisfaction increased significantly [Exh.3.22. Report on IU service quality for students; Exh.3.18. Report on IU service quality for staff].

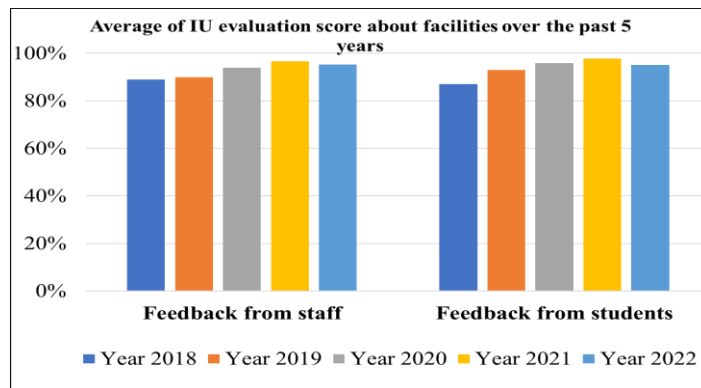


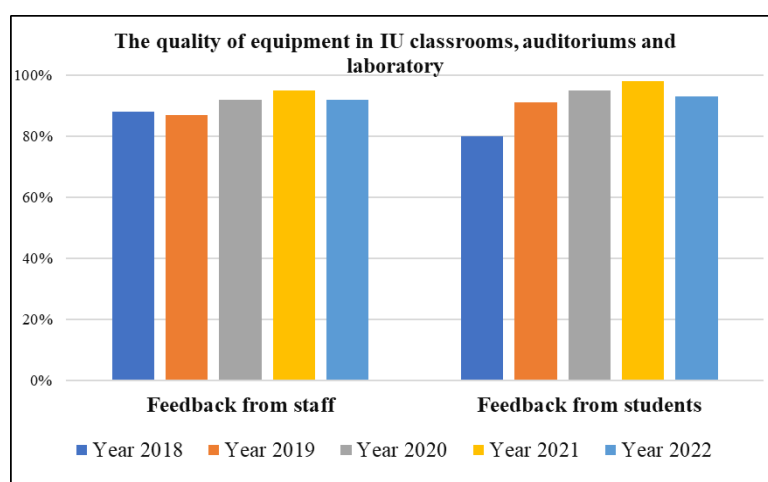
Figure 3.8 The staff and students’ feedback on the facilities from 2018 to 2022

3.2.2. Laboratory

The IU has established a modern laboratory system consisting of 57 laboratories, especially 4 computer laboratories serving all the students [Exh.3.43. List of IU laboratories]. In addition to experimental equipment/tools, the laboratories are furnished with fire extinguishers, appropriate furniture and audio-visual teaching devices, and laboratory safety rules and regulations [Exh.3.44. Lab Regulations]. The Department of Physics comprises 4 laboratories serving experimental physics lectures and of satellite data processing, as shown in Table 3.7. The SE program’s students also exploit the EE school’s signal and communication system laboratories.

Table 3.7 The laboratories serving the SE program

| No. | Laboratory with experimental equipments | Room | Seats | Area (m ²) |
|-----|---|--------|-------|------------------------|
| 1 | Electricity and magnetism laboratory with 10 desktops and Pasco Experimental Kit | A1.403 | 20 | 65 |
| 2 | Optics laboratory with 6 desktops and Pasco Experimental Kit | A1.504 | 20 | 65 |
| 3 | Mechanics and thermodynamics laboratory with 10 desktops and Pasco Experimental Kit | A2.514 | 20 | 65 |
| 4 | Satellite signal and image processing laboratory with 5 desktops | A2.203 | 10 | 27 |
| 5 | iOS App development and Big data analytics laboratory with 5 iMac desktops | A2.203 | 10 | 27 |


Figure 3.9 The staff and students' feedback on the quality of equipment in classrooms, auditoriums and laboratories from 2018 to 2022

Maintaining and upgrading laboratories are regularly performed using the annual budget [[Exh.3.45. Lab Maintenance Schedule](#)] and [[Exh.3.46. The annual budget plan](#)]. The laboratories with equipment/tools, software, database, operating system, etc., completely meet the needs of both staff and students. Figure 3.9 indicates their satisfaction with the quality of equipment in classrooms, auditoriums and laboratories during the observed period from 2018 to 2022 increased significantly.

3.2.3. Library

The IU's staff and students are provided access to scholarly resources in three locations: the IU Library on the main campus, the Reading Room on the second campus in the city centre, and the Central Library of the VNU-HCM. The IU Library safely provides access to book collections and various online services and resources. It contains vast book collections with over 30 thousand items, covering different disciplines, and shares materials with the Reading Room to serve the IU graduate students [[Exh.3.47. Library books statistics](#)]. The Central Library strongly provides access to online resources with more than 7 thousand journals and 80 thousand ebooks from well-recognized research databases [[Exh.3.48. VNU Database Portal](#)]. The IU library users can borrow hardcopy items from libraries of other universities in the VNU-HCM system [[Exh.3.49. VNU Library System Loan Policy](#)]. The IU Library distributes digital resources on its website and also shares scholarly databases of the VNU-HCM Central Library (<https://library.hcmiu.edu.vn/research/database>). In addition to academic resources, the libraries support electronic-resource services to facilitate access to digital resources and develop research skills [[Exh.3.50. Decision on Library Regulations and Its Updates](#); [Exh.3.51. e-Resources page](#); [Exh.3.52. Training page](#)].

The IU Library and the Central Library have been improving their digital capacities to keep up with trends in education and technology. They deploy international-standard solutions to support their operation, including library management software, discovery service, user authentication, and RFID [[Exh.3.53. Sierra, Ebsco Discovery, OpenAthens, EzProxy, RFID](#)]. A Single Sign-On mechanism facilitates access to services and resources. Each user has a library account to check out physical items, access digital repositories and e-Textbooks, and use VNU-HCM online databases [[Exh.3.54. Account page](#)].

The IU Library oversees acquiring essential scholarly resources. The decision to purchase resources relies on teaching, learning, and research needs [[Exh.3.55. Request Form - new](#); [Exh.3.57. Guide to make purchase proposal: <http://library.hcmiu.edu.vn/request/school>](#)]. Annually, the IU Library suggests a budget plan for the university. A large proportion of the library's budget is spent on academic materials [[Exh.3.56. Annual budgets plan](#)]. Meanwhile, the Central Library oversees planning for the whole VNU-HCM scholarly databases.

Periodic assessments are required to enhance or maintain service quality, including self-evaluation, user satisfaction surveys, failure analysis, and performance measuring. Library staff carefully monitors library operational outcomes, including the purchase-requests process, resource usage, library visits, research consultations, and workshops [[Exh.3.58. Analysis on Some Service Outcomes](#)]. Users are encouraged to take the survey on satisfaction and needs for developing library services [[Exh.3.59. Library survey on ebook and loan policy](#); [Exh.3.73. Report on IU service quality](#); [Exh.3.60. VNU Database Survey 2021](#)]. Based on the analysis results of library outcomes and survey feedback, the IU Library plans to maintain facilities, purchase new academic resources, and upgrade service.

3.2.4. Center for Information Services

The Center for Information Services (CIS) supports activities relevant to information technology (IT), such as internet wifi, computer network, telephone system, websites, and software systems. [[Exh.3.61. The office of network service establishment](#)].

Internet connection

The IU has seven internet connection lines with a bandwidth of 2.200 Mbps. The wifi system covered the entire campus with 1010 Mbps internet bandwidth via 176 WIFI Access Points (AP) to support the need for study and research [[Exh.3.62. Internet System Management Screen](#); [Exh.3.63. WIFI system management screen](#)]. The CIS guarantees to keep the IU network system and intranet services working well. The internet systems are secured with the licensed FortiGates Firewalls [[Exh.3.64. Screenshot of Fortigate 1000D and Fortigate 800C](#), [Exh.3.65. Contract for Fortigate 1000D and Fortigate 800C](#)].

Software systems

To support teaching and learning activities, the IU installed several professional software systems such as Blackboard, Edusoft, and Turnitin. The academic staff and students are required to employ them. The Blackboard system is a central portal that provides many convenient services for teaching and learning. Students can access and download their course materials, receive course announcements, submit assignments, and discuss with classmates and instructors. The Edusoft system is a software solution to efficiently manage the course schedules of schools/departments and student academic records. The Turnitin system helps lecturers and students check plagiarism and English usage [[Exh.3.66. Blackboard screen](#); [Exh.3.67. Edusoft screen](#); [Exh.3.68. Turnitin contract](#)]. Furthermore, all lecturers and students are provided the licensed MS Office 365 ProPlus accounts with antivirus software that effectively serves online teaching [[Exh.3.69. Contract for Window 10](#), [Exh.3.70. Contract for Office 365](#)]. Moreover, each lecturer has an account on Sciman used to manage research activity. The IU portal is a powerful tool to make official procedures work smoothly, especially during the Covid-19 pandemic. In addition to the hardware improvement, software licenses are monitored and renewed annually using the annual budget [[Exh.3.56. The annual budget plan](#)]. All the software programs are updated frequently, for example, MS. Office 365, FortiGate Intrusion Detection/Prevention System, Spam Filter, etc. [[Exh.3.71. List of software applying at IU](#)].

Administrators monitor networks and systems daily IT. Information about facilities and technical failures is automatically sent to the administrator via email and SMS to ensure the availability of IT ser-

vices. Hardware and communication lines are monitored so the CIS can plan for replacement and upgrade annually. Some new equipment can be requested directly from the Office of Procurement Services via the Request Form [[Exh.3.72. Request form from Office of Procurement Services](#)]. Analysis results of surveys from 2018 to 2022, as in Figure 3.10, show that the quality of the CIS has increased significantly. It showed that CIS had implemented many effective policies to improve its service quality.

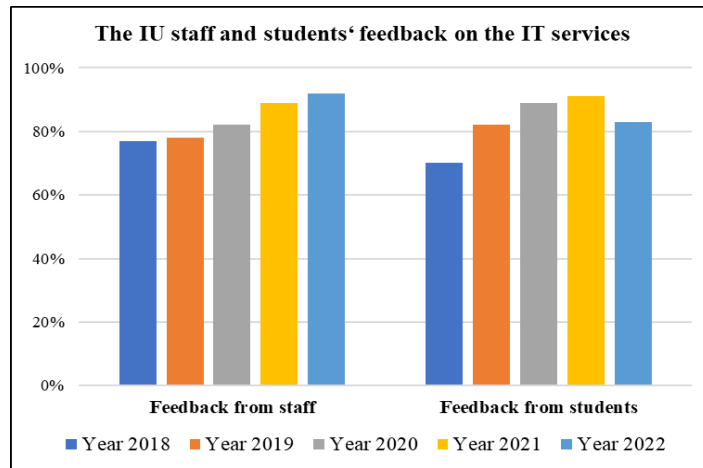


Figure 3.10 The staff and students' feedback on the IT services from 2018 to 2022.

Additionally, the CIS builds and maintains all the IU’s official websites that provide updated information regarding the university’s activities and admissions. They have been assessed and revamped over the years. Moreover, web administrators routinely check every department’s website and remind them to update their web pages.

3.2.5. New equipment requests and facility maintenance

Every year, the IU organizes a meeting where the BOP and schools/departments discuss services with students. Since 2014, all students have also been encouraged to attend the service quality surveys administered by the QATO every November. Subsequently, the BOP and the Heads of offices will meet to discuss the feedback from these activities and how to improve the quality. Particularly, difficulties or inadequate services and facilities that the students face will be addressed to find solutions. After that, instructions from the management board will then be sent to appropriate Administrative Offices, Schools and Departments, and the staff to implement necessary actions and modifications [[Exh.3.73. Survey of service quality at IU](#)]. Students can also give feedback directly to the secretary on the program’s acquiring, maintaining, and upgrading infrastructures, facilities, and equipment. All procedures are published in the Guideline Procedure of The Office of Procurement Services (OPS). For example, Figures 3.11 and 3.12 present procedures for requesting new equipment and maintenance of facilities and equipment, respectively.

The strategic plan of the university clearly indicates long-term plans for establishing internal and external cooperation. They were first developed by the Offices and then reviewed by the Strategic Plan Development Committee before being approved by BOP [[Exh.3.24. IU development strategy](#)]. Plans for internal and external cooperation every five years are carefully developed to ensure that their goals are well aligned with the university’s vision and missions for that particular period.

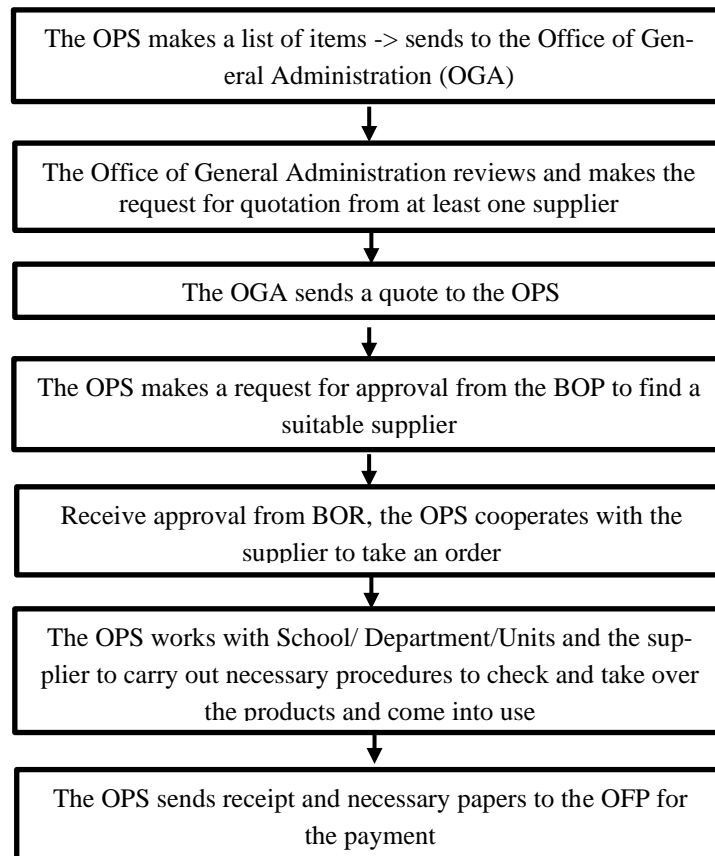


Figure 3.11 The procedure for requesting new equipment

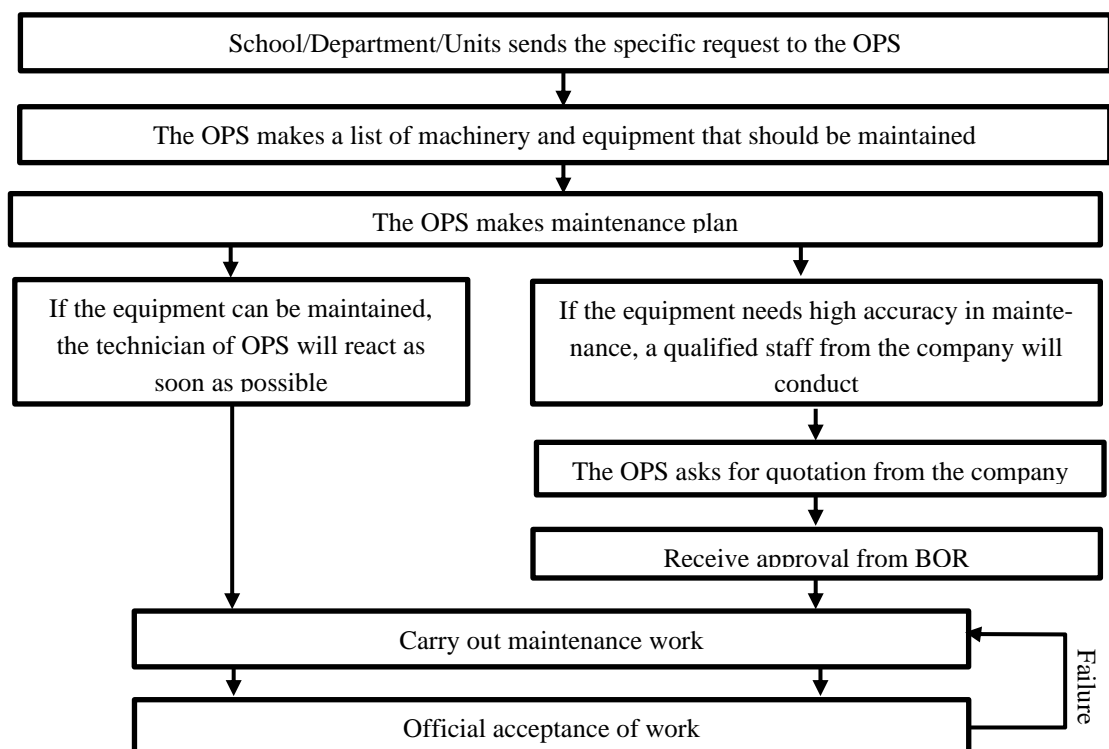


Figure 3.12 The procedure for requesting maintenance of facilities

3.2.6. Academic and research collaboration

Academic and research collaboration with international partners are subjected to different levels of approval. The process typically begins with initial contact directly from an international institution or through the proposal of the academic departments. The second step is the essential approval of BOP for exchanging information on the potential collaborative activities between IU units and the counterpart departments/offices of the international institutes. The office of External and Public Relations (OEPR) and academic departments work with the person in charge of the partner institution to develop the draft MOA/MOU. The document will then be reviewed by different administrative and academic departments depending on the nature of the relations:

- MOA/MOU related to twinning programs are reviewed by the corresponding academic schools/departments, OUAA/OGAA, OFP, QATO [[Exh.3.76. Sample email to relevant units for their agreement](#)];
- Collaborations in the research area are reviewed by the ORD and OFP [[Exh.3.77. Collaboration agreement](#)];
- Student exchange is reviewed by the Center for International Mobility (CIM) [[Exh.3.78. Sample email exchanges of approval process of each type of collaboration](#)].

The final step is the approval of the IU President for the signing and implementing of the MOU/MOA [[Exh.3.79. Sample of approval from the IU President for the signing of MOA/MOU](#)]. After signing MOA, for the twinning program between the university and the partner, approval from VNU-HCM is required before implementing it [[Exh.3.80. Sample of memo of the review on the collaboration in twinning programs by VNU-HCM and approval issued by VNU-HCM](#)].

At the early stage of its development, the university only developed twinning programs for the bachelor's degrees with the 2+2 model. It means that students study the first two years at the IU campus and then transfer and complete the last two years in a partner university that awards the degree. Recently, to enrich academic collaboration and enhance the involvement of the university in the training process, the university has developed new collaboration models [[Exh.3.81. List of twinning programs between IU and partner universities](#)]. In the 4+0 twinning program, while their degrees are issued by partner universities, for example, the University of West of England, students study entirely at IU. In the twinning program in Business for the master's degree, partner universities, such as the University of Hawaii and Northeastern University, send their school members to Vietnam for co-teaching with IU's school. In the twinning program with the Swinburne University of Technology, students can get double Ph.D. degrees in Biotechnology and Business.

Regarding the field of space science and technology, the IU President has signed the MOUs of research and study collaboration with international institutes, including Korea Astronomy and Space Science Institute (South Korea), and Center for Spatial Information Science, University of Tokyo (Japan) [[Exh.1.26. List of MOUs](#)]. These partners annually provide scholarships to the SE program's students for interns abroad. Their experts supervise students doing internships, research projects, and theses [[Exh.3.84. List of abroad internship, project, and thesis](#)]. Additionally, the Center for Spatial Information Science sponsored one CORS GPS base station and its data server installed at the university in 2008, ten GL-770 GPS signal-receiver chipsets in 2020, and two MADOCA GNSS signal-receiver chipsets. The equipment is useful for lecturers and students on satellite signal processing and satellite-based geolocating [[Exh.3.83. GPS equipments](#)].

To promote exchange activities, OEPR and OHRD announce exchange opportunities to academic staff and students. For the online announcement, there are three channels: the CIM website, the official fan page, and emails to academic departments [[Exh.3.85. Sample of announcement](#)]. For the offline announcement, sessions on exchange information are regularly organized at the beginning of each semester [[Exh.3.86. Sample announcement for student exchange information session](#)]. The procedure instruction for student exchange application is posted on the CIM website and notified through in-person consultation sessions [[Exh.3.87. Print out of the webpage print screen](#); [Exh.3.88. Sample of booking confirmation for consultation session on student exchange program](#)].

Since the student exchange program started in 2010, it has significantly improved, especially in the number of students joining the program and the procedure for managing it. Joining one of the world's

most extensive networks for student exchange and allocating a workforce exclusively to oversee the student exchange program have positively affected the program's performance. After launching CIM, the set of procedures for student exchange was developed and regularly revised, facilitating further development of the student exchange program [*Exh.3.89. List of CIM procedures; Exh.3.90. Student exchange activity*].

The IU exchange program for international students is operated systematically with a thoroughly developed and revised set of procedures. It aims to support international students efficiently regarding admission, visa applications, academic consultation, course registration, and necessary means for their future development. An orientation week for international students is organized at the beginning of each semester to provide incoming students with general information about the university, its regulations, the activity scope of the student association and the Youth Union, the health and safety, and remedy protocols for incidents. During international students' stay in Vietnam, staff in charge has in-person and online consultations with them regularly. The process of supporting international students is complete when students receive their final results of courses they take at the university [*Exh.3.91. Orientation week for international students*].

International students are crucial factors in sporting the further development of corporations between the university and institutions worldwide. Starting with ten exchange students in 2010, the CIM has made a significant effort to attract students' attention and encourage them to implement their mobility plan. Therefore, the number of exchange students has increased substantially and reached approximately 70 in the AY 2021-2022, reflecting that international students consider Vietnam a good destination for their exchange program. The CIM has successfully connected to 60 partner universities and created a network, facilitating mutual mobility and space for inclusion and equality. However, the COVID-19 pandemic interrupted the flow of internationalization. As a result, the number of students dramatically decreased in the AY 2020-2021 (only 20 students).

As shown in Figure 3.13, from the AY 2017-2018 to 2021-2022, the IU successfully sent 226 students abroad for exchange studies. The number of outbound students stayed stable from 2017 to the first semester of 2019 and suddenly dropped in the AY 2020-2021 due to the Covid-19 pandemic. After the governments have effectively controlled the pandemic, the IU has started sending our students to host universities again in AY 2021-2022.

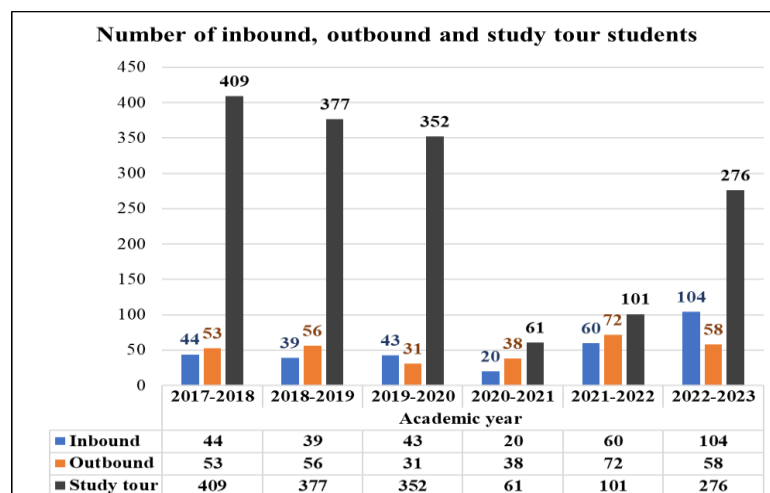


Figure 3.13 Quantity of inbound-outbound and study tour students from the AY 2017-2018 to 2021-2022

3.2.7. Establishing partnerships with the industry and local governments

The collaboration without research and technology transfer activities is under a similar approval process to the academic and research collaboration. However, the MOU/MOA is reviewed by the OFP and

ORD before being approved by the IU President [[Exh.3.92. Sample of email contact for the review of collaboration with the industries](#)].

The Center for Innovation and Technology Transfer (CITT) fosters collaboration with research and technology transfer. The procedure to establish relations with local government or industry starts with a discussion between representatives from schools/departments and the local government or industry. MOUs are drafted by the CITT and reviewed by the OEPR before finally being approved by the President. Next, MOAs are prepared for collaboration between the IU and a local department or company. The MOAs are reviewed by the ORD and OFP and finally approved by the President [[Exh.3.93. List of MOU with local governments](#); [Exh.3.94. Sample of MOA on research and technology transfer projects with the industries](#)].

3.2.8. Networking with high schools

Networking with well-recognized high schools, such as gifted or high-quality teaching high schools, in HCMC and neighboring provinces makes the IU prominent among potential students and their parents. Various activities, such as organizing campus visits, offering scholarships, providing professional consultations for high school students, and financially contributing to the schools' anniversaries, are regularly implemented to maintain and strengthen networks between the university and high schools [[Exh.3.95. List of the high schools that IU is networking](#); [Exh.3.96. Sample of activities implemented with the high schools](#)]. OEPR proposes and prepares the planning for the networking activities. The BOP approves it before being implemented [[Exh.3.97. Sample of the plan for networking with the high schools](#)].

3.2.9. Procedures to periodically revise internal and external relation activities

External relations and partnerships are reviewed comprehensively every three months in a quarterly report. It is a compulsory activity requested by the VNU-HCM for every university member. The review covers all areas of internal and external relations, including the establishment of new partnerships, the performance of ongoing twinning and student exchange programs, the staff exchange activities, and the status of the ongoing research and technology transfer collaborations. The results of each area are assessed against the quarter plan set out at the end of the previous quarter. A plan for the next quarter is proposed based on the current achievement and limitations of activities.

An annual review is conducted at the end of each AY. OEPR first reviews the performance of all external relation activities, strengths and weaknesses, and the KPI accomplishment in that year. It is then combined with other activity reviews of the university into a provisional annual review presented in the annual university meeting. The provisional review is revised based on the feedback from the participants and the final decision from BOP.

Academic collaboration with university partners is reviewed at the end of the operation cycle of each twinning program. An operating process begins when the twinning program receives the license from the VNU-HCM and ends when the license expires. An operation cycle often lasts four to five years. IU and a committee appointed by the VNU-HCM will review this academic collaboration [[Exh.3.98. Invitation & Agenda for review Committee for the extension of a twinning program](#)]. The review addresses the following issues: (i) the number of students admitted into the program, transferred to the university partners, and graduated from the programs; (ii) the quality of transferred students and graduates; (iii) the quality of communications between IU and its partners; (iv) the support level provided by the partner for students. The internal review results by IU will help BOP decide whether the academic collaboration of interest will be continued (with or without modification of the collaboration model). Outcomes of the external review by the VNU-HCM committee allow them to decide whether the twinning program maintains the license for the next cycle of operation [[Exh.3.99. Sample of the Decision for the extension of a twinning program](#)].

Frequent reviews help to improve internal and external collaboration, fostering the achievement of the institution's vision, mission, and strategic goals.

4. Transparency and Documentation

4.1. Module descriptions

A curriculum is developed following the QATO Guidelines [[Exh.1.6. Quality assurance handbook](#)] and is submitted to the OUAA for implementation. The major changes can be done based on the feedback of stakeholders. The curriculum and course syllabi are regularly reviewed, evaluated, and updated. Changes are made by considering the appropriateness of existing resource competencies, related technological developments, market demands, school curriculum development, national law, and the needs of prospective graduate users. Curriculum evaluation and review are carried out by (i) gathering information through surveys on education experts, practitioners, and employers and (ii) benchmarking with other tertiary institutions to conduct comparative studies in improving the quality of learning. Lecturers develop course syllabi and build CLOs based on the curriculum to ensure PLO achievement. The Dean of the school/department endorses course syllabi.

The curriculum is explained and provided to new students during admission via the IU and school/department websites. The university offers students academic advisors who consult in course registration and explanation of curriculum and course syllabi during their study once after students register for admission. Additionally, students can meet the Dean of the school/department to discuss issues related to the curriculum and syllabi. Subsequently, the curriculum and course syllabi are improved based on feedback.

The IU has a form to complete course syllabi [[Exh.1.74. Course syllabus](#)], including the following required information:

- Course identification code
- Credit points
- Requirements to enroll in the course
- Form of assessments and explanation of how the module mark is calculated
- Course objectives
- Intended learning outcomes
- Lecturers responsible for each course
- Teaching methods and workload
- Course content
- Recommended literature
- Date of the last amendment made
- Approvals of the syllabus

The course syllabus is accessible to all stakeholders in many ways through Module handbook, Program specification, online channels through the IU website <https://physics.hcmiu.edu.vn/>; Blackboard [[Exh.1.25. Student Handbook](#); [Exh.2.5. Program specification](#); [Exh.4.3. Blackboard's Screen for uploading syllabus](#)]. At the first meeting of each course, the approved syllabus should be informed to students. Besides, the staff (Lecturers, academic advisors, etc) are available there to explain and answer students' specific questions regarding their academic curriculum.

4.2. Diploma and Diploma Supplement

The information about the program:

1. Program name: Space Engineering
2. Department: Department of Physics
3. Host institution: International University, Vietnam National University - HCM.
4. Teaching institution: International University
5. Accrediting organization: Vietnam National University - HCM.
6. Awarded degree: Bachelor of Engineering
7. Program title: Space Engineering

8. Entrance criteria/requirements: Students who have received the Vietnamese or International baccalaureate degree and passed the annual entrance examination of the International University.
9. Study plan: A curriculum map showing sequences of subjects in each semester for the program and provided for students right at the beginning of the course.
10. Program duration: 4.0 years (152 credits).

4.2.1. Supports for students

Students are advised by their academic advisors and grouped into classes for activities. Students can also access institutional facilities, such as the library, health services, and student services. Shortly after accomplishing all the requirements for graduation, students are issued a temporary certificate essential for their job hunting. In the graduation ceremony, the students are awarded the Diploma together with a Diploma Supplement printed in English and the transcript of records.

4.2.2. Graduation procedure

Because of the academic credit system, the university has two graduation periods annually, around April and November. The requirement for graduation can be found entirely in the Regulation on Training and Education in Universities and Colleges [[Exh3.5. MOET regulation on statistical data on education in 2013](#)] or briefly on the OUAA website [<https://ouaa.hcmiu.edu.vn/>]. While completing the application, students must complete and double-check their curriculum vitae accurately for graduation with the legal name and listed specializations. If there is any problem, the student can contact the OUAA directly. Graduation Protocol and Procedure are also informed through the OUAA's Graduation Ceremony guide [[Exh.4.5. the Graduation Ceremony guide](#)].

Individual modules and grading procedures on which the final score is based are explained clearly in record transcripts, making it easy to understand for third parties.

For each degree program, the following documents are shown as evidence:

- An example of the temporary certificate of graduation [[Exh.4.6. The temporary certificate of graduation](#)]
- An example of the Diploma [[Exh.4.7. The SE Diploma](#)]
- An example of the Diploma Supplement [[Exh.4.8. Diploma Supplement](#)]
- An example of transcripts of records [[Exh.4.9. Transcript](#)]

The validity of a diploma issued by the IU can be checked by emailing or contacting the OUAA. The original diploma is only issued once. Only a Certificate of Graduation will be given if the diploma is damaged or lost. However, students must submit a police letter and stamped statement confirming that it has been damaged or lost. Former students can also request verification of studies, replacement certificates or transcripts, or study information by submitting relevant documents to the OUAA.

Students can request data adjustments for their diploma if personal data are changed. Students can also request corrections if the university incorrectly prints their information. These procedures must follow the Regulations of Diploma Management on Circular No. 21/2019-BGDĐT of MOET [[Exh.4.10. Circular No. 21/2019-BGDĐT of MOET](#)].

4.3. Relevant rules

The university provides documents and regulations to students in various channels, such as announcing during the orientation week for first-year students, publishing on websites and notice boards of the university and schools/departments, and delivering hard copies to students. The students can also meet with the Dean of the school/department, lecturers, and academic advisors. Therefore, students will be fully provided with general information about the university, its regulations, the scope of activities of the student association and the Youth Union, and the health and safety risk and remedy protocols if incidents happen. Consultation for the students through personal appointment or email is performed regularly by staff in charge of the school/department, the CIM, or the OSS during their study period.

4.3.1. Student Regulations

Regulations for study issues in the program are in place and made available. These regulations include all the information necessary about admission, course, and degree completion. Regulations mentioned below have been provided and published on the university and school/department websites [[Exh.4.11. IU website](#); [Exh.4.4. Physics website](#)]:

- Regulations on examination procedure and grading [[Exh.2.2. IU Exam Regulation](#)].
- Regulations on the student's learning process [[Exh.1.72. IU academic regulation under the credit system](#); [Exh.4.12. Regulations for course registration](#); [Exh.1.52. Admission regulation](#)].
- Regulations on research activities [[Exh.3.8. Decision for IU research funding grant](#); [Exh.4.14. List of participants for the Science Contest](#); [Exh.4.15. Announcement for the Science Contest](#)]. Students study in a dynamic, creative environment and are encouraged to participate in various activities of scientific research, such as students' research projects, lecturers' research projects, and students' startups [[Exh.4.16. Start-up event for students](#); [Exh.4.17. Student Start-up achievement](#)].

4.3.2. Student Handbook

On the first days of admission, all students are provided with a student handbook and encouraged to read it carefully to ensure that they know, understand, and comply with the regulations. Thus, students can refer to the rules when needed at university [[Exh.1.25. Student Handbook](#)].

4.3.3. Program Specification

This material will help students get an overview of the curriculum and all the acquired knowledge and skills they need to achieve [[Exh.2.5. Program Specification](#)]. After analyzing and considering the need and requirements, students will have their plan during AYs. Essential information can also be found on the department website [[Exh.1.51. University website \(IU\)](#); [Exh.4.4. Physics website](#)]. Lecturers provide detailed information about courses, such as assignments, timelines, rules on late submissions, or rules against plagiarism at the beginning of each course [[Exh.1.74. Course syllabus](#); [Exh.2.6. Module Handbook](#)].

4.3.4. Educational supporting system

- Students use the Edusoft system to track course registration, class schedules, exam schedules, and other necessary information, especially their progress, GPA, and the curriculum they should complete to get the degree [[Exh.4.18. Edusoft system](#); [Exh.1.71. IU's Academic Calendar](#)].
- Students are encouraged to learn outside the classrooms by doing their own initiated projects, joining IU-organized competitions and seminars, serving the communities, and participating in other extra-curricular activities [[Exh.4.20. Student activities](#); [Exh.4.21. Orientation day](#)].

4.3.5. Consultation channel

The IU has developed a process of taking care of students through the IU GATEWAY boxes and via email, gateway@hcmiu.edu.vn, to receive students' feedback and support them timely [[Exh.4.19. IU Student-care procedure](#)]. The CIM was established to assist international students with IU program applications and immigration regulations and consult them on academic and daily challenges. The CIM also helps the IU community get more involved in international educational exchange through our in-bound and outbound mobility programs [[Exh.4.2. The decision of the CIM establishment](#)].

5. Quality Management: Quality Assessment and Development

The QATO makes an annual quality assurance (QA) plan in two groups: internal (IQA) and external (EQA) activities. Each group proposes timelines for their activities [[Exh.5.1. Internal and external QA assessment plans](#)]. IQA includes periodic activities, such as surveys of stakeholders (students, alumni, enterprises/companies, schools/ staff) and reviews of the academic program [[Exh.5.2. Survey results on stakeholders' feedback](#), [Exh.5.3. Summary of changing record for programs](#)]. According to experts' advice, schools/departments and QATO collect more information for further improvement of the corresponding program assessed by accreditation standards. The QATO conducts surveys, analyzes data, and summarizes in the final report sent to the BOP and units for references and improvement plans in the coming year [[Exh.5.2. Survey results on stakeholders' feedback](#); [Exh.5.4. Plan for collecting feedback of stakeholders for IU](#)].

5.1. Internal quality assurance activities

In addition to the VNU-HCM regulations for general quality assurance, the university operates quality assurance activities entirely, effectively, and systematically based on the Total Quality Management (TQM) model, as shown in Figure 5.1. The model was created and modified according to feedback from staff and lecturers in 2005 and has been applied since 2007. It is applied to the university and program levels. The two-level QA system ensures that the university's staff follow international standards for higher education [[Exh.1.6. Quality assurance handbook](#)].

The QATO is assigned to implement the TQM model's process to support units in reviewing, evaluating, and improving their activities. Based on the IU strategic plan, the QATO proposes an annual IQA plan to the BOR. When the plan is approved, it will be announced to related units. The QATO coordinates with units for mutual support to complete the plan effectively [[Exh.3.24. IU development strategy](#), [Exh.5.5. Plan for quality assurance and accreditation/ Internal and external QA assessment plans](#)]. Presently, the university has QA regulations and procedures in the QA guidelines, and is available on the IU website. Thus, stakeholders can follow and complete the survey systematically [[Exh.1.6. Quality assurance handbook](#)].

Previously, the QATO conducted surveys using the designed hardcopy form of "Course evaluation" and analyzed data manually. Surveys were directly delivered to the students two weeks before the end of the course. After finishing the surveys, the QATO checked feedback to ensure their validity before scanning them with the McScanner software. Data from the image files were converted into text (Excel), then digital ones, and finally entered into the statistical templates for further processing.

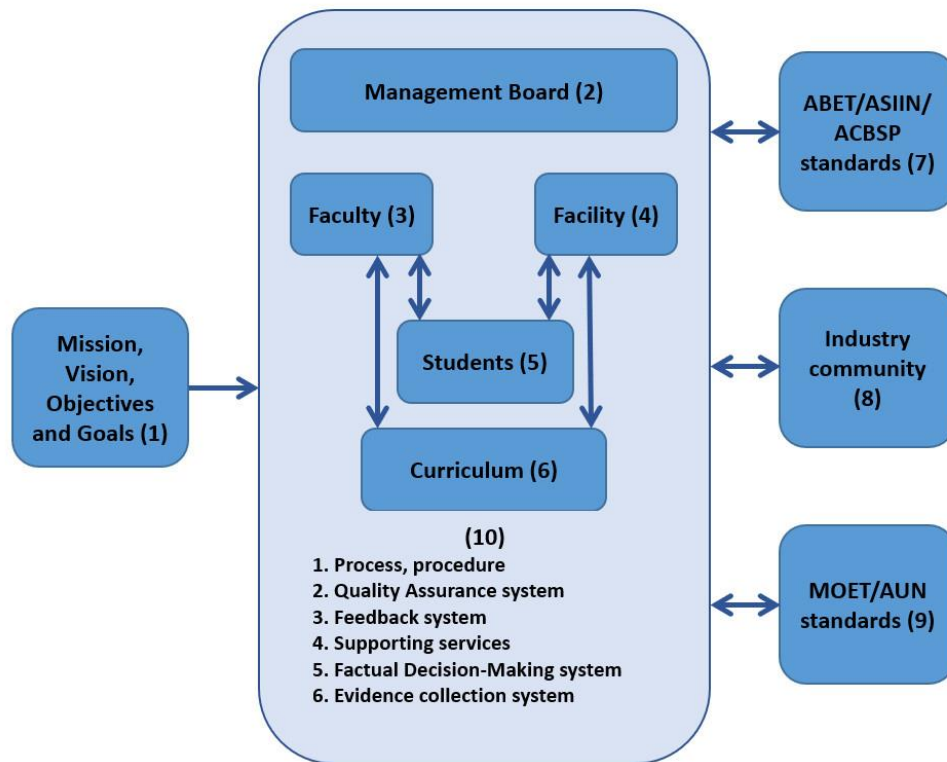


Figure 5.1 the IU’s Total Quality Management Model

Since the AY 2019, the online survey has been applied to all IU students. The analysis results are saved on the QATO server, reported to the BOR, and sent to schools/departments and other units for appropriate quality improvement plans. Therefore, all schools/departments can regularly receive reports from the QATO through the email system. Based on the provided information, the BOP and the Dean of the school/department can easily review IQA information and make improvement plans for incoming periods.

Besides the overall quality improvement of the university, QA activities are also conducted individually in units based on their needs. Stakeholders’ opinions will be collected, analyzed, and evaluated through surveys, comments, and feedback. The information helps individual unit plan quality improvement. Table 5.1 lists the survey activities and corresponding stakeholders at some units.

Table 5.1 Stakeholders feedback mechanism

| Stakeholders | Areas | Means | Frequency | Unit in charge | Feedback results and actions |
|--------------|---------------------|--|---------------------------------|----------------|---|
| Students | Teaching & Learning | Online Survey | At the first year | QATO | Exh.5.12. First year university entrance survey |
| | | Survey | Every semester | QATO | Exh.5.13. Course Evaluation |
| | | Meeting with advisors, lecturers, email, phone | Every semester, any time | | Exh.5.14. Minute of meeting with advisor |
| | Facility | Survey | Every semester (course related) | QATO | Exh.5.13. Course Evaluation |

| Stakeholders | Areas | Means | Frequency | Unit in charge | Feedback results and actions |
|--|---------------------|--|--|---|---|
| | | | Annually (comprehensive) | QATO | Exh.5.15. Report on the survey of service quality and corresponding actions |
| | | | Annually | Unit of concern | |
| | Supporting services | Survey | Annually | QATO | Exh.5.15. Report on the survey of service quality and corresponding actions |
| | Curriculum, ILOs | Survey | Annually | School/Department | Exh.5.16. Feedback of ILOs from Students; Exh.3.20. Exit survey |
| Meeting with advisors, lecturers | | Every semester, any time | Exh.5.14. Minute of meeting with advisor | | |
| Lecturers & staff | Facility | Survey | Annually | QATO | Exh.3.17. Faculty Feedback; Exh.5.15. Report on the survey of service quality and corresponding actions |
| | Training needs | Survey | Annually | OHR | Exh.3.25. Surveys on training need of staff |
| | Curriculum, ILOs | School meeting | Annually | School/Department | Exh.5.19. Feedback of ILOs from School; Exh.3.17. Faculty Feedback |
| | | | | | Exh.1.48. MOM of the SEC of the Department of Physics 1 Exh.1.49. MOM of the SEC of the Department of Physics 2 Exh.1.50. MOM of the SEC of the Department of Physics 3 |
| | General | School meeting | Annually | School/Department | Exh.5.20. Department annual meeting minutes |
| University schools and staff meeting (Employee congress) | | Annually | OHR | Exh.3.38. Annual staff conference | |
| Alumni | Curriculum, ILOs | Survey | Annually | School/Department | Exh.5.17. Feedback of ILOs from Alumni; Exh.3.21. Alumni feedback |
| | Career/Job status | Survey | Annually | OSS | Exh.3.21. Alumni feedback |
| Industry/Companies | Curriculum, ILOs | Survey Discussion with companies in meeting, via email, phone | Annually, anytime | School/Department | Exh.5.21. Feedback of ILOs from Industry |

To build up and strengthen the IQA system, the university has carried out many activities, including:

- Consolidate and develop the quality assurance team.
- Consolidate and improve the tools supporting quality assurance activities (forms, documents, processes, IT systems).
- Perform continuous reviewing and improvement at school/department and university levels.
- Make plans and implement internal quality assurance activities for all fields.

Assessment processes are implemented and improved based on quality requirements and analysis results that have been reviewed and evaluated in detail. For activities suggested for improvement, related units will make plans with a timeline for performance appraisal following annual goals in the unit's strategy [[Exh.3.24. IU development strategy](#); [Exh.1.6. Quality assurance handbook](#)]. The university continuously improves and diversifies the forms and contents of IQA assessments to meet evaluation objectives. For example, the teaching assessment can be improved by updating course evaluation contents, reviewing teaching assistant contributions, and evaluating course outcomes. Units/offices can also propose survey forms based on their requirements.

5.2. Measuring student learning outcomes

The program's ILOs are translated into specific CLOs in each course syllabus. Thus, the achievement of the ILOs can be evaluated via the measurement of the CLOs' achievement. Therefore, the lecturers in charge must develop CLOs related to the ILOs. The relationship between CLOs and ILOs is made explicit in the course syllabus. Lecturers also complete an evaluation plan showing the relationship between exam contents and the CLOs [[Exh.1.74. Course syllabus](#)]. Based on the evaluation plan, lecturers employ various methods to assess student's knowledge and skills at different levels of Bloom's Taxonomy. Direct evaluation includes quizzes, assignments, midterm exams, and final exams using different questions such as multiple choice, essays, or written tests [[Exh.1.74. Course syllabus](#); [Exh.2.6. Module handbook](#); [Exh.5.36. Samples of Measuring the achievement of ILOs](#)]. Results of CLO assessment and improvement plans can be found at this link [[Exh.2.8. The assessment and measuring programme learning outcomes results](#)]. According to the analysis results, evaluation components should be changed to help students achieve the CLOs and accomplish the ILOs. Accordingly, teaching and learning activities have been changed correspondingly.

Teaching and learning activities are constructively aligned to the achievement of the expected learning outcomes in every step, including "before teaching", "during teaching", and "after teaching", as illustrated in Figure 5.2. The lecturers in charge of their courses must develop teaching and learning activities in the step "before teaching" to help students achieve the learning outcomes. For the step "during teaching", different in-class activities, such as group projects and presentations, can help students develop problem-solving, critical thinking, and teamwork abilities. With the high requirement of several courses, students must search for references and correlate their acquired knowledge with real problems. For courses in which students are asked to solve real problems, they should have good IT skills for applying programming and advanced software to their studies [[Exh.1.74. Course syllabus](#), [Exh.2.6. Module handbook](#)]. Therefore, lecturers must design a suitable evaluation matching specific learning activities. In the final step of "after teaching", lecturers need to read students' feedback in course assessments or exit surveys and adjust their teaching methods accordingly. This three-step procedure has been applied to all programs, aiming for continuous improvement.

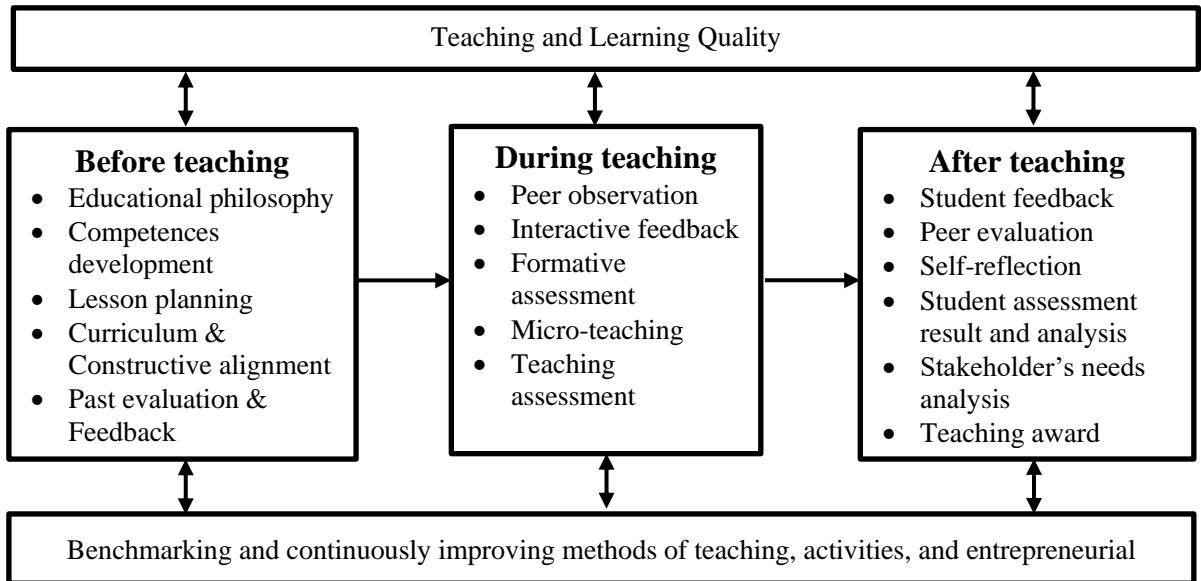


Figure 5.2 The procedure for reviewing and updating the teaching and learning quality

Additionally, the university has invested in different online teaching platforms to cope with the Covid-19 situation since 2019. Lecturers can choose either Zoom or Microsoft Teams for teaching online, according to their preference. All these platforms allow lecture recording, group discussion, and blackboard functions to create a virtual classroom experience close to the real one. Moreover, the CIS has also promptly conducted many training sessions for using these online platforms and provided training documents [[Exh.5.38. Online teaching guidelines](#)].

5.3. Annual curriculum review

Each program curriculum is reviewed periodically following the workflow chart in Figure 1.2. The curriculum design is aligned with ILOs and complies with the procedure. Firstly, the curriculum is designed according to the program ILOs. The curriculum is then categorized into different course groups: generic courses, core courses, major courses, and elective courses [[Exh.5.39. Design curriculum procedure](#), [Exh.5.40. Review and update curriculum procedure](#)]. The number of courses in each category is designed according to the needs of stakeholders. According to the curriculum and course design, teaching and learning are planned with various methods. Interactive instruction and independent study are highly encouraged throughout the program to train students with lifelong learning skills. After learning the courses, student assessments are carried out to evaluate the learning progress to ensure students achieve the CLOs. Then the overall student performance will be analyzed and discussed by the school/department and lecturers to review and update the curriculum annually [[Exh.5.40. Review and update curriculum procedure](#)]. The reviewed curriculum will then be sent to stakeholders for their feedback on up-to-date needs [[Exh.5.21. Feedback of ILOs from Industry](#)]. Subsequently, the feedback from stakeholders will be used for the school/department to review, assess and update the curriculum. Particularly, the curriculum of the SE program was updated in 2022, and changes have been made to meet the needs of stakeholders [[Exh.5.42. Changes in curriculum of program](#)].

5.4. Quality service survey

The QATO annually conducts surveys on lecturers, staff, and student satisfaction with support services and facilities, as presented in Table 5.2. The QATO collects, summarizes, and sends data to all involved units. Student opinions helping enhance support services and upgrade outdated facilities are collected during meetings between the BOP, the Deans of schools/departments, and students [[Exh.5.43. Annual talk between BOP and students](#); [Exh.3.22. Report on IU service quality for students](#); [Exh.5.45. Students' request forms](#)].

Table 5.2 Feedback mechanism for students, alumni, lecturers and staff

| Stakeholders | Name of survey | Means | Frequency | Unit in charge |
|-------------------|-----------------------|------------------------|-------------------|------------------------------|
| Students | 1.Freshman | Online survey | In the first year | QATO |
| | 2.Course evaluation | Survey & Online survey | Every semester | QATO |
| | 3. IU service quality | Survey & Online survey | Annually | QATO |
| | 4.Curriculum & ILOs | Survey | Annually | Schools/ Departments |
| | 5.Exit survey | Survey & Online survey | Annually | QATO & Schools / Departments |
| Alumni | 6. Alumni survey | Online | Annually | Schools/ Departments |
| Lecturers & staff | 1.School feedback | Survey & Online survey | Annually | Schools/Departments |
| | 2. IU service quality | Survey & Online survey | Annually | QATO |
| | 3.Training needs | Survey & Online survey | Annually | OHRM/Schools /Departments |

Since 2014, the QATO has conducted an additional survey every November focusing on support services and facilities, including the library, IT facility, and student services. Responding actions to the survey feedback are carried out and tracked in a summary report. Subsequently, the university has significantly improved student services, such as expanding the library, opening experimental labs, providing better software (like Blackboard and Turnitin), enlarging the canteen, cafeteria, and supermarket spaces, and providing better security and hygiene services. In 2021, more than 95% of students were satisfied with the sanitation on the IU campus. Over 97% of students evaluated the healthcare quality as “good”. Over 92% of students agreed that the equipment quality in classrooms and auditoriums is “good” and “very good”. 97.2% of students agreed that security service is “very good” [*Exh.3.22. Report on IU service quality for students*].

In 2021, the IU started the Student Advisor Program to provide students with counselling on psychology, health, sex education, law, and educational and professional orientation. The OSS managed the program whose counsellors are psychologists, doctors of medicine, lawyers, and educators [*Exh.5.46. Action plan of Student Advisor Program*]. Student counselling is conducted in various ways, such as online and in-person meetings and monthly seminars. Prospective students can also approach the program to receive counselling for majors, curricula, and admission requirements in the university’s studying environment.

5.5. Students surveys

1. *First-year student*: since 2021, the university entrance survey has been conducted annually for first-year students. This survey collects the students' opinions concerning how they got into IU, their study orientation and plan, and potential difficulties they may face. Students can also give their comments at the end of the form. Thus, staff can support students' needs. The survey is also essential to improve support services and quality of education, including educational goals, career objectives, reasons for choosing to study the IU’s program and for deciding their major, students’ expectations, transportation to campus, learning style, etc [*Exh.5.12. First year entrance survey*].
2. *Course evaluation*: at the end of each semester, QATO conducts holistic student surveys to collect feedback about the courses taken. Students can provide feedback using the university’s online system (<https://qato.hcmiu.edu.vn/>). Data is analyzed by QATO and sent to both schools and individual lecturers. The QA Team will review each course to ensure that teaching and learning activities are carried out efficiently. If there is any negative feedback, the Dean of the school/department will arrange a meeting with the lecturers in charge and request improvement for the next semester [*Exh.5.13. Course evaluation; Exh.5.50. Minutes of Improvement*]. The survey is conducted on students of all courses of each semester and using the five levels of agreement (1: 0%-20%; 2: 21%-

40%; 3: 41%-60%; 4: 61%-80%; 5: 81% - 100%). The primary purpose of this survey is to collect student opinions concerning the instructor and course as follows:

- Course Planning and Implementation.
 - Teaching and Learning Methods.
 - Students Assessment.
 - Conditions of Supporting.
 - General Evaluation.
3. *Service quality*: The survey is conducted annually at the end of the year. The survey is conducted on students who directly use the IU services. The primary purpose of this survey is to find out how the service meets the student needs to propose corrective measures and improve the drawbacks, helping to enhance the service quality. Students will give their opinions by answering questionnaires about service quality provided by all the IU's offices and centers. Then, students perform an overall evaluation of supporting staff and service. They also comment on supporting staff and service and suggest service quality improvement. Students will rate the extent to which they are satisfied/dissatisfied with the following scales: 1= Poor; 2= Fair; 3= Uncertain; 4= Good; 5= Excellent [[Exh.3.22. Report on IU service quality for students](#)].
 4. *Curriculum & ILOs*: This survey is conducted on senior students for educational assessment and improvement in the future. It uses the 5-point Likert scale (1 = totally disagree, 2 = disagree, 3 = uncertain; 4 = agree; 5 = totally agree). Senior students will give opinions on curriculum, courses, and ILO achievement. Moreover, they also suggest their opinions on skill development through courses, such as problem-solving, communication, self-planning, teamwork, and knowledge for students' desired work [[Exh.5.16. Feedback of ILOs from Students](#)].
 5. *Exit survey*: The Exit survey is conducted before graduation. The survey is performed on senior students for educational assessment and improvement in the future, using the 5-point Likert scale (1 = totally disagree, 2 = disagree, 3 = uncertain; 4 = agree; 5 = totally agree). The content of this survey includes five parts: (i) general information (name, phone number, email, home address, major, batch, graduation year), (ii) overall evaluation of the services, (iii) teaching and curriculum, (iv) career support, and (v) career information (company name, address, position, and income). Accordingly, exit students will give opinions on lectures, curriculum, service library, and students' requests on administration, facilities, and extra-curricular activities. Moreover, they also provide their evaluation on skill development such as problem-solving, communication, self-planning, teamwork, and knowledge for desired work. For the career support part, students will give the general evaluation of career support activities, particularly questions related to professional career-oriented activities from school/department, assessment about employment counseling, and support for students while seeking jobs [[Exh.5.18. Exit survey](#)].
 6. *Alumni survey*: Department of Physics regularly seeks feedback from the alumni for improving the quality of the SE program. Survey is sent to the alumni to collect their feedback on the curriculum one year after their graduation. The graduates survey results show the impact of the program on the graduates with information such as the employment status of our graduates, level of application of the knowledge or skills acquired in the program including their salary, position, etc. Information from this survey gives us an understanding of the employability and competitiveness of our graduates, which partly reflects the quality and effectiveness of our program in preparing students for their future career [[Exh.3.21. Alumni feedback](#)].

5.6. Lecturers

1. *School/Department feedback*: The survey on school feedback is conducted annually. The survey is performed on academic staff at each school/department. The main purpose of this survey is to have an overview of lecturers' opinions about teaching workload and teaching facilities, curriculum and syllabi, public activities, and research using both quantitative and qualitative scales [[Exh.3.17. Faculty feedback](#)]. From the survey, the Dean of the school/department will make necessary adjustments based on lecturer comments or send requests for approval if needed. The structure of this survey is presented in 4 parts as follows:
 - Part 1- Current teaching situation: evaluate teaching workload and course assignment method, assess the suitability of lecturer expertise and facility quality (including library service, teaching platform, internet, and other systems, etc.), and suggest teaching quality improvement.

- Part 2- Curriculum and syllabus: evaluate the quality of curriculum and syllabi and their appropriation for the students, and suggest improvement of curriculum and syllabi.
 - Part 3- Public activity: self-evaluate lecturers' support to the department and how it helps students and the department, and suggest public activity improvement.
 - Part 4- Research: Related to the data on research objects and the number of samples joining the survey.
2. *Services quality*: The survey is conducted annually. The survey is conducted on units and staff who directly use the services. The main purpose of this survey is to assess how the service at the university meets the needs of units and staff to propose corrective measures and improvements in the drawbacks, helping enhance the service quality of the whole university. This survey is constructed in two parts. For part one, with questionnaires, units and staff will give their opinions about the service quality provided by all offices and centers in the IU. They also share their overall evaluation comments on supporting staff and service and suggest service quality improvement. Lecturers and staff will rate the extent to which they are satisfied/dissatisfied with the following response scales: 1= Poor; 2= Fair (with adjustments); 3= Uncertain; 4= Good; 5= Excellent. In part two, units and staff may provide their personal information [[Exh.3.18. Report on IU service quality \(for staff\)](#)].
 3. *Training needs*: The OHRM plans for lecturers to attend the training course annually depending on the IU Strategic Development plan [[Exh.5.49. Plan for lectures`training](#), [Exh.3.24. IU development strategy](#)]. The schools/departments also get feedback from lecturers through a survey named 'Faculty Feedback' to get actual needs from teaching staff [[Exh.3.17. Faculty feedback](#)].

Appendix A: LIST OF EVIDENCES FOLLOWING SAR

https://drive.google.com/drive/folders/1WWbuKwrs2gy1_yAUaj28hmKNjzeSFIEK?usp=sharing

| 1. THE DEGREE PROGRAMME: CONCEPT, CONTENT & IMPLEMENTATION | | | | |
|--|---|----------|--------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.1.1 | Decision No. 261/QĐ-ĐHQG on April 14th, 2016 | Decision | | https://drive.google.com/drive/folders/1MgfTksyff9IyZD_u_tNRGsJmP8O8hUuO |
| Exh.1.2 | Prime Minister Decree No. 137/2006/QĐ-TTg on June 14th, 2006 | Decree | | https://drive.google.com/drive/folders/1KJsf4y-T8L767KjwCr8fWXb3yrcQ4OgO |
| Exh.1.3 | IU Rector Decision to establish Drafting Team | Decision | | https://drive.google.com/drive/folders/1A8mqn6rssZMhQKo9POVxb-mDJsiz9wt- |
| Exh.1.4 | The Circular No. 07/2015 -TT-BGDĐT on April 16th, 2015 | Circular | | https://drive.google.com/drive/folders/1ic_0PP2yMy_uXCgnMgbthmA8gzHVvjKV |
| Exh.1.5 | SEC of IU approval on the SE program | Document | | https://drive.google.com/drive/u/0/folders/136jkGy6--1Skcl-eg_L_Tefzb0-i_pnk |
| Exh.1.6 | Quality assurance handbook | Document | | https://drive.google.com/drive/u/0/folders/1GaI9BEZtJ8NCYvFUPmB8D1t_zvvAjNx2 |
| Exh.1.7 | Quality assessment plan of IU 2021-2025 | Document | | https://drive.google.com/drive/folders/17Wsi8uaPW8Zs95s98lhRQ_h-a52su8S5 |
| Exh.1.8 | Improvement review process of undergraduate academic programs | Document | | https://drive.google.com/drive/u/0/folders/109gUx2y51yQXuJmV23Pj1Bv5dDmoBVYD |
| Exh.1.9 | Decision No. 716/QĐ ĐHQG-TCCB dated November 23rd, 2018 | Decision | | https://drive.google.com/drive/folders/1WyntmvRQF0t-RaH7SrtuxYHNI7NBCR3w |

| 1. THE DEGREE PROGRAMME: CONCEPT, CONTENT & IMPLEMENTATION | | | | |
|---|---|-----------------|---------------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.1.10 | Decision No. 385 on Quality Assurance Teams on July 30th, 2021 | Decision | | https://drive.google.com/drive/u/0/folders/1a5cUBJIO4aGt-LgibDIyo9a37VRdA6Gb |
| Exh.1.11 | Decree No. 99/2019/ND-CP dated December 30th, 2019, of the Government | Decree | | https://drive.google.com/drive/folders/1DytsIQ7SQpWdfTqWMsjp1D7E0cgxSEW3 |
| Exh.1.12 | Circular 17/2021/TT-BGDĐT from MOET | Circular | | https://drive.google.com/drive/folders/1gu-Nhu9RXAFrV7dEMgqzYmKl-Bh1o0-H |
| Exh.1.13 | Prime Minister Decree No. 1982/2016/QĐ-TTg on October 18th, 2016 | Decree | | https://drive.google.com/drive/folders/1r6FGN5CKgRnonMB5RXID6x9gxemo8uDU |
| Exh.1.14 | The Guidelines of VNU-HCM to update bachelor programs on January 15th, 2020 | Document | | https://drive.google.com/drive/folders/1QNVR0pNwNWP4hQT8QOc-9RprF03KEIJ |
| Exh.1.15 | Prime Minister Decision No.169/2021/QĐ-TTg on February 4th, 2021 | Decision | | https://drive.google.com/drive/folders/1gIm12ULv03H0Qqc633BLMgzCxPW6ih_9 |
| Exh.1.16 | Surveying ILOs 2019 | Document | | https://drive.google.com/drive/u/0/folders/1wxbI6XYaWD9pxM1i8W-CobNpifFSjYGv |
| Exh.1.17 | The SEC of the Department of Physics approval on the SE program | MOM | | https://drive.google.com/drive/u/0/folders/1UUrBHU5kFv4tkWtTD0Aj6OPrLXL60Tb |

| 1. THE DEGREE PROGRAMME: CONCEPT, CONTENT & IMPLEMENTATION | | | | |
|---|---|-----------------|---------------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.1.18 | IU President Decision No. 850 on October 26th, 2020; website: the 2nd version program | Decision | | https://drive.google.com/drive/folders/11zQ-kSAezyREsNz4RkILUCbsPOexs4PU |
| Exh.1.19 | Mapping POs and ILOs | Document | | https://drive.google.com/drive/u/0/folders/12BDhi6XybvFqH5IqfQNhaUWZ6hMf3wd |
| Exh.1.20 | IU Quality Procedure | Document | | https://drive.google.com/drive/u/0/folders/1UGWCUTwvkeXUBmcwmrr8CN5eCMhQN8E5 |
| Exh.1.21 | Circular No.24/2017/TT-BGDĐT on October 10th, 2017 | Document | | https://drive.google.com/drive/u/0/folders/1yQ6MX-6nt6hT_dj_D781Zrq5_e8M4kzW |
| Exh.1.22 | Process of developing and implementing curriculum | Document | | https://drive.google.com/drive/folders/1dH9CGBbupfqrrog8OIufm5sNxPDQjvJI?usp=sharing |
| Exh.1.23 | List of Elective courses for SE programme | Document | | https://drive.google.com/drive/folders/1SRE1ew0Vmc3TdWIIRcLiatGleU7bd0zY |
| Exh.1.24 | The SE programme mapping between ILOs and courses | Document | X | https://drive.google.com/drive/folders/1Dt_X6aGJPbs9GXEN-HEafFbvesHsGKN- |
| Exh.1.25 | Student Handbook | Document | X | https://drive.google.com/drive/folders/1SCJ_AtWNtlh4gUARvbRB9Mf0BJt4JWiP |
| Exh.1.26 | List of MOUs | Document | | https://drive.google.com/drive/folders/1fOcM755W6PqzMoVvk6eRF3JeYDIw5eJ_ |
| Exh.1.27 | Internship guideline | Document | | https://drive.google.com/drive/folders/1SyRyiXbfIUaD7RavsFHY2-MgljWPgsbl |
| Exh.1.28 | Internship syllabus | Document | | https://drive.google.com/drive/folders/198ahTGAv0FsG1pgy6dcGFg9wQh9hyDu1 |

| 1. THE DEGREE PROGRAMME: CONCEPT, CONTENT & IMPLEMENTATION | | | | |
|---|--|-----------------|---------------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.1.29 | Template of internship report | Report Template | | https://drive.google.com/drive/folders/1xLnv7OguNyLOz2AJCdN0ReSFK71vdrwm |
| Exh.1.30 | Internship evaluation form | Form | | https://drive.google.com/drive/folders/1qe-2tV15nZTX9J1jBZu5TG_kq4PbaFW9 |
| Exh.1.31 | Internship results | Document | | https://drive.google.com/drive/folders/1kFiQaa2N3D2BmZApSaG8r2qVZ4ajpiiB |
| Exh.1.32 | List of supervisors for Research Project | Document | | https://drive.google.com/drive/u/0/folders/1JMxGiFkm_1VrPXmTcY8fekHOXnzm8aAe |
| Exh.1.33 | Thesis guidelines | Document | | https://drive.google.com/drive/folders/1Xcx4kxgA1UeHZwVBWbMIrrnDUwDA6X9c |
| Exh.1.34 | Thesis assessment plan announcement | Document | | https://drive.google.com/drive/folders/19LCtMlbPNSiPnWQIuZ2YPHkmwNn2O49Z |
| Exh.1.35 | Sample of thesis advisor form | Form | | https://drive.google.com/drive/folders/1o2vjBzYafFMSAwAGZtrilHTWvjn4t2wb |
| Exh.1.36 | Sample of thesis reviewer form | Form | | https://drive.google.com/drive/folders/11E53eV4Qh24A1p3RwgVlo_uuSSb3BVwF |
| Exh.1.37 | Sample of thesis committee form | Form | | https://drive.google.com/drive/folders/1-8RQ-XacVTYmMmC3PVQQRtqb5unC9jhEL |
| Exh.1.38 | Sample of thesis | Report Template | | https://drive.google.com/drive/folders/1C-IzWtje1nqmSEAGvLou0S_I80AJJoEK9 |
| Exh.1.39 | Thesis result | Document | | https://drive.google.com/drive/folders/16MK0hYx9_KlnIzdbfKT7FJnGHk2KSAU0 |

| 1. THE DEGREE PROGRAMME: CONCEPT, CONTENT & IMPLEMENTATION | | | | |
|---|--|-----------------|---------------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.1.40 | ACTS - ASEAN Credit Transfer System (ui.ac.id) | Document | | https://drive.google.com/drive/u/0/folders/1TOp_0hC9-s1NzHYcb744r4rk0XTA_orO |
| Exh.1.41 | Circular 08/2021/TT-BGDĐT issued on March 18th, 2021 | Circular | | https://drive.google.com/drive/folders/19B_GeCqCqnrF-XLaF5VUAhdQd5oOOatk?usp=sharing |
| Exh.1.42 | Procedure for full-time international students to apply to IU programs | Document | | https://drive.google.com/drive/folders/11o5EO5kAhnz5R13Ijt8WpbmUEN-5dKc1 |
| Exh.1.43 | Exchange student _Germany_SE 2021-2022 | Document | | https://drive.google.com/drive/u/0/folders/1zCR8qBcAU795AZjUF7NrxwOxvOaRi4BT |
| Exh.1.44 | Surveys from intern supervisors and the employers of SE graduates | Form | | https://drive.google.com/drive/folders/1sduU1_lrPWAqN1tS84tdPmfPwjqSVz1A |
| Exh.1.45 | Exit Survey Analysis 2020-2022 | Report | X | https://drive.google.com/drive/folders/1zFRZYpYx-1Nok5lgPYS3ppb7FH4DaTGL |
| Exh.1.46 | Alumni Survey Analysis 2020-2022 | Report | X | https://drive.google.com/drive/folders/1BYTAqRHRRDJ sKXrf-KYJ97_dQrM6Vvuq |
| Exh.1.47 | Course Evaluation Survey Analysis 2020-2022 | Report | X | https://drive.google.com/drive/folders/1Vmpowf4vby_Yr pKkl55M-KeXFFjb18Ks |
| Exh.1.48 | MOM of the SEC of the Department of Physics 1 | MOM | | https://drive.google.com/drive/u/0/folders/16md3PVaDSkgzf6JqDxIxtDnV4FZEOPVP |
| Exh.1.49 | MOM of the SEC of the Department of Physics 2 | MOM | | https://drive.google.com/drive/u/0/folders/1GkY7acg8c3KjU7X-IINUWhuu2g0ipCo4 |
| Exh.1.50 | MOM of the SEC of the Department of Physics 3 | MOM | | https://drive.google.com/drive/u/0/folders/1Y-xKrM7znIPij13ccGwaH7kLgebQo-q8 |

| 1. THE DEGREE PROGRAMME: CONCEPT, CONTENT & IMPLEMENTATION | | | | |
|---|---|------------------|---------------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.1.51 | University website (IU) | Screenshot, link | X | https://drive.google.com/drive/u/0/folders/1dTUB6tvGkUm60tPEZQ1Bf5M3kVfwtc7u |
| Exh.1.52 | Admission regulations | Document | X | https://drive.google.com/drive/u/0/folders/1owV2Nig0YWglWVpLgAcb00-RosgOA6iC |
| Exh.1.53 | Admission procedure | Document | | https://drive.google.com/drive/u/0/folders/1kSFU9BxiqFcdAbQ5g_v5-pzDagvuYdv5 |
| Exh.1.54 | Actual plan for admission campaign at IU | Document | | https://drive.google.com/drive/u/0/folders/1YLkNpmNjAkIuTDcDILhyockW_m6SfUNN |
| Exh.1.55 | Methods and criteria for admission at IU | Document | | https://drive.google.com/drive/u/0/folders/1qyxEDN2PipbMwLS4KtXdCKta6OkzxNMQ |
| Exh.1.56 | Admissions announcement | Document | | https://drive.google.com/drive/u/0/folders/1j26YINeyYPOvmL7WISCUoFI53PEf7ck6 |
| Exh.1.57 | Consulting plan for high school students | Document | | https://drive.google.com/drive/u/0/folders/13AKhoDGVTRP7EwgoCvHr_0B2oiNBzhcv |
| Exh.1.58 | Guidance for admission priority | Document | | https://drive.google.com/drive/u/0/folders/1pDAe7ReKv1HUJZPhyI84YHyXejeAhHgp |
| Exh.1.59 | Procedure for enrolling international students and criteria for enrolling | Document | | https://drive.google.com/drive/u/0/folders/1L7rftx8w3isPLS8ZKlhQEj-XD4ybCUBv |
| Exh.1.60 | Prospective international student admission guide on IU website | Document | | https://drive.google.com/drive/u/0/folders/1OHgpTBKY_k1fuvqTtQcTsYq36M2iMghM |
| Exh.1.61 | Entry requirements and procedures for International Students | Document | | https://drive.google.com/drive/u/0/folders/1LG2F0igRQ06cxbdqsRj_-rQlhp_r4fas |

| 1. THE DEGREE PROGRAMME: CONCEPT, CONTENT & IMPLEMENTATION | | | | |
|---|--|-----------------|---------------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.1.62 | Decision of international student admission | Decision | | https://drive.google.com/drive/u/0/folders/1qY6yB2yu1wALVRIj9TW2PdgG53JpZICT |
| Exh.1.63 | Transfer student application form | Form | | https://drive.google.com/drive/u/0/folders/1auliNAh0sGRkPeIOExncOs7OAz2koOa_ |
| Exh.1.64 | Regulation of transfer students in IU | Document | | https://drive.google.com/drive/u/0/folders/19NJipa7wpeSk74dmlpOK4Htg1qmigP9t |
| Exh.1.65 | Proposal and approval of some equivalent courses | Decision | | https://drive.google.com/drive/u/0/folders/1-00DV6hHHnvqduCHbAAVVIFE-rFO1Mgh |
| Exh.1.66 | Admissions announcement for potential students | Document | | https://drive.google.com/drive/u/0/folders/1SnU40iUeHxri8tXwTs7Yv_xyVZN4VPCv |
| Exh.1.67 | Interview session for potential students | Document | | https://drive.google.com/drive/u/0/folders/1XVZHOj7iGuj8OnYQCAdrwfX_9LsUFRcy |
| Exh.1.68 | Regulations on English levels | Decision | | https://drive.google.com/drive/u/0/folders/1X1GF1q_au1BGBw3zG3v7cOZr7aAZ1tn_ |
| Exh.1.69 | Announcement for the English entrance test | Decision | | https://drive.google.com/drive/u/0/folders/1IAz7DapRV8wgrlArLKAAtwKaS-v9MQskm |
| Exh.1.70 | Guide to English placement test | Document | | https://drive.google.com/drive/u/0/folders/1fVhnnyhIE-YofCZsKfyYnaY9PvL835QT |
| Exh.1.71 | IU's academic calendar | Document | | https://drive.google.com/drive/u/0/folders/1ypZHO61AyfGD8zNEwuAX5F5_8X88Rv5_ |
| Exh.1.72 | IU Academic Regulation Under Credit System | Document | X | https://drive.google.com/drive/u/0/folders/1MZfphqd31423hj-HFQ61DzpUj2mFaN3s |

| 1. THE DEGREE PROGRAMME: CONCEPT, CONTENT & IMPLEMENTATION | | | | |
|--|--|------------------|--------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.1.73 | IU 's philosophy | Screenshot, Link | | https://drive.google.com/drive/u/0/folders/1RN4j85Q3R90TIGVP8dFpPEIxx5nOnTsH |
| Exh.1.74 | Course syllabus | Document | X | https://drive.google.com/drive/folders/1aTJC4rxuGK1YFYqESdRIrABJE_roj4PK |
| Exh.1.75 | Course evaluation | Report | X | https://drive.google.com/drive/u/0/folders/1ulykijAY0IQT-zlvdVwPrT2XxAbgrcgB |
| Exh.1.76 | Plan of training course for staff | Document | | https://drive.google.com/drive/u/0/folders/1DPp7pkdvgaNKk4fak4O2jKuCk7yEtguX |
| Exh.1.77 | website https://thinangluc.vnuhcm.edu.vn/dgnl | Screenshot, Link | | https://drive.google.com/drive/u/0/folders/1UbIaoG7G6JQL4hczO12nhKOquSrFCqHh |
| Exh.1.78 | Curriculum overview of Space Engineering | Document | X | https://drive.google.com/drive/folders/1kT0jrF0_UXyTH0Guwj0pwzYs9cHjzB0r?usp=sharing |
| Exh.1.79 | Announcement on conversion of ECTS | Document | | https://drive.google.com/drive/folders/1uGsMvPWAqTuZvxXhLBuOEefZEveSIYkB |

| 2. EXAMS: SYSTEM, CONCEPT & ORGANISATION | | | | |
|--|--------------------|----------|--------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.2.2 | IU Exam Regulation | Decision | X | https://drive.google.com/drive/u/0/folders/18dlaljuVGpc1TvV1yX-0T86tfMFLPe2j |

| 2. EXAMS: SYSTEM, CONCEPT & ORGANISATION | | | | |
|--|--|-----------|--------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.2.3 | IU policies for examination organization (QĐ 411) | Decision | X | https://drive.google.com/drive/u/0/folders/1u7BqBHFCHCbh-JRIAuvuN-GyfjTQfWfB |
| Exh.2.4 | Circular No. 27/2016/TT-BGDDT issued on December 30, 2016 | Circular | | https://drive.google.com/drive/u/0/folders/1OUMrAG9wezrKBedPOPFUam-mZxXVX4Se |
| Exh.2.5 | Program specification | Document | X | https://drive.google.com/drive/u/0/folders/1OyL35tlX3cb1F2h1nRB_9Fn1BwlRxew3 |
| Exh.2.6 | Module Handbook | Document | X | https://drive.google.com/drive/u/0/folders/1HctOBMiCgOxfqo8O_FvFYiiZOGX0I01f |
| Exh.2.7 | 719/QĐ-ĐHQТ 6/12/2021 | Decision | | https://drive.google.com/drive/u/0/folders/1aD3bk-MmKSkJs_yycZK7rXhQ6wg3l4Yu |
| Exh.2.8 | The assessment and measuring programme learning outcomes results | Documents | X | https://drive.google.com/drive/u/0/folders/1IM5dRq8QKgn_PPmPhM-lknfJSpK_pzfi |
| Exh.2.9 | Internship report | Report | X | https://drive.google.com/drive/u/0/folders/1tdHpkVliJfn5F5_mZ3pfUc3n5oo9cax3 |
| Exh.2.10 | Internship evaluation | Form | X | https://drive.google.com/drive/u/0/folders/1bk9JktRINY5Y138ICZY9WCWr9NEJVTJx |
| Exh.2.11 | Project report | Report | X | https://drive.google.com/drive/u/0/folders/1NvbCPb72WDP8utTxUIvwzcofGIFkxH9q |
| Exh.2.12 | Project evaluation | Form | X | https://drive.google.com/drive/u/0/folders/1tumsuvh1UR5K5fj36TDMSb57nLCjDD3r |
| Exh.2.13 | Decision 110/QĐ-ĐHQТ issued on 4th April 2008 | Decision | | https://drive.google.com/drive/u/0/folders/1IsjD-fa_n02ugv_FRWtAK95Y1WlhRzCx |

| 2. EXAMS: SYSTEM, CONCEPT & ORGANISATION | | | | |
|---|--|-----------------|---------------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.2.16 | IU Policy on plagiarism | Document | | https://drive.google.com/drive/u/0/folders/1TO2mqPrrHlKjD9aSKuGi3BLpJ59m4GFq |
| Exh.2.17 | Turnitin contract | Contract | | https://drive.google.com/drive/u/0/folders/1_h1yGZWD8FOMKUAXCas_yM7kT3FtuJ2R |
| Exh.2.23 | Turnitin screen | Picture | | https://drive.google.com/drive/u/0/folders/1yT6fRAZX2X1SWgwLs-6Lg9zFXQXPdYiT |
| Exh.2.24 | Thesis assessment forms | Samples | X | https://drive.google.com/drive/folders/1vJPPw5acYZF1EV10bG_usnPLmg9_u7tf |
| Exh.2.25 | Thesis reports | Report | X | https://drive.google.com/drive/folders/1UpJ_fkukT7g4Uw-ozhC6iEibwvbDO0fS |
| Exh.2.26 | Decision on Establishment of Unit of Intellectual Asset Management | Decision | | https://drive.google.com/drive/u/0/folders/1JyzJu4wM-CNJWmNLOPcT0r1dYjH7VpZ5 |
| Exh.2.27 | IU regulation on fraud, exams and academic integrity | Document | X | https://drive.google.com/drive/u/0/folders/1U6_fDze7AdS0UnlEYOhzt1ET7VHbfVtS |
| Exh.2.28 | VNUHCM decision on IP | Decision | | https://drive.google.com/drive/u/0/folders/1n2Vk--XCVc29Z2xYOk4PFpThz5Z14cfz |
| Exh.2.29 | Regulations on professional ethics in teaching and research | Document | | https://drive.google.com/drive/u/0/folders/1YR_6scvV7uE1s9zbRc5QOX1Y0cNCvfUH |
| Exh.2.31 | Regulations on R&D contracts | Document | | https://drive.google.com/drive/u/0/folders/1LGM6U5xuH4LW416bSEt7dgsX9xBfCXx4 |
| Exh.2.32 | Course Assessment | Document | X | https://drive.google.com/drive/u/0/folders/1IM5dRq8QKgn_PPmPhM-lknfJSpK_pzfi |

| 2. EXAMS: SYSTEM, CONCEPT & ORGANISATION | | | | |
|---|--------------------------|-----------------|---------------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.2.33 | Classroom regulation | Document | X | https://drive.google.com/drive/folders/1OTseaUCpek-357hPrIBvVu75KQ2rquA6?usp=sharing |
| Exh.2.34 | Assignment papers | Document | X | https://drive.google.com/drive/folders/1_2_fp4-RjGVR9oCSxIyKmjSySkFyr6Ws?usp=sharing |
| Exh.2.35 | Midterm exam papers | Document | X | https://drive.google.com/drive/folders/1yLOSJHeaj9pW8IaUZTC57AeLSsa70Ebz?usp=sharing |
| Exh.2.36 | Final exam papers | Document | X | https://drive.google.com/drive/folders/1ibrDoOppVxaHQ-FJ5FBgvJhRGevouXau?usp=sharing |

| 3. RESOURCES | | | | |
|---------------------|--------------------------|-----------------|---------------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.3.1 | IU teaching regulation | Decision | X | https://drive.google.com/drive/u/0/folders/1XG2p91iaDTd1i6AJWXeZYL99p0BM8_GO |
| Exh.3.2 | Labor contracts | Contract | | https://drive.google.com/drive/u/0/folders/1X-RumnrVitd4fSSIPx8XhVROKAWLodPJ |
| Exh.3.3 | Recruitment plan | Document | | https://drive.google.com/drive/u/0/folders/1ZJJLQV6UXT09KOgb-hq9yawzP37ZrMLy |
| Exh.3.4 | Manpower requisition | Form | | https://drive.google.com/drive/u/0/folders/1QVz-igRHI9VvKkArJvxI-kEos8mIODo7 |

| 3. RESOURCES | | | | |
|---------------------|--|------------------|---------------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.3.5 | MOET regulation on statistical data on education in 2013 | Document | | https://drive.google.com/drive/u/0/folders/110sOpztz9zpqTy6751CL1LKwTx2kN4PF |
| Exh.3.6 | The department of Physics's development strategic plan | Document | | https://drive.google.com/drive/u/0/folders/1FLFEPC2FLqQC1Jtz7n-0OWXSYMo5U_ZB |
| Exh.3.7 | Visiting lecturers-CV | Document | X | https://drive.google.com/drive/u/0/folders/1O4s5ZfxT_1zY8i84R5JYV65x4iokPmM_ |
| Exh.3.8 | Decision for IU research funding grant | Decision | | https://drive.google.com/drive/u/0/folders/1kAu6n9ybTtvU2KPvxTbItkSewyCyMFo4 |
| Exh.3.9 | NAFOSTED website | Screenshot, Link | | https://drive.google.com/drive/u/0/folders/1QjWMCp0ynbdv4OpAE0TTyffwpET8il-x |
| Exh.3.10 | Community connection services | Document | | https://drive.google.com/drive/u/0/folders/1bQ4kvT2rpkcjAlG4o8G8fZS_IgZPIuk |
| Exh.3.11 | MOM of human resource planning | MOM | | https://drive.google.com/drive/u/0/folders/1cMpe1zZijpUYEy8YMFzGoUhke095ftym |
| Exh.3.12 | Recruitment Announcement | Document | | https://drive.google.com/drive/u/0/folders/1KY0D2GtAgjALjQXw_b7cKl_ajrmKeDns |
| Exh.3.13 | Composition of the supporting staff | Document | | https://drive.google.com/drive/u/0/folders/1cBNMdQI52J9qiVsxWHbgT3J_sQPbnqC2 |
| Exh.3.14 | Support staff CV | Document | | https://drive.google.com/drive/u/0/folders/16HUtI3IsnzJK1cONc8qH5GiYZE-xTw5v |
| Exh.3.15 | Performance Evaluation guideline and results | Document | | https://drive.google.com/drive/u/0/folders/1q5hXohOB0NpzuMpn8ZhwuysZfvh4zL18 |

| 3. RESOURCES | | | | |
|---------------------|---|-----------------|---------------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.3.16 | Lecturer's performance evaluation | Form | | https://drive.google.com/drive/u/0/folders/1nUpDpzxN02z7LDOK9LOIRdvR9GKdQmqO |
| Exh.3.17 | Faculty feedback | Report | X | https://drive.google.com/drive/u/0/folders/1pkMebDLJ-FaA3kwmvddpB0HThpdmNJbg |
| Exh.3.18 | Report on IU service quality for staff | Report | X | https://drive.google.com/drive/u/0/folders/1yEO68AuwS_oIHLZp4qAsrXxEH5ES7gsdC |
| Exh.3.19 | Supporting staff feedback | Report | X | https://drive.google.com/drive/u/0/folders/1crWGVII2rr1im7XFZcV8vtX25aqydtmJ |
| Exh.3.20 | Exit survey | Report | X | https://drive.google.com/drive/u/0/folders/1YKadL1_jA99VJSGJSN70vV9JSHiAT-Ar |
| Exh.3.21 | Alumni feedback | Report | X | https://drive.google.com/drive/u/0/folders/1TiD69RP6pDTn0YWA17N0f2C-LikBTsQb |
| Exh.3.22 | Report on IU service quality for students | Report | X | https://drive.google.com/drive/u/0/folders/1hOKpr7j9IN2fEN-mnjttSzEM79eMZdLy |
| Exh.3.23 | Improvement activities for support services at IU | Report | | https://drive.google.com/drive/u/0/folders/1ZaszGQFnou1-vZPTZ03JV4zRPTZe0Ket |
| Exh.3.24 | IU development strategy | Document | | https://drive.google.com/drive/u/0/folders/1Usu8hOGr3P-tQ-F4zlPGq_vkfk6MzBg |
| Exh.3.25 | Surveys on training need of staff | Report | | https://drive.google.com/drive/u/0/folders/12JgIMtuWgWE535malUVWGUUw6GbYIV3J |
| Exh.3.26 | Plan of training course for staff | Document | | https://drive.google.com/drive/u/0/folders/1FwJWiNPTFdU6Oz68nM-DRankt_xfCP_p |

| 3. RESOURCES | | | | |
|---------------------|---|-----------------|---------------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.3.27 | Staff training courses/workshops | Document | | https://drive.google.com/drive/u/0/folders/1KxHcm3QFs7gdwWDWmMsQT_J1wtMdhf-0 |
| Exh.3.28 | Training for academic staff | Document | | https://drive.google.com/drive/u/0/folders/1c2WaFRpROuUon9N7KABtkA4D6Bjj38Fw |
| Exh.3.29 | Training certification | Certificate | | https://drive.google.com/drive/u/0/folders/1bM7DgyRwGlCyzrh7tbM4NDqbnd_-YwTG |
| Exh.3.30 | Alumni jobs and studies | Document | | https://drive.google.com/drive/u/0/folders/1GKSODTAYgBquJGzbmS72AaFF4G6PZEgi |
| Exh.3.31 | Foreign scholarships announcements | Document | | https://drive.google.com/drive/u/0/folders/11sEegNBsQjy2Bxxc2fKoHxC45-NUEXkr |
| Exh.3.33 | Short-term training courses abroad for academic staff | Document | | https://drive.google.com/drive/u/0/folders/1XyXgDPuyC8ttsjMOWdCyDeO43GzSBoLo |
| Exh.3.34 | List of Academic staff attending seminars and conferences | Document | | https://drive.google.com/drive/folders/1DtQc3rez9dEAMogKya6PEl24O7bAtAI3?usp=sharing |
| Exh.3.35 | List of Academic staffs of the department of Physics attending seminars and conferences | Document | | https://drive.google.com/drive/u/0/folders/1--cJxXYUVnEUC96hCcwhO3TydmXUviSP |
| Exh.3.36 | The conference 2017 | Website | | http://sst.phy.hcmiu.edu.vn/ |
| Exh.3.37 | Report of facilities | Report | | https://drive.google.com/drive/u/0/folders/1Fn77IsPHuFjH4VtHQfNh-dqggq0yUMzh |
| Exh.3.38 | Annual staff conference | Report | | https://drive.google.com/drive/u/0/folders/1y_tGq1TZi0M1LeXxJHBY6fJ_2nW2WVtW |

| 3. RESOURCES | | | | |
|---------------------|--|-----------------|---------------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.3.39 | Maintenance contract | Contract | | https://drive.google.com/drive/u/0/folders/1hXUqckkAxx15LBS1Z7s8nHmrfhNfKrLS |
| Exh.3.40 | Bidding works and purchase contract | Document | | https://drive.google.com/drive/u/0/folders/13VXmk-Put7mGswrGB9xBVemoPxHAEe_1 |
| Exh.3.41 | Request form for using facilities | Form | | https://drive.google.com/drive/u/0/folders/197zNZ1BFtpYzjAah9qYL0motsrFEZ3f3 |
| Exh.3.42 | Request form for changing, updating or improving existing facilities | Form | | https://drive.google.com/drive/u/0/folders/1j7PYk78ld709bm6TnA3FZUzE0Xnc-fDD |
| Exh.3.43 | List of IU laboratories | Document | | https://drive.google.com/drive/u/0/folders/1QCiTQoIUKe m3ymDT8SIXnIHQAftYydrx |
| Exh.3.44 | Lab Regulations | Document | X | https://drive.google.com/drive/folders/1RaNHbBHPs7dCNYMuePFHrIloGW4Zpfwv |
| Exh.3.45 | Lab Maintenance Schedule | Document | | https://drive.google.com/drive/u/0/folders/1o-ZJZbvsK5bKk6xs1-zJgf9bXJp60AgW |
| Exh.3.46 | The annual budget plan | Document | | https://drive.google.com/drive/u/0/folders/10ruWx7ARQTMvXNobqtrR_ULgJbQwIGUF |
| Exh.3.47 | Library books statistics | Document | | https://drive.google.com/drive/u/0/folders/1JCKf9Rw2biVCxirLMT1FHLq0whZJ1Ode |
| Exh.3.48 | VNU Database Portal | Screenshot | | https://drive.google.com/drive/u/0/folders/1PX7Bsrn-XQAQ1xdndaa3TnaSPFPcwdeM |
| Exh.3.49 | VNU library system loan policy | Document | | https://drive.google.com/drive/u/0/folders/120FQ9EVvGYA4zdfWJGwrFTHsW3ge5wpd |

| 3. RESOURCES | | | | |
|---------------------|--|-----------------|---------------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.3.50 | Decision on Library Regulations and Its Updates | Decision | | https://drive.google.com/drive/u/0/folders/1XC9AoSsJSvrCPyYbbFuZvV0AihqX1ACZ |
| Exh.3.51 | E-Resources page | Screenshot | | https://drive.google.com/drive/u/0/folders/1g_iTO2ZbI4G672JuxJeeVF7kEht69fZm |
| Exh.3.52 | Training page | Screenshot | | https://drive.google.com/drive/u/0/folders/1WAIoap_21cvdaRL8jhd2C_VBCvHniIia |
| Exh.3.53 | Sierra, Ebsco Discovery, OpenAthens, EzProxy, RFID | Screenshot | | https://drive.google.com/drive/u/0/folders/1FamA7Pp47BO6HQoUHA3Y7VH_-oZE7OdM |
| Exh.3.54 | Account page | Screenshot | | https://drive.google.com/drive/u/0/folders/1q38wPVo1hsW7GsJ11wo--ujLpv9SA5HM |
| Exh.3.55 | Request Form - new | Form | | https://drive.google.com/drive/u/0/folders/1Q5MPZMR9yV-NPYERFbMRS47wjRB50x5b |
| Exh.3.56 | Annual budgets plan | Document | | https://drive.google.com/drive/u/0/folders/1YueR5ia-rkU3MIMBDFqyN4TS3WuAvNw5 |
| Exh.3.57 | Guide to make purchase proposal: http://library.hcmiu.edu.vn/request/school | Link | | https://drive.google.com/drive/u/0/folders/1ZYum_n5wrNXDcafkhAdQzx4hK5y0aXv4 |
| Exh.3.58 | Analysis on Some Service Outcomes | Document | | https://drive.google.com/drive/u/0/folders/1jVc34xwOteXIKXWiLAKTLj4Lg7bzXGpZ |
| Exh.3.59 | Library survey on ebook and loan policy | Document | | https://drive.google.com/drive/u/0/folders/1SZxMOW00M1718WuwWnpGFVWE5zLn9LAD |

| 3. RESOURCES | | | | |
|---------------------|--|-----------------|---------------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.3.60 | VNU Database Survey 2021 | Document | | https://drive.google.com/drive/u/0/folders/1xUwQEHO-1c2PvqAbd2zm-ScIPc_-b_hh |
| Exh.3.61 | The office of network service establishment | Decision | | https://drive.google.com/drive/u/0/folders/1J1sc0sHliz4w_KJqEX-6vufqcgd-ifCX |
| Exh.3.62 | Internet System Management Screen | Screenshot | | https://drive.google.com/drive/u/0/folders/1n1gRfRivZUicTIzcHMjTxIxqKfYlqvMs |
| Exh.3.63 | WIFI system management screen | Screenshot | | https://drive.google.com/drive/u/0/folders/166dE-SKoZBp5aoOszHAYYdZdzb1NU-55 |
| Exh.3.64 | Screenshot of Fortigate 1000D and Fortigate 800C | Screenshot | | https://drive.google.com/drive/u/0/folders/1-7r7G7aWbMDfyxPFB2b7R_HV41nHiueu |
| Exh.3.65 | Contract for Fortigate 1000D and Fortigate 800C | Contract | | https://drive.google.com/drive/u/0/folders/1-Td_LJGfvQdjtnLwFVY6FhomLrG24uh3 |
| Exh.3.66 | Blackboard screen | Screenshot | | https://drive.google.com/drive/u/0/folders/1jceHZZdUwYxchRusQhEs4unKlt-D1R5O |
| Exh.3.67 | Edusoft screen | Screenshot | | https://drive.google.com/drive/u/0/folders/1WlQybLtVElvrPUoJh95mEaDskiG15quG |
| Exh.3.68 | Turnitin contract | Contract | | https://drive.google.com/drive/u/0/folders/1f5IAdLqsJg_SeqdKzskScGUItGrUGmoN |
| Exh.3.69 | Contract for Window 10 | Contract | | https://drive.google.com/drive/u/0/folders/1uDEUpa4Dzxc_UF9ZDiy5VGFtV8YyaQ5n |
| Exh.3.70 | Contract for Office 365 | Contract | | https://drive.google.com/drive/u/0/folders/11i4GRzdj9U95GhCHbBczm6qbMhMrn2MX |

| 3. RESOURCES | | | | |
|---------------------|--|-----------------|---------------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.3.71 | List of software applying at IU | Document | | https://drive.google.com/drive/u/0/folders/1cYaSCjedsw8uucPqnvG_Qg0btJKRDYQ3 |
| Exh.3.72 | Request form from Office of Procurement Services | Form | | https://drive.google.com/drive/u/0/folders/1dsS_990SV0297a6FMaItONkupWM9OYpy |
| Exh.3.73 | Report on IU service quality | Form | | https://drive.google.com/drive/u/0/folders/1xAcGwyBkjgWQRNnuBL_-1G2fO6ADphoD |
| Exh.3.75 | IU development strategy | Document | | https://drive.google.com/drive/u/0/folders/1Usu8hOGr3P-tQ-F4zIPGq_vkfk6MzBg |
| Exh.3.76 | Sample email to relevant units for their agreement | Screenshot | | https://drive.google.com/drive/u/0/folders/1YkUL698cqGA7fi5HwjnAZdjTInjUEqvd |
| Exh.3.77 | Collaboration agreement | Document | X | https://drive.google.com/drive/u/0/folders/1ZQx2HIPggM6bfhy18BxFrDARAEQ5Rgh2 |
| Exh.3.78 | Sample email exchanges of approval process of each type of collaboration | Screenshot | | https://drive.google.com/drive/u/0/folders/1_BwNkcmLUQZF1shz5YfGCU7MjlibdCE0 |
| Exh.3.79 | Sample of approval from the President for the signing of MOA/MOU | Document | | https://drive.google.com/drive/u/0/folders/1EG5_TMVyB49PELm8V9kHoGSIEz9Qo7ig |
| Exh.3.80 | Sample of memo of the review on the collaboration in twinning programs by VNU-HCM and approval issued by VNU-HCM | Document | | https://drive.google.com/drive/u/0/folders/1bsMeMzYmUaN2mihR5LswqT5FozkzmkUq |
| Exh.3.81 | List of twinning programs between IU and partner universities | Document | | https://drive.google.com/drive/u/0/folders/1yyNBRrER_UXGeZXhk-JusyTg3nt1Lpwl |

| 3. RESOURCES | | | | |
|--------------|---|------------|--------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.3.83 | GPS equipments | Document | | https://drive.google.com/drive/u/0/folders/1SUQ_qEEta_mOGM2bBocj77_KiRtsBCzP |
| Exh.3.84 | List of abroad internship, project, and thesis | Document | | https://drive.google.com/drive/folders/1wxgAWdR9JgWDDPMAqCMWp5z_2OdWQijK |
| Exh.3.85 | Sample of announcement | Document | | https://drive.google.com/drive/u/0/folders/1P9CHnT8XFjBb-9o8Xw4ve5Q5IrTX22S- |
| Exh.3.86 | Sample announcement for student exchange information session | Document | | https://drive.google.com/drive/u/0/folders/1WTtZkwo7MNGGULJLLngCJh6Izwlcac3f |
| Exh.3.87 | Print out of the webpage print screen | Screenshot | | https://drive.google.com/drive/u/0/folders/1y6cRIGE6Xmbs76c33Ttii_I0p3i2QvhW |
| Exh.3.88 | Sample of booking confirmation for consultation session on student exchange program | Document | | https://drive.google.com/drive/u/0/folders/1kbGK0xGs_rp8gWabMyp0s9mwk-CzipWd |
| Exh.3.89 | List of CIM procedures | Document | | https://drive.google.com/drive/u/0/folders/1fmoLXFqWbRQIMKpufhHGvua4Klr_rVS4 |
| Exh.3.90 | Student exchange activity | Document | | https://drive.google.com/drive/u/0/folders/1_OCFijcsnWL4ZMIUUs3rKm7tqjDjebFv |
| Exh.3.91 | Orientation week for international students | Document | | https://drive.google.com/drive/u/0/folders/1VtYc9q8vMunWDaBNTpM_fi9kkQqKDOiX |
| Exh.3.92 | Sample of email contact for the review of collaboration with the industries | Screenshot | | https://drive.google.com/drive/u/0/folders/1AZPm660FDZM2gvmeH8Te1yiFkgmX0zs |

| 3. RESOURCES | | | | |
|---------------------|--|-----------------|---------------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.3.93 | List of MOU with local governments | Document | | https://drive.google.com/drive/u/0/folders/14-MliaOh1EDiqAes-OnyFqbweKVBXwwI |
| Exh.3.94 | Sample of MOA on research and technology transfer projects with the industries | Document | | https://drive.google.com/drive/u/0/folders/1EdhmPKR0MedAj53hCj3qlA4PnxMgyRaU |
| Exh.3.95 | List of the high schools that IU is networking | Document | | https://drive.google.com/drive/u/0/folders/1j454KzF6bgpS01EtbRiH8MqDS8klkmZc |
| Exh.3.96 | Sample of activities implemented with the high schools | Document | | https://drive.google.com/drive/u/0/folders/1NzUnIjP8HFKeB1JSI5ZY_XAT2eSfzxm |
| Exh.3.97 | Sample of the plan for networking with the high schools | Document | | https://drive.google.com/drive/u/0/folders/1oGrq1bdeNJAeI-bbieWIg6B8i1c6psA5 |
| Exh.3.98 | Invitation & Agenda for review Committee for the extension of a twinning program | Document | | https://drive.google.com/drive/u/0/folders/1RzqEjIGitWpdmn3IHooTfXODxdni7ho |
| Exh.3.99 | Sample of the Decision for the extension of a twinning program | Decision | | https://drive.google.com/drive/u/0/folders/1I_oSdKaYevVK44JzDFS_wCnKlegzSG-5 |
| Exh.3.100 | Staff Handbook | Document | X | https://drive.google.com/drive/folders/1kHCiFcCC3zBVmwcOP2NhCwwW2U_cGjw?usp=sharing |
| Exh.3.101 | Video clip introducing the programme facilities and equipment | Video clip | X | https://drive.google.com/drive/folders/17vLJUsRUKnmuDbPg6AuPqKi3subQKPW8A?usp=sharing |

| 4. TRANSPARENCY AND DOCUMENTATION | | | | |
|-----------------------------------|--|--------------------|--------------------|--|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.4.1 | Quality assurance handbook | Document | | https://drive.google.com/drive/u/0/folders/1GaI9BEZtJ8NCYvFUPmB8D1t_zvvAjNx2 |
| Exh.4.2 | The decision of the CIM establishment | Decision | | https://drive.google.com/drive/folders/17yqoxqDJUctZXQ67eoYM4q0L3bqxa-7?usp=sharing |
| Exh.4.3 | Blackboard's Screen for uploading syllabus | Screenshot | | https://drive.google.com/drive/u/0/folders/12jWV-JQlnIrEP1yioaxdEwLE11dUNgs2 |
| Exh.4.4 | Physics website | Website | X | https://physics.hcmiu.edu.vn/introduction-to-space-engineering/ https://physics.hcmiu.edu.vn/students/student-regulation/ |
| Exh.4.5 | The Graduation Ceremony guide | Document | | https://drive.google.com/drive/u/0/folders/1mkaRuUdXWZip9euHXCvfk1cgzd3ftPio |
| Exh.4.6 | The temporary certificate of graduation | Document | | https://drive.google.com/drive/u/0/folders/1HvLXJeR87YkOtqNCzVCK-RcrY5mJGqM- |
| Exh.4.7 | The SE Diploma | Diploma | X | https://drive.google.com/drive/u/0/folders/1D5qChBRzBhODXoYxmdBpehO6U-z1QXoX |
| Exh.4.8 | Diploma supplement | Diploma supplement | X | https://drive.google.com/drive/u/0/folders/1nrSgg9lbJgZoWkxVwJ3cSSYzX-lgLhRK |
| Exh.4.9 | Transcript | Transcript | X | https://drive.google.com/drive/u/0/folders/1qC7r7pAoWEW_j8ypc4aqcHzB3--2A58K |
| Exh.4.10 | Circular No. 21/2019-BGDDT of MOET | Circular | | https://drive.google.com/drive/u/0/folders/1KIVUUHXR8rVtJRcXhpDrStP-2xaoCj4s |

| 4. TRANSPARENCY AND DOCUMENTATION | | | | |
|-----------------------------------|--|------------|--------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.4.11 | IU website | Website | | https://drive.google.com/drive/u/0/folders/18k-REUUQO3b3l48zMKjWrlh6zYuZn2Hj |
| Exh.4.12 | Regulations for course registration | Document | | https://drive.google.com/drive/u/0/folders/1wsJsUJ3-n-c5uN_xI45g6d4Jo4Gxcprw |
| Exh.4.13 | Department Brochure | Brochure | X | https://drive.google.com/drive/folders/1yaWPr9rH5QyIBEvd7hmhu60VmDDkeGP6?usp=sharing |
| Exh.4.14 | List of participants for the Science Contest | Document | | https://drive.google.com/drive/u/0/folders/1Jbsr6PQp7II Mdm4taiZgpbXZHuvxx5-I |
| Exh.4.15 | Announcement for the Science Contest | Document | | https://drive.google.com/drive/u/0/folders/1FjT2LLqqfUI5ECfc91iuLrO0wBUnNwLZ |
| Exh.4.16 | Start-up event for students | Document | | https://drive.google.com/drive/u/0/folders/1frBJ_fwpXvaDBI9uVbVdl_1vVk1B_Kkd |
| Exh.4.17 | Student Start-up achievement | Document | | https://drive.google.com/drive/u/0/folders/1s--424PtN3IFma-oLS-1t5ZxrqhCCBdp |
| Exh.4.18 | Edusoft system | Screenshot | | https://drive.google.com/drive/u/0/folders/1WlQybLtVEIvrPUoJh95mEaDskiGI5quG |
| Exh.4.19 | IU Student-care procedure | Document | | https://drive.google.com/drive/u/0/folders/1RfHWrfVs5vKc4zZDqaP8ja3bWXkKLoOO |
| Exh.4.20 | Student activities | Document | | https://drive.google.com/drive/u/0/folders/1LE93heEbg7BpA9R87TxnWa4wlyXgqDb2 |
| Exh.4.21 | Orientation day | Document | | https://drive.google.com/drive/u/0/folders/17pOudrnTDgSoq63TLdQt-N1Xgn2ozKt- |

4. TRANSPARENCY AND DOCUMENTATION

| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
|----------|-------------------|----------|--------------------|---|
| Exh.4.22 | Statistical data | Document | X | https://drive.google.com/drive/folders/10OSGG-ANcKlxyGyAMvjVOVYj_dKsBKuR?usp=sharing |

5. QUALITY MANAGEMENT: QUALITY ASSESSMENT AND DEVELOPMENT

| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
|---------|---|-------------|--------------------|---|
| Exh.5.1 | Internal and external QA assessment plans | Document | | https://drive.google.com/drive/u/0/folders/1_g72wSJ9Z0b0GaHZ1qFFkcaPJz7hB8UH |
| Exh.5.2 | Survey results on stakeholders' feedback | Report | | https://drive.google.com/drive/u/0/folders/13arZCez8Vy_oiXMOdLjITRMgH81ow4hS |
| Exh.5.3 | Summary of changing record for programmes | Document | | https://drive.google.com/drive/u/0/folders/1vS4X0N1ah-VZiYHEJiHRv9zLvnCmK417 |
| Exh.5.4 | Plan for collecting feedback of stakeholders for IU | Document | | https://drive.google.com/drive/u/0/folders/1KMdkQkG9TL9Ru3Srlg1cUIR9-37P3IcJ |
| Exh.5.5 | Plan for quality assurance and accreditation/ Internal and external QA assessment plans | Document | | https://drive.google.com/drive/u/0/folders/1_RJa3NIEbuGy3rm1K_VL7RkqPU-7phWJ |
| Exh.5.6 | Recognition of externally acquired academic achievements | Document | X | https://drive.google.com/drive/folders/1yg-87PZPdSjwIYVG7MRSC3HhwzcEzqqH?usp=sharing |
| Exh.5.7 | Certificate Accreditation at Institutional and program level | Certificate | X | https://drive.google.com/drive/folders/1MqHh5UOjLUJgJyaJuQe-zmFOALEjDxZ3?usp=sharing |

| 5. QUALITY MANAGEMENT: QUALITY ASSESSMENT AND DEVELOPMENT | | | | |
|---|---|----------|--------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.5.12 | First year university entrance survey | Report | X | https://drive.google.com/drive/u/0/folders/1KclPA0CQZqrICXD2Pj7vxpmGS6RKx5dh |
| Exh.5.13 | Course Evaluation | Report | X | https://drive.google.com/drive/u/0/folders/1tbBs1hucqn3RCBXMGQAvbueIICOXPGjr |
| Exh.5.14 | Minute of meeting with advisor | MOM | | https://drive.google.com/drive/u/0/folders/1VqcrvXU4j3e4S0YdeMPiUcmEeF9YqewB |
| Exh.5.15 | Report on the survey of service quality and corresponding actions | Report | X | https://drive.google.com/drive/u/0/folders/1hJt1U_tmhDWTIvpggQglgEbgAZI2V_Hq |
| Exh.5.16 | Feedback of ILOs from Students | Report | X | https://drive.google.com/drive/u/0/folders/1NIYx-jQIs-uCOOA_HAtNWprACtUoKoD1 |
| Exh.5.17 | Feedback of ILOs from Alumni | Report | | https://drive.google.com/drive/u/0/folders/1vKGqZQDW E jF7cFxyoEl_mLgtUYkjbrB5 |
| Exh.5.18 | Exit survey | Report | X | https://drive.google.com/drive/folders/14KctbAWpoJc12TIOcRUbVHkElXDkbOFP?usp=sharing |
| Exh.5.19 | Feedback of ILOs from School | Report | | https://drive.google.com/drive/u/0/folders/1-zlf4ROCIjETwPQ8ACuweWkre8mcSS4w |
| Exh.5.20 | Department annual meeting minutes | MOM | | https://drive.google.com/drive/u/0/folders/1dgMgQR3ofx5Gw0YEL837xrF3pEJ7r2Y1 |
| Exh.5.21 | Feedback of ILOs from Industry | Report | | https://drive.google.com/drive/u/0/folders/11WNWjoNZXBHAtPUGh_7MCgh7aRg8UD1R |
| Exh.5.22 | Students feedback on the course's workload | Report | X | https://drive.google.com/drive/folders/1uY6UbJyNwkvzVCPwxrWICD-Nm-brJYx0 |

| 5. QUALITY MANAGEMENT: QUALITY ASSESSMENT AND DEVELOPMENT | | | | |
|---|--|------------------|--------------------|---|
| Code | Title of Evidence | Category | Required Evidenced | Evidence Link |
| Exh.5.36 | Samples of Measuring the achievement of ILOs | Document/ Report | | https://drive.google.com/drive/u/0/folders/1yaizabBSeDdpxHuAig3DNQ1gxquxOzxx |
| Exh.5.38 | Online teaching guidelines | Document | X | https://drive.google.com/drive/u/0/folders/1tiBIoR_WebkDrOc70UCNRK3rAqJYxufc |
| Exh.5.39 | Design curriculum procedure | Document | | https://drive.google.com/drive/u/0/folders/19BI0fIEGwQ4Hcnu-v_BHIEDFzCxlyM5P |
| Exh.5.40 | Review and update curriculum procedure | Document | | https://drive.google.com/drive/u/0/folders/16UGlhx9YxXy-rdeDRkhzoKb9fbqN8FVA |
| Exh.5.42 | Changes in curriculum of programme | Document | | https://drive.google.com/drive/u/0/folders/1XcrGnquUA TEhXCZZbxRPkTTdMA7J7krS |
| Exh.5.43 | Annual talk between BOP and students | Document | | https://drive.google.com/drive/u/0/folders/1GPyPXP6AhTicxcYofTMnPhx-WX8Pf6nS |
| Exh.5.45 | Students' request forms | Form | | https://drive.google.com/drive/u/0/folders/1E_1b9tbtwW9VYHLt2-pfwgYbPGAdu7ob |
| Exh.5.46 | Action plan of Student Advisor Program | Document | | https://drive.google.com/drive/u/0/folders/1iks9QBU0jsuh9QYPJeiTezA6S-wugbph |
| Exh.5.49 | Plan for lectures' training | Document | | https://drive.google.com/drive/u/0/folders/1tTjWaja0np23S8zT52e_ltxCrWO-hslj |
| Exh.5.50 | Minutes of Improvement | MOM | | https://drive.google.com/drive/u/0/folders/1BuiIzSAriT6DDXOeGei3JgAIIJdILNAX |

Appendix B: CHECKLIST OF REQUIRED EVIDENCES_SPACE ENGINEERING PROGRAM
Link: https://drive.google.com/drive/folders/1w9dqrLu9tvHVgzjV_PP7unp-fD46bej3?usp=sharing

| Required Evidence Submit all evidences in English | Relevant ASIIN Criteria | Evidence Code | Title of Evidence | Evidence Link |
|---|-------------------------------|------------------|--|---|
| 1. Study regulations | All criteria | Exh.1.72 | <i><u>IU academic regulation under credit system</u></i> | https://drive.google.com/drive/u/0/folders/1MZfphqd31423hj-HFQ61DzpUj2mFaN3s |
| | | Exh.3.44 | <i><u>Lab Regulations</u></i> | https://drive.google.com/drive/folders/1RaNHbBHPs7dCNYMuePFHrIioGW4Zpfwv |
| | | Exh.2.33 | <i><u>Classroom Regulation</u></i> | https://drive.google.com/drive/folders/1OTseaUCpek-357hPrIBvVu75KQ2rquA6?usp=sharing |
| 2. Documents/other sources where programme-specific objectives and learning outcomes are written down and published, e.g. regulations, homepage, diploma supplement | 1.1, 1.3 | Exh.2.5 | <i><u>Program specification</u></i> | https://drive.google.com/drive/u/0/folders/1OyL35tIX3cb1F2h1nRB_9Fn1BwlRxew3 |
| | | Exh.1.25 | <i><u>Student Handbook</u></i> | https://drive.google.com/drive/folders/1SCJ_AtWNtlh4gUArvbRB9Mf0BJt4JWiP |
| | | Exh.4.4 | <i><u>Department website</u></i> | https://physics.hcmiu.edu.vn/introduction-to-space-engineering/ |
| | | Exh.4.13 | <i><u>Department Brochure</u></i> | https://drive.google.com/drive/folders/1yaWPr9rH5QyIBEvD7hmhu60VmDDkeGP6?usp=sharing |
| | 1.2 | Exh.4.7 | <i><u>The SE Diploma</u></i> | https://drive.google.com/drive/u/0/folders/1D5qChBRzBhODXoYxmdBpehO6U-z1QXoX |

| Required Evidence Submit all evidences in English | Relevant ASIIN Criteria | Evidence Code | Title of Evidence | Evidence Link |
|--|-------------------------|---------------|--|---|
| 3. Official document in which official programme name is indicated, e.g. Diploma Supplement, Transcript of Records, Study Regulations | | Exh.4.9 | <i>Transcript</i> | https://drive.google.com/drive/u/0/folders/1qC7r7pAoWEW_j8ypc4aqcHzB3--2A58K |
| | | Exh.4.10 | <i>Diploma Supplement</i> | https://drive.google.com/drive/u/0/folders/1nrSgg9lBjgZoWkxVwJ3cSSYzX-1gLhRK |
| 4. Objective-Module Matrix indicating how general outcomes are attained via individual modules (see <u>Objectives-Module Matrix template</u>) | 1.3, 1.6 | Exh.1.24 | <i>The SE program mapping between ILOs and courses</i> | https://drive.google.com/drive/folders/1Dt_X6aGJPbs9GXEN-HEafFbvesHsGKN- |
| 5. Study Plan or Curricular Overview in a table format that informs about the student workload (credit points and hours) for each module in every semester | 1.3, 1.5, 2 | Exh.1.78 | <i>Curriculum overview of Space Engineering</i> | https://drive.google.com/drive/folders/1kT0jrF0_UXyTH0Guwj0pwzYs9cHjzB0r?usp=sharing |
| 6. Module descriptions for all compulsory and elective modules (see <u>Module Handbook template</u>). They must also be provided for final projects, compulsory internships and all modules taken at partner institutions as part of a double- or joint degree. | 1.3, 2, 4.1 | Exh.2.6 | <i>Module Handbook</i> | https://drive.google.com/drive/u/0/folders/1HctOBMIcGoxfqo8O_FvFYiiZ0GX0I01f |
| | | Exh.1.74 | <i>Course syllabus</i> | https://drive.google.com/drive/folders/1aTJC4rxuGK1YFYqESdRrABJE_roj4PK |

| Required Evidence Submit all evidences in English | Relevant ASIIN Criteria | Evidence Code | Title of Evidence | Evidence Link |
|--|-------------------------|---------------|---|--|
| 7. Official admission regulations | 1.4 | Exh.4.4 | <u>Department website</u> | https://physics.hcmiu.edu.vn/introduction-to-space-engineering/ |
| | | Exh.4.13 | <u>Department Brochure</u> | https://drive.google.com/drive/folders/1yaWPr9rH5QyIBEvD7hmhu60VmDDkeGP6?usp=sharing |
| | | Exh.1.52 | <u>Admission regulations</u> | https://drive.google.com/drive/u/0/folders/1owV2Nig0YWgIWVpLgAcb00-RosgOA6iC |
| 8. Documents/other sources containing provisions for the recognition of externally acquired academic achievements | 1.4 | Exh.5.6 | <u>Recognition of externally acquired academic achievements</u> | https://drive.google.com/drive/folders/1yg-87PZPdsJwIYVG7MRSC3HhwzcEzqqH?usp=sharing |
| | | Exh.5.7 | <u>Certificate Accreditation at Institutional and program level</u> | https://drive.google.com/drive/folders/1MqHh5UOjLUJgJyaJuQe-zmFOALEjDxZ3?usp=sharing |
| 9. Documents/other sources indicating that student workload is corroborated by the institution, e.g. student surveys | 1.5 | Exh.5.22 | <u>Students feedback on the course's workload</u> | https://drive.google.com/drive/folders/1uY6UbJyN-wkvzVCPwxrWICD-Nm-brJYx0?usp=sharing <u>Exh.5.12. First year entrance survey</u> <u>Exh.5.13. Course evaluation</u> <u>Exh.5.18. Exit survey</u> |

| Required Evidence Submit all evidences in English | Relevant ASIIN Criteria | Evidence Code | Title of Evidence | Evidence Link |
|---|-------------------------------|------------------|---|--|
| | | Exh.5.16 | <i>Feedback of ILOs from Students</i> | https://drive.google.com/drive/u/0/folders/1N1Yx-jQIs-uCOOA_HAtNWprACtUoKoD1 |
| 10. Examination regulations | 2 | Exh.2.2 | <i>IU Exam Regulation</i> | https://drive.google.com/drive/u/0/folders/18dlaljuVGPc1TvV1yX-0T86tfMFLPe2j |
| | | Exh.2.3 | <i>IU policies for examination organization</i> | https://drive.google.com/drive/u/0/folders/1u7BqBHFCHCbh-JRIAuvuN-GyfjTQfWfB |
| 11. Representative selection of <u>graded</u> exams/reports/ final projects and other student work, <u>generally inspected during on-site visit</u> | 2 | Exh.2.34 | <i>1.Assignments</i> | https://drive.google.com/drive/folders/1_2_fp4-RjGVR9oCSxIyKmjSySkFyr6Ws?usp=sharing |
| | | Exh.2.35 | <i>2.Mid term exam papers</i> | https://drive.google.com/drive/folders/1yL0SJHeaj9pW8laUZTC57AeLSsa70Ebz?usp=sharing |
| | | Exh.2.36 | <i>3.Final exam papers</i> | https://drive.google.com/drive/folders/1ibrDoOppVxaHQ-FJ5FBgvJhRGevouXau?usp=sharing |
| | | Exh.2.25 | <i>4. Thesis reports</i> | https://drive.google.com/drive/folders/1UpJ_fkukT7g4Uw-ozhC6iEibwvbDO0fS |
| | | Exh.2.11 | <i>5.Project report, Project evaluation</i> | https://drive.google.com/drive/u/0/folders/1NvbCPb72WDP8utTxUIvwzcofGIFkxH9q https://drive.google.com/drive/u/0/folders/1tumsuvh1UR5K5fj36TDMSb57nLCjDD3r |

| Required Evidence Submit all evidences in English | Relevant ASIIN Criteria | Evidence Code | Title of Evidence | Evidence Link |
|---|--------------------------------|----------------------|---|--|
| | | Exh.2.9 | <i>6.Internship report, Internship evaluation</i> | https://drive.google.com/drive/u/0/folders/1tdHpKvliJfn5F5_mZ3pfUc3n5oo9cax3 https://drive.google.com/drive/u/0/folders/1bk9JktRI NY5Y138ICZY9WCWr9NFJVTJx |
| | | Exh.2.8 | <i>The assessment and measuring programme learning outcomes results</i> | https://drive.google.com/drive/u/0/folders/1IM5dRq8QKgn_PPmPhM-lknfJSpK_pzfi |
| | | Exh.5.36 | <i>Samples of Measuring the achievement of ILOs</i> | https://drive.google.com/drive/u/0/folders/1yai-zabBSeDdpXHuAig3DNQ1gxquxOzxx |
| 12. Statistical data about the progress of studies, e.g. number of students, average grade, failure rate, amount of re-sits, duration of studies, number of graduates and their distribution, etc. | 5 | Exh.4.22 | <i>Statistical data about the progress of studies of Space Engineering students</i> | https://drive.google.com/drive/folders/10OSGG-ANcKlxyGyAMvjVOVYj_dKsBKuR?usp=sharing |
| 13. Academic and professional qualifications of all teaching staff involved in the programme (see <u>Staff Handbook template</u>). In case the programme includes a double- or joint degree option, qualifications must also be provided | 1.6, 3.1 | Exh.3.78 | <i>Staff Handbook</i> | https://drive.google.com/drive/folders/1kHCiiFcCC3zBVmwcOP2NhCwvW2U_cGjw?usp=sharing |

| Required Evidence Submit all evidences in English | Relevant ASIIN Criteria | Evidence Code | Title of Evidence | Evidence Link |
|--|-------------------------|---------------|--|--|
| for the relevant teaching staff at the partner institutions. | | | | |
| 14. Cooperation agreements (e.g. learning agreements, agreements for use of laboratories, etc. - only relevant in case of cooperation with other universities, companies, research institutions, etc.) | 3.2 | Exh.3.77 | <u>Collaboration agreement</u> | <u>https://drive.google.com/drive/u/0/folders/1ZQx2HIPggM6bfhyl8BxFrDARAEQ5Rgh2</u> |
| <u>15. In case of an online audit</u> , photo and / or video material of the programme facilities and equipment | 3.2 | Exh.3.80 | <u>Video clip introducing the programme facilities and equipment</u> | <u>https://drive.google.com/drive/folders/17vLJUsRUkNmuD-bPg6AuPqKi3ubQKPW8A?usp=sharing</u> |
| 16. Sample diploma or degree certificate | 4.1 | Exh.4.7 | <u>The SE Diploma</u> | <u>https://drive.google.com/drive/u/0/folders/1D5qChBRzBhODXoYxmdBpehO6U-z1QXoX</u> |
| 17. Sample diploma supplement including all relevant study programme information | 4.1 | Exh.4.9 | <u>Transcript</u> | <u>https://drive.google.com/drive/u/0/folders/1qC7r7pAoWEW_j8ypc4aqcHzB3--2A58K</u> |
| | | Exh.4.10 | <u>Diploma Supplement</u> | <u>https://drive.google.com/drive/u/0/folders/1nrSgg9IbJgZoWkxVwJ3cSSYzX-lgLhRK</u> |

| Required Evidence Submit all evidences in English | Relevant ASIIN Criteria | Evidence Code | Title of Evidence | Evidence Link |
|---|--------------------------------|----------------------|--|---|
| 18. Any other regulations which apply, e.g. code of conduct, teacher responsibilities, etc. | 4.2 | Exh.3.1 | <i>IU teaching regulation</i> | https://drive.google.com/drive/u/0/folders/1XG2p91iaDTd1i6AJWXeZYL99p0BM8_GO |
| 19. Sample student survey questionnaire | 5 | Exh.5.12 | <i>First year entrance survey</i> | https://drive.google.com/drive/u/0/folders/1KclPA0CQZqrICXD2Pj7vxpmGS6RKx5dh |
| 20. Results of student surveys | | Exh.5.13 | <i>Course Evaluation</i> | https://drive.google.com/drive/u/0/folders/1tbBs1hucqn3RCBXMGOAvbueIICOXPGjr |
| | | Exh.3.22 | <i>IU service quality for students</i> | https://drive.google.com/drive/u/0/folders/1hOKpr7j9lN2fEN-mnjttSzEM79eMZdLy |
| | | Exh.5.18 | <i>Exit survey</i> | https://drive.google.com/drive/folders/14KCtbAWpoJc12TIOcRUbVHkEIXDkbOFP?usp=sharing |
| | | Exh.3.21 | <i>Alumni feedback</i> | https://drive.google.com/drive/u/0/folders/1TiD69RP6pDTn0YWA17N0f2C-LikBTsQb |

Appendix C: CURRICULUM TREE MAP OF SPACE ENGINEERING PROGRAM

