SCHOOL OF INDUSTRIAL ENGINEERING AND MANAGEMENT STUDENT'S HANDBOOK

INTERNATIONAL UNIVERSITY
VIETNAM NATIONAL UNIVERSITY HCMC
BLOCK 6, LINH TRUNG WARD, THU DUC DISTRICT, HCMC

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1. INTRODUCTION

The International University (IU) is the first public International University of Vietnam and a member of Vietnam National University – Ho Chi Minh City (VNU). The IU is currently striving to become a prestigious research institution and training high quality human resources for the country. It is fully empowered to award all degrees from undergraduate to post graduate levels. Its internationality is reflected in international academic environment of IU as a whole, including all degree programs, teaching staff, languages of instruction, academic and research infrastructure. Its publicity is reflected in the long-term support from the government and other funding agencies and organizations at all levels – from local national to regional and international.

Schools and Departments

- School of Industrial Engineering and Management
- School of Biotechnology
- School of Business
- School of Computer Science and Engineering
- School of Electrical Engineering and Management
- School of Biomedical Engineering
- School of Civil Engineering
- School of Languages

- Department of Mathematics
- Department of Physics
- School of Chemical and Environmental Engineering
- School of Economics, Finance, and Accounting

2. SCHOOL OF INDUSTRIAL ENGINEERING AND MANAGEMENT

2.1 Vision

The School of IEM always aims to take a leadership role in education and academic research in ISE and LSCM.

2.2 Mission

- Offering high-quality graduate and undergraduate education
- Providing excellent research including basic and applied research to meet the needs of industry, local provinces, and society.
- Taking the pioneering role in developing the IEM field in Vietnam by promoting the application of IEM in various manufacturing and service sectors in Vietnam

2.3 Program Objectives

The School of IEM views itself as a system that places a priority on students' results. Therefore, students are the main driver for all teaching and other related activities. Its objectives are to:

- Maintain an excellent quality of teaching and learning
- Recruit and retain highly qualified faculty and staff to support the teaching,
 research, and service mission of the School of IEM

- Enhance the learning environment to support teaching and research activities
- Attract excellent local and international students
- Enhance collaboration with the industry and other prestigious educational institutions

2.4 Expected Learning Outcomes (For batch 2017-2018)

- a. An ability to apply knowledge of mathematics, science and engineering
- b. An ability to design and conduct experiments, as well as to analyze and interpret data
- c. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- d. An ability to function in multidisciplinary teams
- e. An ability to identify, formulate, model and simulate and solve industrial and systems problems
- f. An understanding of professional and ethical responsibility
- g. An ability to communicate effectively
- h. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- i. A recognition of the need for, and an ability to engage in life-long learning
- j. A knowledge of contemporary issues and ability to self-update
- k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

2.5 Career Opportunities

IEM engineers can take on and perform excellently tasks in various fields, namely Logistics & Supply Chain Management, Procurement Management, Project

Management, Inventory Management, Quality Management, Production Management, Optimization in Production and Service, developing an integrated solution to reduce the operation cost, etc. Qualified graduated engineers can achieve the top-level positions in organizations such as Production Director and Chief Executive Officer.

2.6 Programs

School of Industrial Engineering and Management has two different programs: Industrial and Systems Engineering (ISE) and Logistics and Supply Chain Management (LSCM).

- ISE trains students to be engineers who have ability to design, operate, coordinate, manage production systems and services to create products and services.
- LSCM trains students to be engineers who have ability to design, operate, coordinate, manage activities in Logistics and supply chain. These systems support the supply and storage of raw materials for production, services, distribution and delivery the finished goods to customers.

2.7 Course Design

The course of the B.S Degree in ISE & LSCM in the IU – VNU HCM provides the students the flexibility to join either the IU program (4 years at IU) or the twining program (2 years at IU and 2 years at Rutgers University, or at University Binghamton, the State University of New York). Students will receive bachelor degree awarded by the IU if taking the IU program and bachelor degree awarded by the overseas partner universities if taking the twining program.

The IEM programs are designed with consideration of students' English level which is estimated on TOEFL or TOEFL IBT scores. First year students are classified into three levels:

- For class 2016, 2017, 2018:
 - English level 1: TOEFL \geq 500 (TOEFL IBT \geq 60 or IELTS > 6.5): Students are admitted to take full program.
 - English level 2: 430 ≤ TOEFL < 500 (40 ≤ TOEFL IBT < 60): Students are admitted to take partial program together with English preparation classes (IE2).
 - English level 3: TOEFL < 430 (TOEFL IBT < 40): Students are required to take only intensive English course (IE1) for the first semester of the first year at school.
 - (See more on the curricula of different IEM programs)
- For class 2019:
 - English level 1: TOEFL iBT ≥ 61 or IELTS ≥ 6.0: Students are admitted to take full program.
 - English level 2: TOEFL iBT \geq 35 or IELTS \geq 5.0: Students are admitted to take partial program together with English preparation classes (IE2).
 - English level 3: TOEFL iBT < 35 or IELTS < 5.0 Students are required to take only intensive English course (IE1) for the first semester of the first year at school.

- (See more on the curricula of different IEM programs)

• For class 2020:

- English level 1: IELTS \geq 6.0: Students are admitted to take full program.
- English level 2: $5.5 \le IELTS < 6.0$: Students are admitted to take partial program together with English preparation classes (IE3)
- English level 3: $5.0 \le IELTS < 5.5$ Students are required to take intensive English course (IE2) for the first semester of the first year at school.
- English level 4: $3.5 \le IELTS \le 4.5$ Students are required to take intensive English course (IE1) for the first semester of the first year at school.
- English level 5: IELTS ≤ 3.0 Students are required to take intensive English course (IE0) for the first semester of the first year at school.
- Students must pass exam for their current English level before taking the next higher level.
- (See more on the curricula of different IEM programs).

• For class 2021:

- English level 1: IELTS \geq 5.5: Students are admitted to take full program.
- English level 2: IELTS = 5.0: Students are admitted to take partial program together with English preparation classes (IE3)
- English level 3: IELTS = 4.5 Students are required to take intensive English course (IE2) for the first semester of the first year at school.

- English level 4: IELTS \leq 4.0 Students are required to take intensive English course (IE1) for the first semester of the first year at school.
- Students must pass exam for their current English level before taking the next higher level.
- (See more on the curricula of different IEM programs)
- For class 2020 and forward:
 - English level 1: IELTS \geq 5.5: Students are admitted to take full program.
 - English level 2: IELTS = 5.0: Students are admitted to take partial program together with English preparation classes (IE3)
 - English level 3: IELTS = 4.5 Students are required to take intensive English course (IE2) for the first semester of the first year at school.
 - English level 4: IELTS \leq 4.0 Students are required to take intensive English course (IE1) for the first semester of the first year at school.
 - Students must pass exam for their current English level before taking the next higher level.
 - (See more on the curricula of different IEM programs)

2.8 Scholarship

Students with entrance examination scores equal or above 25 are eligible to receive full scholarship which is worth 168.000.000 VND (~ \$6,000 USD) for the whole course (4 years for domestic programs and 2 years for twinning programs). Partial scholarship, which is worth 84.000.000 VND (~ \$ 3,000 USD for the whole course),

is offered to students with entrance examination scores from 24 to 25. To maintain the scholarship throughout the whole course, students need to keep their GPA equal or above 70 and scores of all subjects equal or above 50.

To encourage students with good merits, each semester the International University spends around 24,000 USD awarding those who achieve excellent merits in the second semester of the first year. Every semester, 40 scholarships, each worth 12.620.000 VND (~ 600 USD), are granted to the best students who receive neither full nor partial scholarships.

2.9 Course Assessment

- Mid-term exam: Maximum 30%
- Final exam: Maximum 40%
- Others (e.g. In-class quizzes, group presentation, etc): Maximum 30%

2.10 Grading system

| Classification | 100-Point Grading | 4-Point Grading | | | |
|----------------|----------------------------|-----------------|----------|--|--|
| Classification | 100-1 omt Graung | Numeric | Alphabet | | |
| Passing | , | | 1 | | |
| Excellent | 90 ≤ GPA ≤ 100 | 4.0 | A+ | | |
| Very Good | 80 ≤ GPA < 90 | 3.5 | A | | |
| Good | 70 ≤GPA < 80 | 3.0 | B+ | | |
| Fair-Good | 60≤ GPA < 70 | 2.5 | В | | |
| Average | $50 \le \text{GPA} < 60$ | 2.0 | С | | |
| Not Passing | | | | | |
| Weak | $40 \le \text{GPA} \le 50$ | 1.5 | D+ | | |
| Bad | 30 ≤GPA ≤40 | 1.0 | D | | |
| Dud | GPA < 30 | 0 | F | | |



3. IU ISE PROGRAM (for batch 2019)

3.1 English Level 1: TOEFL iBT \geq 61

TOTAL CREDITS: 152 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| Freshman Year (Year 1) | | | | | | | | | |
|------------------------|--|------|------------|--|---|--|--|--|--|
| Semester 1 | | Crds | Semester 2 | Crds | | | | | |
| EN007IU | Writing AE1 | 2 | EN011IU | Writing AE2 | 2 | | | | |
| EN008IU | Listening AE1 | 2 | EN012IU | Speaking AE2 | 2 | | | | |
| MA001IU | Calculus 1 | 4 | MA003IU | Calculus 2 | 4 | | | | |
| PH013IU | Physics 1 | 2 | PE008IU | Critical Thinking | 3 | | | | |
| PH014IU | Physics 2 | 2 | PT002IU | Physical Training 2 | 3 | | | | |
| PT001IU | Physical Training 1 | 3 | IS001IU | Introduction to Industrial Engineering | 1 | | | | |
| CH012IU | Chemistry Laboratory | 1 | IS054IU | Engineering Drawing | 3 | | | | |
| CH011IU | Chemistry for Engineers | 3 | PH015IU | Physics 3 | 3 | | | | |
| Total Credi | | 19 | Total Cred | 21 | | | | | |
| Summer Se | mester | Crds | | | | | | | |
| PE015IU | Philosophy of Maxism and Leninism | 3 | | | | | | | |
| PE016IU | Political Economics of Maxism and Leninism | 2 | | | | | | | |
| Total Credi | ts | 5 | | | | | | | |

| Sophomore Year (Year 2) | | | | | | | | | |
|-------------------------|--------------------------------------|------|------------|--|---|--|--|--|--|
| Semester 3 | | Crds | Semester 4 | Crds | | | | | |
| MA027IU | Applied Linear Algebra | 2 | IS020IU | Engineering Economy | 3 | | | | |
| IS019IU | Production Management | 3 | IS081IU | Deterministic models in OR | 4 | | | | |
| IS086IU | Introduction to Computing | | IS017IU | Work design & Ergonomics + Lab | 4 | | | | |
| IS004IU | Engineering Probability & Statistics | 4 | IS085IU | CAD/CAM/CNC | 3 | | | | |
| MA023IU | Calculus 3 | 4 | IS034IU | Product Design & Development | 3 | | | | |
| PE017IU | Scientific Socialism | 2 | PE018IU | History of Communist Party of Vietnam | 2 | | | | |
| IS090IU | Engineering Mechanics – Dynamics | 2 | PE019IU | HCM's Thoughts | 2 | | | | |
| Total Cred | its | 20 | Total Cred | Total Credits | | | | | |
| Summer Se | emester | Crds | | | | | | | |
| IS052IU | Internship 1 | 2 | | | | | | | |
| | Military Training | 0 | | | | | | | |
| Total Cred | its | 2 | | | | | | | |

| Junior Year (Year 3) | | | | | | | | | |
|--|---|------|-----------|---|----|--|--|--|--|
| Semester | 5 | Crds | Semester | Semester 6 | | | | | |
| IS040IU | Management Information System | 3 | IS079IU | Scientific Writing | 2 | | | | |
| PE014IU | Environmental Science | 3 | IS028IU | Simulation Models in IE | 4 | | | | |
| IS025IU | Quality Management | 3 | IS027IU | Scheduling & Sequencing | 3 | | | | |
| IS026IU | Project Management | 3 | IS041IU | Lean Production | 3 | | | | |
| IS024IU | Probabilistic Models in OR | 3 | IS078IU | Logistics Engineering & Supply Chain Design | 3 | | | | |
| IS089IU | Numerical Methods | 3 | PE020IU | Ethnics and professional skills for engineers | 3 | | | | |
| ISIU | ISE Elective Course (choose 1 course below) | 3 | | | | | | | |
| IS031IU | Experimental Design | 3 | | | | | | | |
| IS087IU | Manufacturing Processes | 3 | | | | | | | |
| IS058IU Time Series & Forecasting techniques | | 3 | | | | | | | |
| Total Cre | | 21 | Total Cre | dits | 18 | | | | |
| Summer S | Semester | Crds | | | | | | | |

| IS053IU | Internship 2 | 3 | |
|-----------|---------------|---|--|
| Total Cre | Total Credits | | |

| Senior Year (Year 4) | | | | | | | |
|----------------------|--|------|----------|-----------------|------|--|--|
| Semester | 7 | Crds | Semester | 8 | Crds | | |
| IS083IU | Capstone Design | 3 | IS048IU | Thesis research | 10 | | |
| IS033IU | Multi-Criteria Decision Making | 3 | | | | | |
| IS032IU | Facility Layout | 3 | | | | | |
| ISIU | ISE Elective Course (choose 2 courses below) | 6 | | | | | |
| IS080IU | Creative Thinking | 3 | | | | | |
| IS035IU | Systems Engineering | 3 | | | | | |
| IS043IU | Flexible Manufacturing Systems | 3 | | | | | |
| IS045IU | Leadership | 3 | | | | | |
| IS023IU | Inventory Management | 3 | | | | | |
| IS082IU | Retail Management | 3 | | | | | |
| IS067IU | International Transportation & Logistics | 3 | | | | | |
| IS062IU | E-Logistics in Supply Chain Management | 3 | | | | | |

| | Free | Elective | Course | 3 | | |
|---------------|---------|-------------|--------|----|---------------|----|
| IU | (choose | e 1 course) | | | | |
| Total Credits | | | | 18 | Total Credits | 10 |

Selecting one Free-elective course only from the following courses for 7th semester.

| No | Course ID | Subject | Credits |
|----|-----------|--|---------|
| 1 | BA115IU | Introduction to Business Administration | 3 |
| 2 | BA117IU | Introduction to Micro Economics | 3 |
| 3 | BA120IU | Business Computing Skills | 3 |
| 4 | BA123IU | Principles of Management | 3 |
| 5 | BA119IU | Introduction to Macro Economics | 3 |
| 6 | BA118IU | Introduction to Psychology | 3 |
| 7 | BA167IU | Introduction to Vietnamese Legal System | 3 |
| 8 | BA197IU | Introduction to Sociology | 3 |
| 9 | IT064IU | Introduction to Computing | 3 |
| 10 | IT011UN | Functional Programming | 3 |
| 11 | IT120IU | Entrepreneurship | 3 |
| 12 | IT007UN | Skills for Communicating Information | 3 |
| 13 | IT151IU | Statistical Methods | 3 |
| 14 | BM013IU | Entrepreneurship in Biomedical Engineering | 3 |

| 15 | BM005IU | Statistics for Health Science | 3 |
|----|------------|---|---|
| 16 | BM033IU | Information Technology in the Health Care System | 3 |
| 17 | ENEE2001IU | Introduction to Environmental Engineering | 3 |
| 18 | ENEE2008IU | Environmental Ecology | 3 |
| 19 | BT152IU | Biostatistics | 3 |
| 20 | CHE2041IU | Mass Transfer Operations | 3 |
| 21 | MAFE105IU | Financial Economics | 3 |
| 22 | MAFE215IU | Financial Management | 3 |
| 23 | MAFE209IU | Financial markets | 3 |
| 24 | MAFE207IU | Decision Making | 3 |
| 25 | MAFE314IU | Financial Econometrics | 3 |
| 26 | MAFE308IU | Financial Risk Management 1 | 3 |
| 27 | MAFE402IU | Portfolio Management | 3 |
| 28 | PH027IU | Earth Observation and The Environment | 3 |
| 29 | PH047IU | Navigation Systems | 3 |
| 30 | PH045IU | Fundamental of Surveying | 3 |
| 31 | PH046IU | Geographic Information Systems (GIS) and Spatical Analysis | 3 |
| 32 | CE505IU | Geotechnics | 3 |
| 33 | CE503IU | Pavement design & Maintenance | 3 |
| 34 | EE049IU | Introduction to Electrical Engineering | 3 |

3.2 English Level 2: TOEFL iBT \geq 35

TOTAL CREDITS: 168 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| Freshman Year (Year 1) | | | | | | | |
|---|-----------------------------------|------|------------|--|------|--|--|
| Semester 1 | | Crds | Semester 2 | | Crds | | |
| EN074IU | EN074IU Reading & writing IE2 | | CH012IU | Chemistry Laboratory | 1 | | |
| EN075IU Listening & speaking IE2 | | 8 | CH011IU | Chemistry for Engineers | 3 | | |
| PT001IU | Physical Training 1 | 3 | EN007IU | Writing AE1 | 2 | | |
| MA001IU | Calculus 1 | 4 | EN008IU | Listening AE1 | 2 | | |
| | | | PH013IU | Physics 1 | 2 | | |
| | | | PH014IU | Physics 2 | 2 | | |
| | | | PT002IU | Physical Training 2 | 3 | | |
| | | | MA003IU | Calculus 2 | 4 | | |
| | | | IS001IU | Introduction to Industrial Engineering | 1 | | |
| | | | IS054IU | Engineering Drawing | 3 | | |
| Total Cred | lits | 23 | Total Cred | otal Credits | | | |
| Summer S | Summer Semester | | | | | | |
| PE015IU | Philosophy of Maxism and Leninism | 3 | | | | | |
| PE016IU Political Economics of Marxism and Leninism | | 2 | | | | | |
| EN011IU Writing AE2 | | | | | | | |
| EN012IU | Speaking AE2 | 2 | | | | | |

| Sophomore Year (Year 2) | | | | | | | |
|-------------------------|------------------------------------|--------|------|------------------|-----------------------------------|------|--|
| Semester 3 | | | Crds | Semester | 4 | Crds | |
| MA027IU | Applied Algebra | Linear | 2 | IS020IU | Engineering Economy | 3 | |
| IS019IU | Production Management | | 3 | IS081IU | Deterministic models in OR | 4 | |
| IS086IU | Introduction Computing | to | 3 | IS017IU | Work design & Ergonomics + Lab | 4 | |
| IS004IU | Engineering Probability Statistics | & | 4 | IS085IU | CAD/CAM/CNC | 3 | |
| IS090IU | Engineering Mechanics Dynamics | _ | 2 | IS034IU | Product Design & Development | 3 | |
| MA023IU | Calculus 3 | | 4 | PE008IU | Critical Thinking | 3 | |
| PH015IU | Physics 3 | | 3 | PE017IU | Scientific socialism | 2 | |
| Total Credits | | | 21 | Total Cre | dits | 22 | |
| Summer Semester | | | Crds | | | | |
| IS052IU Internship 1 | | 2 | | | | | |
| Military Training | | 0 | | | | | |

|--|--|

| Junior Year (Year 3) | | | | | | |
|---|---|------|------------------------|---|----|--|
| Semester | 5 | Crds | Semester | Semester 6 | | |
| IS089IU | Numerical methods | 3 | IS079IU | Scientific Writing | 2 | |
| IS040IU | Management Information System | 3 | IS028IU | Simulation Models in IE | 4 | |
| PE014IU | | | | 3 | | |
| IS025IU | Quality Management | 3 | IS078IU | Logistics Engineering & Supply Chain Design | 3 | |
| IS026IU | Project Management | 3 | IS041IU | Lean Production | 3 | |
| IS024IU | Probabilistic Models in OR | 3 | PE018IU | History of the Communist Party of Vietnam | 2 | |
| ISIU | ISE Elective Course (choose 1 course below) | 3 | PE019IU HCM's thoughts | | 2 | |
| IS031IU Experimental Design | | 3 | | | | |
| IS087IU Manufacturing Processes | | 3 | | | | |
| IS058IU Time series & forecasting technique | | 3 | | | | |
| Total Cre | dits | 21 | Total Cre | dits | 19 | |

| Summer Semester | | Crds |
|-----------------|--------------|------|
| IS053IU | Internship 2 | 3 |
| Total Credits | | 3 |

| Senior Year (Year 4) | | | | | | |
|---|-----------------------------------|---|------------|-----------------|------|--|
| Semester 7 | | | Semester 8 | | Crds | |
| IS083IU | Capstone Design | 3 | IS048IU | Thesis research | 10 | |
| IS033IU | Multi-Criteria Decision Making | 3 | | | | |
| IS032IU | Facility Layout | 3 | | | | |
| PE020IU Ethnics and professional skills for engineers | | 3 | | | | |
| ISIU | | 6 | | | | |
| IS080IU | Creative Thinking | | | | | |
| IS035IU | Systems Engineering | 3 | | | | |
| IS043IU Flexible Manufacturing Systems | | 3 | | | | |
| IS045IU Leadership | | 3 | | | | |
| IS023IU | Inventory Management | 3 | | | | |
| BA146IU | Retail Management | 3 | | | | |

| IS067IU | International Transportation & Logistics | 3 | | |
|----------------------|---|----|---------------|----|
| IS062IU | E-Logistics in Supply Chain Management | 3 | | |
| IU | Free Elective Course (choose 1 course) | 3 | | |
| Total Credits | | 21 | Total Credits | 10 |

Selecting one Free-elective course only from the following courses for 7th semester.

| No | Course ID | Subject | Credits |
|----|-----------|---|---------|
| 1 | BA115IU | Introduction to Business Administration | 3 |
| 2 | BA117IU | Introduction to Micro Economics | 3 |
| 3 | BA120IU | Business Computing Skills | 3 |
| 4 | BA123IU | Principles of Management | 3 |
| 5 | BA119IU | Introduction to Macro Economics | 3 |
| 6 | BA118IU | Introduction to Psychology | 3 |
| 7 | BA167IU | Introduction to Vietnamese Legal System | 3 |
| 8 | BA197IU | Introduction to Sociology | 3 |
| 9 | IT064IU | Introduction to Computing | 3 |
| 10 | IT011UN | Functional Programming | 3 |
| 11 | IT120IU | Entrepreneurship | 3 |
| 12 | IT007UN | Skills for Communicating Information | 3 |

| 13 | IT151IU | Statistical Methods | 3 |
|----|------------|---|---|
| 14 | BM013IU | Entrepreneurship in Biomedical Engineering | 3 |
| 15 | BM005IU | Statistics for Health Science | 3 |
| 16 | BM033IU | Information Technology in the Health Care System | 3 |
| 17 | ENEE2001IU | Introduction to Environmental Engineering | 3 |
| 18 | ENEE2008IU | Environmental Ecology | 3 |
| 19 | BT152IU | Biostatistics | 3 |
| 20 | CHE2041IU | Mass Transfer Operations | 3 |
| 21 | MAFE105IU | Financial Economics | 3 |
| 22 | MAFE215IU | Financial Management | 3 |
| 23 | MAFE209IU | Financial markets | 3 |
| 24 | MAFE207IU | Decision Making | 3 |
| 25 | MAFE314IU | Financial Econometrics | 3 |
| 26 | MAFE308IU | Financial Risk Management 1 | 3 |
| 27 | MAFE402IU | Portfolio Management | 3 |
| 28 | PH027IU | Earth Observation and The Environment | 3 |
| 29 | PH047IU | Navigation Systems | 3 |
| 30 | PH045IU | Fundamental of Surveying | 3 |
| 31 | PH046IU | Geographic Information Systems (GIS) and Spatical Analysis | 3 |
| 32 | CE505IU | Geotechnics | 3 |
| 33 | CE503IU | Pavement design & Maintenance | 3 |

| ı | | Ì | | Ī | |
|---|----|---------|--|---|--|
| | 34 | EE049IU | Introduction to Electrical Engineering | 3 | |

3.3 English Level 3: TOEFL iBT < 35

TOTAL CREDITS: 190 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| Freshman Year (Year 1) | | | | | | | |
|----------------------------------|--|------|------------|--|------|--|--|
| Semester 1 | | Crds | Semester 2 | | Crds | | |
| EN072IU Reading & Writing IE1 | | 11 | EN074IU | Reading & writing IE2 | 8 | | |
| EN073IU Listening & Speaking IE1 | | 11 | EN075IU | Listening & speaking IE2 | 8 | | |
| PT001IU | Physical Training 1 | 3 | PT002IU | PT002IU Physical Training 2 | | | |
| | | | IS001IU | Introduction to Industrial Engineering | 1 | | |
| | | | MA001IU | Calculus 1 | 4 | | |
| Total Cred | lits | 25 | Total Cred | Total Credits | | | |
| Summer S | emester | Crds | | | | | |
| PE015IU | Philosophy of Marxism and Leninism | 3 | | | | | |
| PE016IU | Political economics of Marxism and Leninism | 2 | | | | | |
| EN007IU | EN007IU Writing AE1 | | | | | | |
| EN008IU | EN008IU Listening AE1 | | | | | | |
| Total Cred | lits | 9 | | | | | |

| Sophomore Year (Year 2) | | | | | | | |
|-------------------------|--------------------------|------|---------------|----------------------|------|--|--|
| Semester 3 | | Crds | Semester 4 | | Crds | | |
| MA027IU | Applied Linear | 2 | CH012IU | Chemistry | 1 | | |
| | Algebra | | CHOTZIC | Laboratory | 1 | | |
| IS004IU | Engineering | 4 | CH011IU | Chemistry for | 3 | | |
| | Probability & Statistics | · | 01101110 | Engineers | | | |
| PE008IU | Critical Thinking | 3 | IS081IU | Deterministic models | 4 | | |
| | 8 | | | in OR | | | |
| PH013IU | PH013IU Physics 1 | | EN012IU | Speaking AE2 | 2 | | |
| PH014IU | PH014IU Physics 2 | | EN011IU | Writing AE2 | 2 | | |
| MA003IU | Calculus 2 | 4 | IS054IU | Engineering Drawing | 3 | | |
| IS086IU | Introduction to | 3 | MA023IU | Calculus 3 | 4 | | |
| 1500010 | Computing | | 1411102510 | Culculus 5 | ' | | |
| | | | PH015IU | Physics 3 | 3 | | |
| Total Cred | its | 20 | Total Credits | | 22 | | |
| Summer Se | Summer Semester | | | | | | |
| IS052IU | Internship 1 | 2 | | | | | |
| | Military Training | 0 | | | | | |
| Total Cred | its | 2 | | | | | |

| Junior Year (Year 3) | | | | | | | |
|----------------------|---|------|-----------|---|------|--|--|
| Semester 5 | | Crds | Semester | 6 | Crds | | |
| IS026IU | Froject Management | | IS020IU | Engineering Economy | 3 | | |
| PE014IU | Environmental Science | 3 | IS017IU | Work design & Ergonomics + Lab | 4 | | |
| IS019IU | Production Management | 3 | IS034IU | Product Design & Development | 3 | | |
| IS040IU | Management Information System | 3 | IS041IU | Lean Production | 3 | | |
| IS025IU | Quality Management | 3 | IS085IU | CAD/CAM/CNC | 3 | | |
| IS090IU | Engineering Mechanics – Dynamics | 2 | PE018IU | History of the Communist Party of Vietnam | 2 | | |
| PE017IU | Scientific Socialism | 2 | PE019IU | HCM's Thoughts | 2 | | |
| ISIU | ISE Elective Course (choose 1 course below) | 3 | | | | | |
| IS031IU | Experimental Design | 3 | | | | | |
| IS087IU | Manufacturing Processes | 3 | | | | | |
| IS058IU | Time series & forecasting technique | 3 | | | | | |
| Total Credits | | 22 | Total Cre | dits | 20 | | |
| Summer Semester | | Crds | | | | | |
| IS053IU Internship 2 | | 3 | | | | | |
| Total Cred | its | 3 | | | | | |

| Senior Year (Year 4) | | | | | | | |
|----------------------|--|---|----------|---|---|--|--|
| Semester 7 | | | Semester | Semester 8 | | | |
| IS033IU | Multi-Criteria Decision Making | | IS083IU | Capstone Design | 3 | | |
| IS032IU | Facility Layout | 3 | IS028IU | Simulation Models in IE | 4 | | |
| IS024IU | Probabilistic Models in OR | 3 | IS027IU | Scheduling & Sequencing | 3 | | |
| IS089IU | Numerical methods | 3 | IS079IU | Scientific Writing | 2 | | |
| ISIU | ISE Elective Course (choose 2 courses below) | 6 | IS078IU | Logistics Engineering & Supply Chain Design | 3 | | |
| IS080IU | Creative Thinking | 3 | PE020IU | Ethnics and professional akills for engineers | 3 | | |
| IS035IU | Systems Engineering | 3 | | | | | |
| IS043IU | Flexible Manufacturing Systems | 3 | | | | | |
| IS045IU | Leadership | 3 | | | | | |
| IS023IU | Inventory Management | 3 | | | | | |
| IS082IU | Retail Management | 3 | | | | | |
| IS067IU | International Transportation & Logistics | 3 | | | | | |

| IS062IU | E-Logistics in Supply Chain Management | 3 | | | | |
|-------------------------|--|------|----------------------|----|--|--|
| IU | Free Elective Course (choose 1 course) | 3 | | | | |
| Total Credits | | 21 | Total Credits | 18 | | |
| Senior Yea | Senior Year (Year 5) | | | | | |
| Semester 9 | | Crds | | | | |
| IS048IU Thesis research | | 10 | | | | |
| Total Credits | | 10 | | | | |

Selecting one Free-elective course only from the following courses for 7th semester.

| No | Course ID | Subject | Credits |
|----|-----------|---|---------|
| 1 | BA115IU | Introduction to Business Administration | 3 |
| 2 | BA117IU | Introduction to Micro Economics | 3 |
| 3 | BA120IU | Business Computing Skills | 3 |
| 4 | BA123IU | Principles of Management | 3 |
| 5 | BA119IU | Introduction to Macro Economics | 3 |
| 6 | BA118IU | Introduction to Psychology | 3 |
| 7 | BA167IU | Introduction to Vietnamese Legal System | 3 |
| 8 | BA197IU | Introduction to Sociology | 3 |
| 9 | IT064IU | Introduction to Computing | 3 |
| 10 | IT011UN | Functional Programming | 3 |

| 11 | IT120IU | Entrepreneurship | 3 |
|----|------------|---|---|
| 12 | IT007UN | Skills for Communicating Information | 3 |
| 13 | IT151IU | Statistical Methods | 3 |
| 14 | BM013IU | Entrepreneurship in Biomedical Engineering | 3 |
| 15 | BM005IU | Statistics for Health Science | 3 |
| 16 | BM033IU | Information Technology in the Health Care System | 3 |
| 17 | ENEE2001IU | Introduction to Environmental Engineering | 3 |
| 18 | ENEE2008IU | Environmental Ecology | 3 |
| 19 | BT152IU | Biostatistics | 3 |
| 20 | CHE2041IU | Mass Transfer Operations | 3 |
| 21 | MAFE105IU | Financial Economics | 3 |
| 22 | MAFE215IU | Financial Management | 3 |
| 23 | MAFE209IU | Financial markets | 3 |
| 24 | MAFE207IU | Decision Making | 3 |
| 25 | MAFE314IU | Financial Econometrics | 3 |
| 26 | MAFE308IU | Financial Risk Management 1 | 3 |
| 27 | MAFE402IU | Portfolio Management | 3 |
| 28 | PH027IU | Earth Observation and The Environment | 3 |
| 29 | PH047IU | Navigation Systems | 3 |
| 30 | PH045IU | Fundamental of Surveying | 3 |
| 31 | PH046IU | Geographic Information Systems (GIS) and Spatical Analysis | 3 |

School of Industrial Engineering and Management

| 32 | CE505IU | Geotechnics | 3 |
|----|---------|--|---|
| 33 | CE503IU | Pavement design & Maintenance | 3 |
| 34 | EE049IU | Introduction to Electrical Engineering | 3 |

4. IU ISE PROGRAM (for batch 2020)

4.1 English Level 1: IELTS \geq **6.0**

TOTAL CREDITS: 152 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| No. | Course | | |
|------|---------|--|---------|
| 110. | code | Courses | Credits |
| Sem | ester 1 | | |
| 1 | EN007IU | Writing AE1 | 2 |
| 2 | EN008IU | Listening AE1 | 2 |
| 3 | MA001IU | Calculus 1 | 4 |
| 4 | PH013IU | Physics 1 | 2 |
| 5 | PH014IU | Physics 2 | 2 |
| 6 | PT001IU | Physical Training 1 | 3 |
| 7 | CH012IU | Chemistry Laboratory | 1 |
| 8 | CH011IU | Chemistry for Engineers | 3 |
| | | Total credits | 19 |
| Sem | ester 2 | | |
| 9 | EN011IU | Writing AE2 | 2 |
| 10 | EN012IU | Speaking AE2 | 2 |
| 11 | MA003IU | Calculus 2 | 4 |
| 12 | PE008IU | Critical Thinking | 3 |
| 13 | PT002IU | Physical Training 2 | 3 |
| 14 | IS001IU | Introduction to Industrial Engineering | 1 |
| 15 | IS054IU | Engineering Drawing | 3 |
| 16 | PH015IU | Physics 3 | 3 |

| | | Total credits | 21 | |
|-----|-----------------|---|----|--|
| Sum | Summer semester | | | |
| 17 | PE015IU | Philosophy of Marxism and Leninism | 3 | |
| 18 | PE016IU | Political economics of Marxism and Leninism | 2 | |
| | | Total credits | 5 | |
| Sem | ester 3 | | | |
| 19 | MA027IU | Applied Linear Algebra | 2 | |
| 20 | IS019IU | Production Management | 3 | |
| 21 | IS086IU | Introduction to Computing | 3 | |
| 22 | IS004IU | Engineering Probability & Statistics | 4 | |
| 23 | MA023IU | Calculus 3 | 4 | |
| 24 | PE017IU | Scientific socialism | 2 | |
| 25 | IS090IU | Engineering Mechanics – Dynamics | 2 | |
| | | Total credits | 20 | |
| Sem | ester 4 | | | |
| 26 | IS020IU | Engineering Economy | 3 | |
| 27 | IS081IU | Deterministic models in OR | 4 | |
| 28 | IS017IU | Work design & Ergonomics + Lab | 4 | |
| 29 | IS085IU | CAD/CAM/CNC | 3 | |
| 30 | IS034IU | Product Design & Development | 3 | |
| 31 | PE018IU | History of the Communist Party of Vietnam | 2 | |
| 32 | PE019IU | HCM's thoughts | 2 | |
| | | Total credits | 21 | |
| Sum | Summer semester | | | |
| 33 | IS052IU | Internship 1 | 2 | |

| 34 | | Military Training | 0 |
|-----|---------|---|----|
| | | Total credits | 2 |
| Sem | ester 5 | | |
| 35 | IS040IU | Management Information System | 3 |
| 36 | PE014IU | Environmental Science | 3 |
| 37 | IS025IU | Quality Management | 3 |
| 38 | IS026IU | Project Management | 3 |
| 39 | IS024IU | Probabilistic Models in OR | 3 |
| 40 | IS089IU | Numerical methods | 3 |
| | ISIU | Nhóm tự chọn số 01 - ISE Elective Course (choose 1 course below) | 3 |
| 41 | IS031IU | Experimental Design | 3 |
| 42 | IS087IU | Manufacturing Processes | 3 |
| 43 | IS058IU | Time series & forecasting technique | 3 |
| | | Total credits | 21 |
| Sem | ester 6 | | |
| 44 | IS079IU | Scientific Writing | 2 |
| 45 | IS028IU | Simulation Models in IE | 4 |
| 46 | IS027IU | Scheduling & Sequencing | 3 |
| 47 | IS041IU | Lean Production | 3 |
| 48 | IS078IU | Logistics engineering & supply chain design | 3 |
| 49 | PE020IU | Ethnics and professional skills for engineers | 3 |
| | | Total credits | 18 |

| Sum | Summer semester | | | |
|-----|-----------------|---|----|--|
| 50 | IS053IU | Internship 2 | 3 | |
| | | Total credits | 3 | |
| Sem | ester 7 | | | |
| 51 | IS083IU | Capstone Design | 3 | |
| 52 | IS033IU | Multi-Criteria Decision Making | 3 | |
| 53 | IS032IU | Facility Layout | 3 | |
| | ISIU | Nhóm tự chọn số 02 - ISE Elective Course (choose 2 courses below) | 6 | |
| 54 | IS080IU | Creative Thinking | 3 | |
| 55 | IS035IU | Systems Engineering | 3 | |
| 56 | IS043IU | Flexible Manufacturing Systems | 3 | |
| 57 | IS045IU | Leadership | 3 | |
| 58 | IS023IU | Inventory Management | 3 | |
| 59 | IS082IU | Retail Management | 3 | |
| 60 | IS067IU | International Transportation & Logistics | 3 | |
| 61 | IS062IU | E-Logistics in Supply Chain Management | 3 | |
| 62 | IU | Nhóm tự chọn số 03 - Free Elective Course (choose 1 course) | 3 | |
| | | Total credits | 18 | |
| Sem | ester 8 | | | |
| 63 | IS048IU | Thesis research | 10 | |
| | | Total credits | 10 | |

| No | Course ID | Subject | Credits |
|----|------------|--|---------|
| 1 | BA115IU | Introduction to Business Administration | 3 |
| 2 | BA117IU | Introduction to Micro Economics | 3 |
| 3 | BA120IU | Business Computing Skills | 3 |
| 4 | BA123IU | Principles of Management | 3 |
| 5 | BA119IU | Introduction to Macro Economics | 3 |
| 6 | BA118IU | Introduction to Psychology | 3 |
| 7 | BA167IU | Introduction to Vietnamese Legal System | 3 |
| 8 | BA197IU | Introduction to Sociology | 3 |
| 9 | IT064IU | Introduction to Computing | 3 |
| 10 | IT011UN | Functional Programming | 3 |
| 11 | IT120IU | Entrepreneurship | 3 |
| 12 | IT007UN | Skills for Communicating Information | 3 |
| 13 | IT151IU | Statistical Methods | 3 |
| 14 | BM013IU | Entrepreneurship in Biomedical Engineering | 3 |
| 15 | BM005IU | Statistics for Health Science | 3 |
| 16 | BM033IU | Information Technology in the Health Care System | 3 |
| 17 | ENEE2001IU | Introduction to Environmental Engineering | 3 |
| 18 | ENEE2008IU | Environmental Ecology | 3 |

| 19 | BT152IU | Biostatistics | 3 |
|----|-----------|---|---|
| 20 | CHE2041IU | Mass Transfer Operations | 3 |
| 21 | MAFE105IU | Financial Economics | 3 |
| 22 | MAFE215IU | Financial Management | 3 |
| 23 | MAFE209IU | Financial markets | 3 |
| 24 | MAFE207IU | Decision Making | 3 |
| 25 | MAFE314IU | Financial Econometrics | 3 |
| 26 | MAFE308IU | Financial Risk Management 1 | 3 |
| 27 | MAFE402IU | Portfolio Management | 3 |
| 28 | PH027IU | Earth Observation and The Environment | 3 |
| 29 | PH047IU | Navigation Systems | 3 |
| 30 | PH045IU | Fundamental of Surveying | 3 |
| 31 | PH046IU | Geographic Information Systems (GIS) and Spatical Analysis | 3 |
| 32 | CE505IU | Geotechnics | 3 |
| 33 | CE503IU | Pavement design & Maintenance | 3 |
| 34 | EE049IU | Introduction to Electrical Engineering | 3 |

4.2 English Level 2: $5.5 \le IELTS < 6.0$

TOTAL CREDITS: 162 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| No. | Courses | Credit | | |
|------|-----------------|---|----|--|
| 1100 | code | Courses | S | |
| Seme | ster 1 | | | |
| 1 | ENTP03 | Intensive English 3- Twinning Program (*) | 10 | |
| 2 | PT001IU | Physical Training 1 | 3 | |
| 3 | MA001IU | Calculus 1 | 4 | |
| | | Total credits | 17 | |
| Seme | ster 2 | | | |
| 4 | EN007IU | Writing AE1 | 2 | |
| 5 | EN008IU | Listening AE1 | 2 | |
| 6 | CH012IU | Chemistry Laboratory | 1 | |
| 7 | CH011IU | Chemistry for Engineers | 3 | |
| 8 | PH013IU | Physics 1 | 2 | |
| 9 | PH014IU | Physics 2 | 2 | |
| 10 | PT002IU | Physical Training 2 | 3 | |
| 11 | MA003IU | Calculus 2 | 4 | |
| 12 | IS001IU | Introduction to Industrial Engineering | 1 | |
| 13 | IS054IU | Engineering Drawing | 3 | |
| | | Total credits | 23 | |
| Sumn | Summer semester | | | |
| 14 | EN011IU | Writing AE2 | 2 | |

| 15 | EN012IU | Speaking AE2 | 2 |
|------|--------------|---|----|
| 16 | PE015IU | Philosophy of Marxism and Leninism | 3 |
| 17 | PE016IU | Political economics of Marxism and Leninism | 2 |
| | | Total credits | 9 |
| Seme | ster 3 | | |
| 18 | MA027IU | Applied Linear Algebra | 2 |
| 19 | IS019IU | Production Management | 3 |
| 20 | IS086IU | Introduction to Computing | 3 |
| 21 | IS004IU | Engineering Probability & Statistics | 4 |
| 22 | IS090IU | Engineering Mechanics – Dynamics | 2 |
| 23 | PH015IU | Physics 3 | 3 |
| 24 | MA023IU | Calculus 3 | 4 |
| | | Total credits | 21 |
| Seme | ster 4 | | |
| 25 | IS020IU | Engineering Economy | 3 |
| 26 | IS081IU | Deterministic models in OR | 4 |
| 27 | IS017IU | Work design & Ergonomics + Lab | 4 |
| 28 | IS085IU | CAD/CAM/CNC | 3 |
| 29 | IS034IU | Product Design & Development | 3 |
| 30 | PE008IU | Critical Thinking | 3 |
| 31 | PE017IU | Scientific socialism | 2 |
| | | Total credits | 22 |
| Sumn | ner semester | | |
| 32 | IS052IU | Internship 1 | 2 |
| 33 | | Military Training | |

| | | Total credits | 2 |
|------|--------------|---|----|
| Seme | ster 5 | | |
| 34 | IS040IU | Management Information System | 3 |
| 35 | PE014IU | Environmental Science | 3 |
| 36 | IS025IU | Quality Management | 3 |
| 37 | IS026IU | Project Management | 3 |
| 38 | IS024IU | Probabilistic Models in OR | 3 |
| 39 | IS089IU | Numerical methods | 3 |
| | TC III | Nhóm tự chọn số 01 - ISE Elective Course | 3 |
| | ISIU | (choose 1 course below) | 3 |
| 40 | IS031IU | Experimental Design | 3 |
| 41 | IS087IU | Manufacturing Processes | 3 |
| 42 | IS058IU | Time series & forecasting technique | 3 |
| | 1 | Total credits | 21 |
| Seme | ster 6 | | |
| 43 | IS079IU | Scientific Writing | 2 |
| 44 | IS028IU | Simulation Models in IE | 4 |
| 45 | IS027IU | Scheduling & Sequencing | 3 |
| 46 | IS078IU | Logistics engineering & supply chain design | 3 |
| 47 | PE018IU | History of the Communist Party of Vietnam | 2 |
| 48 | PE019IU | HCM's thoughts | 2 |
| 49 | IS041IU | Lean Production | 3 |
| 50 | PE020IU | Ethnics and professional akills for engineers | 3 |
| | | Total credits | 22 |
| Sumn | ner semester | | |

| 51 | IS053IU | Internship 2 | 3 |
|------|---------|---|----|
| | | Total credits | 3 |
| Seme | ster 7 | 1 | |
| 52 | IS083IU | Capstone Design | 3 |
| 53 | IS033IU | Multi-Criteria Decision Making | 3 |
| 54 | IS032IU | Facility Layout | 3 |
| | ISIU | Nhóm tự chọn số 02 - ISE Elective Course (choose 2 courses below) | 6 |
| 55 | IS080IU | Creative Thinking | 3 |
| 56 | IS035IU | Systems Engineering | 3 |
| 57 | IS043IU | Flexible Manufacturing Systems | 3 |
| 58 | IS045IU | Leadership | 3 |
| 59 | IS023IU | Inventory Management | 3 |
| 60 | IS082IU | Retail Management | 3 |
| 61 | IS067IU | International Transportation & Logistics | 3 |
| 62 | IS062IU | E-Logistics in Supply Chain Management | 3 |
| 63 | IU | Nhóm tự chọn số 03 - ISE Elective Course | 3 |
| | | (choose 1 course) | 10 |
| | | Total credits | 18 |
| Seme | ster 8 | | |
| 64 | IS048IU | Thesis research | 10 |
| | | Total credits | 10 |

(*) The English level ENTP03 - Intensive English 3- Twinning Program lasts 7 weeks

| No | Course ID | Subject | Credits |
|----|------------|--|---------|
| 1 | BA115IU | Introduction to Business Administration | 3 |
| 2 | BA117IU | Introduction to Micro Economics | 3 |
| 3 | BA120IU | Business Computing Skills | 3 |
| 4 | BA123IU | Principles of Management | 3 |
| 5 | BA119IU | Introduction to Macro Economics | 3 |
| 6 | BA118IU | Introduction to Psychology | 3 |
| 7 | BA167IU | Introduction to Vietnamese Legal System | 3 |
| 8 | BA197IU | Introduction to Sociology | 3 |
| 9 | IT064IU | Introduction to Computing | 3 |
| 10 | IT011UN | Functional Programming | 3 |
| 11 | IT120IU | Entrepreneurship | 3 |
| 12 | IT007UN | Skills for Communicating Information | 3 |
| 13 | IT151IU | Statistical Methods | 3 |
| 14 | BM013IU | Entrepreneurship in Biomedical Engineering | 3 |
| 15 | BM005IU | Statistics for Health Science | 3 |
| 16 | BM033IU | Information Technology in the Health Care System | 3 |
| 17 | ENEE2001IU | Introduction to Environmental Engineering | 3 |
| 18 | ENEE2008IU | Environmental Ecology | 3 |

| 19 | BT152IU | Biostatistics | 3 |
|----|-----------|---|---|
| 20 | CHE2041IU | Mass Transfer Operations | 3 |
| 21 | MAFE105IU | Financial Economics | 3 |
| 22 | MAFE215IU | Financial Management | 3 |
| 23 | MAFE209IU | Financial markets | 3 |
| 24 | MAFE207IU | Decision Making | 3 |
| 25 | MAFE314IU | Financial Econometrics | 3 |
| 26 | MAFE308IU | Financial Risk Management 1 | 3 |
| 27 | MAFE402IU | Portfolio Management | 3 |
| 28 | PH027IU | Earth Observation and The Environment | 3 |
| 29 | PH047IU | Navigation Systems | 3 |
| 30 | PH045IU | Fundamental of Surveying | 3 |
| 31 | PH046IU | Geographic Information Systems (GIS) and Spatical Analysis | 3 |
| 32 | CE505IU | Geotechnics | 3 |
| 33 | CE503IU | Pavement design & Maintenance | 3 |
| 34 | EE049IU | Introduction to Electrical Engineering | 3 |

4.3 English Level 3: $5.0 \le IELTS < 5.5$

TOTAL CREDITS: 175 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| No. | Courses | Courses | Credits | | |
|-----|-----------------|--|---------|--|--|
| | code | Courses | Credits | | |
| Sem | Semester 1 | | | | |
| 1 | ENTP02 | Intensive English 2 - Twinning Program (*) | 13 | | |
| 2 | ENTP03 | Intensive English 3 - Twinning Program (*) | 10 | | |
| 3 | PT001IU | Physical Training 1 | 3 | | |
| | | Total credits | 26 | | |
| Sem | ester 2 | | | | |
| 4 | EN007IU | Writing AE1 | 2 | | |
| 5 | EN008IU | Listening AE1 | 2 | | |
| 6 | CH012IU | Chemistry Laboratory | 1 | | |
| 7 | CH011IU | Chemistry for Engineers | 3 | | |
| 8 | PH013IU | Physics 1 | 2 | | |
| 9 | PH014IU | Physics 2 | 2 | | |
| 10 | MA027IU | Applied Linear Algebra | 2 | | |
| 11 | MA001IU | Calculus 1 | 4 | | |
| 12 | IS001IU | Introduction to Industrial Engineering | 1 | | |
| 13 | IS054IU | Engineering Drawing | 3 | | |
| | | Total credits | 22 | | |
| Sum | Summer semester | | | | |
| 14 | PT002IU | Physical Training 2 | 3 | | |

| 15 | EN011IU | Writing AE2 | 2 | |
|-----|-----------------|---|----|--|
| 16 | EN012IU | Speaking AE2 | 2 | |
| 17 | PE016IU | Political economics of Marxism and Leninism | 2 | |
| 18 | PE015IU | Philosophy of Marxism and Leninism | 3 | |
| | | Total credits | 12 | |
| Sem | ester 3 | | | |
| 19 | MA003IU | Calculus 2 | 4 | |
| 20 | IS019IU | Production Management | 3 | |
| 21 | IS086IU | Introduction to Computing | 3 | |
| 22 | IS004IU | Engineering Probability & Statistics | 4 | |
| 23 | IS090IU | Engineering Mechanics – Dynamics | 2 | |
| 24 | PH015IU | Physics 3 | 3 | |
| 25 | MA023IU | Calculus 3 | 4 | |
| | | Total credits | 23 | |
| Sem | ester 4 | | | |
| 26 | IS020IU | Engineering Economy | 3 | |
| 27 | IS081IU | Deterministic models in OR | 4 | |
| 28 | IS017IU | Work design & Ergonomics + Lab | 4 | |
| 29 | IS085IU | CAD/CAM/CNC | 3 | |
| 30 | IS034IU | Product Design & Development | 3 | |
| 31 | PE008IU | Critical Thinking | 3 | |
| 32 | PE017IU | Scientific socialism | 2 | |
| | | Total credits | 22 | |
| Sum | Summer semester | | | |
| 33 | IS052IU | Internship 1 | 2 | |

| 34 | | Military Training | |
|-----|---------|---|----|
| | | Total credits | 2 |
| Sem | ester 5 | , | |
| 35 | IS040IU | Management Information System | 3 |
| 36 | PE014IU | Environmental Science | 3 |
| 37 | IS025IU | Quality Management | 3 |
| 38 | IS026IU | Project Management | 3 |
| 39 | IS024IU | Probabilistic Models in OR | 3 |
| 40 | IS089IU | Numerical methods | 3 |
| | ISIU | Nhóm tự chọn số 01 - ISE Elective Course | 3 |
| | | (choose 1 course below) | |
| 41 | IS031IU | Experimental Design | 3 |
| 42 | IS087IU | Manufacturing Processes | 3 |
| 43 | IS058IU | Time series & forecasting technique | 3 |
| | | Total credits | 21 |
| Sem | ester 6 | | |
| 44 | IS079IU | Scientific Writing | 2 |
| 45 | IS028IU | Simulation Models in IE | 4 |
| 46 | IS027IU | Scheduling & Sequencing | 3 |
| 47 | IS078IU | Logistics engineering & supply chain design | 3 |
| 48 | PE018IU | History of the Communist Party of Vietnam | 2 |
| 49 | PE019IU | HCM's thoughts | 2 |
| 50 | IS041IU | Lean Production | 3 |
| 51 | PE020IU | Ethnics and professional skills for engineers | 3 |
| | | Total credits | 22 |

| Sum | Summer semester | | | | |
|-----|-----------------|--|----|--|--|
| 52 | IS053IU | Internship 2 | 3 | | |
| | | Total credits | 3 | | |
| Sem | Semester 7 | | | | |
| 53 | IS083IU | Capstone Design | 3 | | |
| 54 | IS033IU | Multi-Criteria Decision Making | 3 | | |
| 55 | IS032IU | Facility Layout | 3 | | |
| | IS IU | Nhóm tự chọn số 02 - ISE Elective Course | 6 | | |
| | 1510 | (choose 2 courses below) | U | | |
| 56 | IS080IU | Creative Thinking | 3 | | |
| 57 | IS035IU | Systems Engineering | 3 | | |
| 58 | IS043IU | Flexible Manufacturing Systems | 3 | | |
| 59 | IS045IU | Leadership | 3 | | |
| 60 | IS023IU | Inventory Management | 3 | | |
| 61 | IS082IU | Retail Management | 3 | | |
| 62 | IS067IU | International Transportation & Logistics | 3 | | |
| 63 | IS062IU | E-Logistics in Supply Chain Management | 3 | | |
| 64 | IU | Nhóm tự chọn số 03 - ISE Elective Course | 3 | | |
| 04 | 10 | (choose 1 course) | 3 | | |
| | | Total credits | 18 | | |
| Sem | ester 8 | | | | |
| 65 | IS048IU | Thesis research | 10 | | |
| | | Total credits | 10 | | |

 $(\ensuremath{^*})$ The English level ENTP02 - Intensive English 2- Twinning Program and ENTP03

⁻ Intensive English 3- Twinning Program last 7 weeks

| No | Course ID | Subject | Credits |
|----|------------|--|---------|
| 1 | BA115IU | Introduction to Business Administration | 3 |
| 2 | BA117IU | Introduction to Micro Economics | 3 |
| 3 | BA120IU | Business Computing Skills | 3 |
| 4 | BA123IU | Principles of Management | 3 |
| 5 | BA119IU | Introduction to Macro Economics | 3 |
| 6 | BA118IU | Introduction to Psychology | 3 |
| 7 | BA167IU | Introduction to Vietnamese Legal System | 3 |
| 8 | BA197IU | Introduction to Sociology | 3 |
| 9 | IT064IU | Introduction to Computing | 3 |
| 10 | IT011UN | Functional Programming | 3 |
| 11 | IT120IU | Entrepreneurship | 3 |
| 12 | IT007UN | Skills for Communicating Information | 3 |
| 13 | IT151IU | Statistical Methods | 3 |
| 14 | BM013IU | Entrepreneurship in Biomedical Engineering | 3 |
| 15 | BM005IU | Statistics for Health Science | 3 |
| 16 | BM033IU | Information Technology in the Health Care System | 3 |
| 17 | ENEE2001IU | Introduction to Environmental Engineering | 3 |
| 18 | ENEE2008IU | Environmental Ecology | 3 |

| 19 | BT152IU | Biostatistics | 3 |
|----|-----------|---|---|
| 20 | CHE2041IU | Mass Transfer Operations | 3 |
| 21 | MAFE105IU | Financial Economics | 3 |
| 22 | MAFE215IU | Financial Management | 3 |
| 23 | MAFE209IU | Financial markets | 3 |
| 24 | MAFE207IU | Decision Making | 3 |
| 25 | MAFE314IU | Financial Econometrics | 3 |
| 26 | MAFE308IU | Financial Risk Management 1 | 3 |
| 27 | MAFE402IU | Portfolio Management | 3 |
| 28 | PH027IU | Earth Observation and The Environment | 3 |
| 29 | PH047IU | Navigation Systems | 3 |
| 30 | PH045IU | Fundamental of Surveying | 3 |
| 31 | PH046IU | Geographic Information Systems (GIS) and Spatical Analysis | 3 |
| 32 | CE505IU | Geotechnics | 3 |
| 33 | CE503IU | Pavement design & Maintenance | 3 |
| 34 | EE049IU | Introduction to Electrical Engineering | 3 |

4.4 English Level 4: $3.5 \le IELTS \le 4.5$

TOTAL CREDITS: 192 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| No. | Courses | Courses | Credits | | |
|-----|--------------|---|---------|--|--|
| Sem | Semester 1 | | | | |
| 1 | ENTP01 | Intensive English 1- Twinning Program (*) | 17 | | |
| 2 | ENTP02 | Intensive English 2- Twinning Program (*) | 13 | | |
| | | Total credits | 30 | | |
| Sem | ester 2 | | | | |
| 3 | ENTP03 | Intensive English 3- Twinning Program (*) | 10 | | |
| 4 | PH013IU | Physics 1 | 2 | | |
| 5 | PH014IU | Physics 2 | 2 | | |
| 6 | MA001IU | Calculus 1 | 4 | | |
| 7 | PT001IU | Physical Training 1 | 3 | | |
| | | Total credits | 21 | | |
| Sum | mer semester | | | | |
| 8 | PE015IU | Philosophy of Marxism and Leninism | 3 | | |
| 9 | PE016IU | Political economics of Marxism and Leninism | 2 | | |
| 10 | EN007IU | Writing AE1 | 2 | | |
| 11 | EN008IU | Listening AE1 | 2 | | |
| 12 | PT002IU | Physical Training 2 | 3 | | |
| | 1 | Total credits | 12 | | |
| Sem | Semester 3 | | | | |

| 13 | MA027IU | Applied Linear Algebra | 2 | | |
|-----|--------------|--|----|--|--|
| 14 | IS004IU | Engineering Probability & Statistics | 4 | | |
| 15 | CH012IU | Chemistry Laboratory | 1 | | |
| 16 | CH011IU | Chemistry for Engineers | 3 | | |
| 17 | IS086IU | Introduction to Computing | 3 | | |
| 18 | PE008IU | Critical Thinking | 3 | | |
| 19 | MA003IU | Calculus 2 | 4 | | |
| 20 | IS001IU | Introduction to Industrial Engineering | 1 | | |
| | | Total credits | 21 | | |
| Sem | ester 4 | | | | |
| 21 | IS081IU | Deterministic models in OR | 4 | | |
| 22 | EN011IU | Writing AE2 | 2 | | |
| 23 | EN012IU | Speaking AE2 | 2 | | |
| 24 | IS054IU | Engineering Drawing | 3 | | |
| 25 | MA023IU | Calculus 3 | 4 | | |
| 26 | PH015IU | Physics 3 | 3 | | |
| | | Total credits | 18 | | |
| Sum | mer semester | | | | |
| 27 | IS052IU | Internship 1 | 2 | | |
| 28 | | Military Training | 0 | | |
| | | Total credits | 2 | | |
| Sem | Semester 5 | | | | |
| 29 | PE014IU | Environmental Science | 3 | | |
| 30 | IS019IU | Production Management | 3 | | |
| 31 | IS040IU | Management Information System | 3 | | |

| 32 | IS025IU | Quality Management | 3 |
|-----|--------------|--|----|
| 33 | IS026IU | Project Management | 3 |
| 34 | PE017IU | Scientific socialism | 2 |
| 35 | IS090IU | Engineering Mechanics – Dynamics | 2 |
| | ISIU | Nhóm tự chọn số 01 - ISE Elective Course (choose 1 course below) | 3 |
| 36 | IS031IU | Experimental Design | 3 |
| 37 | IS087IU | Manufacturing Processes | 3 |
| 38 | IS058IU | Time series & forecasting technique | 3 |
| | | Total credits | 22 |
| Sem | ester 6 | | |
| 39 | IS020IU | Engineering Economy | 3 |
| 40 | IS017IU | Work design & Ergonomics + Lab | 4 |
| 41 | IS034IU | Product Design & Development | 3 |
| 42 | IS085IU | CAD/CAM/CNC | 3 |
| 43 | IS041IU | Lean Production | 3 |
| 44 | PE018IU | History of the Communist Party of Vietnam | 2 |
| 45 | PE019IU | HCM's thoughts | 2 |
| | | Total credits | 20 |
| Sum | mer semester | | |
| 46 | IS053IU | Internship 2 | 3 |
| | | Total credits | 3 |
| Sem | ester 7 | | |
| 47 | IS033IU | Multi-Criteria Decision Making | 3 |
| 48 | IS032IU | Facility Layout | 3 |

| 49 | IS024IU | Probabilistic Models in OR | 3 |
|----------------------------------|---|--|----------------------------|
| 50 | IS089IU | Numerical methods | 3 |
| | ISIU | Nhóm tự chọn số 02 - ISE Elective Course | 6 |
| | | (choose 2 courses below) | U |
| 51 | IS080IU | Creative Thinking | 3 |
| 52 | IS035IU | Systems Engineering | 3 |
| 53 | IS043IU | Flexible Manufacturing Systems | 3 |
| 54 | IS045IU | Leadership | 3 |
| 55 | IS023IU | Inventory Management | 3 |
| 56 | IS082IU | Retail Management | 3 |
| 57 | IS067IU | International Transportation & Logistics | 3 |
| 58 | IS062IU | E-Logistics in Supply Chain Management | 3 |
| 59 | IU | Nhóm tự chọn số 03 - Free Elective Course | 3 |
| 33 | | (choose 1 course) | 3 |
| | | Total credits | 21 |
| | | Total Creatis | 21 |
| Sem | ester 8 | 1 out creuis | 21 |
| Sem 60 | ester 8 IS083IU | Capstone Design | 3 |
| | T | | |
| 60 | IS083IU | Capstone Design | 3 |
| 60 61 | IS083IU IS028IU | Capstone Design Simulation Models in IE | 3 4 |
| 60 61 62 63 | IS083IU IS028IU IS027IU | Capstone Design Simulation Models in IE Scheduling & Sequencing | 3 4 3 |
| 60 61 62 63 | IS083IU IS028IU IS027IU IS078IU | Capstone Design Simulation Models in IE Scheduling & Sequencing Logistics engineering & supply chain design | 3 4 3 3 |
| 60 61 62 63 64 | IS083IU IS028IU IS027IU IS078IU IS079IU | Capstone Design Simulation Models in IE Scheduling & Sequencing Logistics engineering & supply chain design Scientific Writing | 3 4 3 3 2 |
| 60 61 62 63 64 65 | IS083IU IS028IU IS027IU IS078IU IS079IU | Capstone Design Simulation Models in IE Scheduling & Sequencing Logistics engineering & supply chain design Scientific Writing Ethnics and professional akills for engineers | 3 4 3 3 2 3 |
| 60 61 62 63 64 65 | IS083IU IS028IU IS027IU IS078IU IS079IU PE020IU | Capstone Design Simulation Models in IE Scheduling & Sequencing Logistics engineering & supply chain design Scientific Writing Ethnics and professional akills for engineers | 3 4 3 3 2 3 |

| | Total credits | 10 |
|--|---------------|----|
|--|---------------|----|

(*) The English level ENTP01- Intensive English 1-Twinning Program; ENTP02 - Intensive English 2- Twinning Program and ENTP03 - Intensive English 3- Twinning Program last 7 weeks

| No | Course ID | Subject | Credits |
|----|-----------|--|---------|
| 1 | BA115IU | Introduction to Business Administration | 3 |
| 2 | BA117IU | Introduction to Micro Economics | 3 |
| 3 | BA120IU | Business Computing Skills | 3 |
| 4 | BA123IU | Principles of Management | 3 |
| 5 | BA119IU | Introduction to Macro Economics | 3 |
| 6 | BA118IU | Introduction to Psychology | 3 |
| 7 | BA167IU | Introduction to Vietnamese Legal System | 3 |
| 8 | BA197IU | Introduction to Sociology | 3 |
| 9 | IT064IU | Introduction to Computing | 3 |
| 10 | IT011UN | Functional Programming | 3 |
| 11 | IT120IU | Entrepreneurship | 3 |
| 12 | IT007UN | Skills for Communicating Information | 3 |
| 13 | IT151IU | Statistical Methods | 3 |
| 14 | BM013IU | Entrepreneurship in Biomedical Engineering | 3 |
| 15 | BM005IU | Statistics for Health Science | 3 |

| 16 | BM033IU | Information Technology in the Health Care System | 3 |
|----|------------|---|---|
| 17 | ENEE2001IU | Introduction to Environmental Engineering | 3 |
| 18 | ENEE2008IU | Environmental Ecology | 3 |
| 19 | BT152IU | Biostatistics | 3 |
| 20 | CHE2041IU | Mass Transfer Operations | 3 |
| 21 | MAFE105IU | Financial Economics | 3 |
| 22 | MAFE215IU | Financial Management | 3 |
| 23 | MAFE209IU | Financial markets | 3 |
| 24 | MAFE207IU | Decision Making | 3 |
| 25 | MAFE314IU | Financial Econometrics | 3 |
| 26 | MAFE308IU | Financial Risk Management 1 | 3 |
| 27 | MAFE402IU | Portfolio Management | 3 |
| 28 | PH027IU | Earth Observation and The Environment | 3 |
| 29 | PH047IU | Navigation Systems | 3 |
| 30 | PH045IU | Fundamental of Surveying | 3 |
| 31 | PH046IU | Geographic Information Systems (GIS) and Spatical Analysis | 3 |
| 32 | CE505IU | Geotechnics | 3 |
| 33 | CE503IU | Pavement design & Maintenance | 3 |
| 34 | EE049IU | Introduction to Electrical Engineering | 3 |

4.5 English Level 5: IELTS \leq 3.0

TOTAL CREDITS: 209 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| No. | Courses code | Courses | Credits |
|-----|--------------|---|---------|
| Sem | ester 1 | | • |
| 1 | ENTP00 | Intensive English 0- Twinning Program (*) | 17 |
| 2 | ENTP01 | Intensive English 1- Twinning Program (*) | 17 |
| | | Total credits | 34 |
| Sem | ester 2 | | |
| 3 | ENTP02 | Intensive English 2- Twinning Program (*) | 13 |
| 4 | ENTP03 | Intensive English 3- Twinning Program (*) | 10 |
| 5 | PT001IU | Physical Training 1 | 3 |
| | | Total credits | 26 |
| Sum | mer semester | | |
| 6 | PE015IU | Philosophy of Marxism and Leninism | 3 |
| 7 | PE016IU | Political economics of Marxism and Leninism | 2 |
| 8 | EN007IU | Writing AE1 | 2 |
| 9 | EN008IU | Listening AE1 | 2 |
| 10 | PT002IU | Physical Training 2 | 3 |
| | | Total credits | 12 |
| Sem | ester 3 | | |
| 11 | IS001IU | Introduction to Industrial Engineering | 1 |
| 12 | MA027IU | Applied Linear Algebra | 2 |
| 13 | IS004IU | Engineering Probability & Statistics | 4 |

| 14 | PH013IU | Physics 1 | 2 |
|-----|--------------|-------------------------------|----|
| 15 | PH014IU | Physics 2 | 2 |
| 16 | PE008IU | Critical Thinking | 3 |
| 17 | PE017IU | Scientific socialism | 2 |
| 18 | IS086IU | Introduction to Computing | 3 |
| 19 | MA001IU | Calculus 1 | 4 |
| | | Total credits | 23 |
| Sem | ester 4 | | |
| 20 | CH012IU | Chemistry Laboratory | 1 |
| 21 | CH011IU | Chemistry for Engineers | 3 |
| 22 | IS081IU | Deterministic models in OR | 4 |
| 23 | EN011IU | Writing AE2 | 2 |
| 24 | EN012IU | Speaking AE2 | 2 |
| 25 | MA003IU | Calculus 2 | 4 |
| 26 | IS054IU | Engineering Drawing | 3 |
| 27 | PH015IU | Physics 3 | 3 |
| | | Total credits | 22 |
| Sum | mer semester | | |
| 28 | IS052IU | Internship 1 | 2 |
| 29 | | Military Training | 0 |
| | | Total credits | 2 |
| Sem | ester 5 | | |
| 30 | PE014IU | Environmental Science | 3 |
| 31 | IS019IU | Production Management | 3 |
| 32 | IS040IU | Management Information System | 3 |

| 33 | IS025IU | Quality Management | 3 | | |
|-----|--------------|---|----|--|--|
| 34 | IS026IU | Project Management | 3 | | |
| 35 | MA023IU | Calculus 3 | 4 | | |
| 36 | IS090IU | Engineering Mechanics – Dynamics | 2 | | |
| | ISIU | Nhóm tự chọn số 01 - ISE Elective Course (choose 1 course below) | 3 | | |
| 37 | IS031IU | Experimental Design | 3 | | |
| 38 | IS087IU | Manufacturing Processes | 3 | | |
| 39 | IS058IU | Time series & forecasting technique | 3 | | |
| | | Total credits | 24 | | |
| Sem | ester 6 | | | | |
| 40 | IS020IU | Engineering Economy | 3 | | |
| 41 | IS017IU | Work design & Ergonomics + Lab | 4 | | |
| 42 | IS034IU | Product Design & Development | 3 | | |
| 43 | IS085IU | CAD/CAM/CNC | 3 | | |
| 44 | IS041IU | Lean Production | 3 | | |
| 45 | PE018IU | History of the Communist Party of Vietnam | 2 | | |
| 46 | PE019IU | HCM's thoughts | 2 | | |
| | | Total credits | 20 | | |
| Sum | mer semester | | | | |
| 47 | IS053IU | Internship 2 | 3 | | |
| | | Total credits | 3 | | |
| Sem | Semester 7 | | | | |
| 48 | IS033IU | Multi-Criteria Decision Making | 3 | | |
| 49 | IS032IU | Facility Layout | 3 | | |

| 50 | IS024IU | Probabilistic Models in OR | 3 |
|-----|---------|---|----|
| 51 | IS089IU | Numerical methods | 3 |
| | ISIU | Nhóm tự chọn số 02 - ISE Elective Course | 6 |
| | | (choose 2 courses below) | - |
| 52 | IS080IU | Creative Thinking | 3 |
| 53 | IS035IU | Systems Engineering | 3 |
| 54 | IS043IU | Flexible Manufacturing Systems | 3 |
| 55 | IS045IU | Leadership | 3 |
| 56 | IS023IU | Inventory Management | 3 |
| 57 | IS082IU | Retail Management | 3 |
| 58 | IS067IU | International Transportation & Logistics | 3 |
| 59 | IS062IU | E-Logistics in Supply Chain Management | 3 |
| | TTT | IU Nhóm tự chọn số 03 - Free Elective Course | 3 |
| | 10 | (choose 1 course) | 3 |
| | | Total credits | 21 |
| Sem | ester 8 | | |
| 60 | IS083IU | Capstone Design | 3 |
| 61 | IS028IU | Simulation Models in IE | 4 |
| 62 | IS027IU | Scheduling & Sequencing | 3 |
| 63 | IS078IU | Logistics engineering & supply chain design | 3 |
| 64 | IS079IU | Scientific Writing | 2 |
| 65 | PE020IU | Ethnics and professional akills for engineers | 3 |
| | | Total credits | 18 |
| Sem | ester 9 | | |
| 66 | IS048IU | Thesis research | 10 |

| | | Total credits | 10 | |
|--|--|---------------|----|--|
|--|--|---------------|----|--|

(*) The English level Intensive English 0- Twinning Program ENTP00; Intensive English 1-Twinning Program; ENTP02 - Intensive English 2- Twinning Program and ENTP03 - Intensive English 3- Twinning Program last 7 weeks

| No | Course ID | Subject | Credits |
|----|-----------|--|---------|
| 1 | BA115IU | Introduction to Business Administration | 3 |
| 2 | BA117IU | Introduction to Micro Economics | 3 |
| 3 | BA120IU | Business Computing Skills | 3 |
| 4 | BA123IU | Principles of Management | 3 |
| 5 | BA119IU | Introduction to Macro Economics | 3 |
| 6 | BA118IU | Introduction to Psychology | 3 |
| 7 | BA167IU | Introduction to Vietnamese Legal System | 3 |
| 8 | BA197IU | Introduction to Sociology | 3 |
| 9 | IT064IU | Introduction to Computing | 3 |
| 10 | IT011UN | Functional Programming | 3 |
| 11 | IT120IU | Entrepreneurship | 3 |
| 12 | IT007UN | Skills for Communicating Information | 3 |
| 13 | IT151IU | Statistical Methods | 3 |
| 14 | BM013IU | Entrepreneurship in Biomedical Engineering | 3 |
| 15 | BM005IU | Statistics for Health Science | 3 |

| 16 | BM033IU | Information Technology in the Health Care System | 3 |
|----|------------|---|---|
| 17 | ENEE2001IU | Introduction to Environmental Engineering | 3 |
| 18 | ENEE2008IU | Environmental Ecology | 3 |
| 19 | BT152IU | Biostatistics | 3 |
| 20 | CHE2041IU | Mass Transfer Operations | 3 |
| 21 | MAFE105IU | Financial Economics | 3 |
| 22 | MAFE215IU | Financial Management | 3 |
| 23 | MAFE209IU | Financial markets | 3 |
| 24 | MAFE207IU | Decision Making | 3 |
| 25 | MAFE314IU | Financial Econometrics | 3 |
| 26 | MAFE308IU | Financial Risk Management 1 | 3 |
| 27 | MAFE402IU | Portfolio Management | 3 |
| 28 | PH027IU | Earth Observation and The Environment | 3 |
| 29 | PH047IU | Navigation Systems | 3 |
| 30 | PH045IU | Fundamental of Surveying | 3 |
| 31 | PH046IU | Geographic Information Systems (GIS) and Spatical Analysis | 3 |
| 32 | CE505IU | Geotechnics | 3 |
| 33 | CE503IU | Pavement design & Maintenance | 3 |
| 34 | EE049IU | Introduction to Electrical Engineering | 3 |

(*) The English level ENTP01- Intensive English 1-Twinning Program; ENTP02 - Intensive English 2- Twinning Program and ENTP03 - Intensive English 3- Twinning Program last 7 weeks

| No | Course ID | Subject | Credits |
|----|-----------|--|---------|
| 1 | BA115IU | Introduction to Business Administration | 3 |
| 2 | BA117IU | Introduction to Micro Economics | 3 |
| 3 | BA120IU | Business Computing Skills | 3 |
| 4 | BA123IU | Principles of Management | 3 |
| 5 | BA119IU | Introduction to Macro Economics | 3 |
| 6 | BA118IU | Introduction to Psychology | 3 |
| 7 | BA167IU | Introduction to Vietnamese Legal System | 3 |
| 8 | BA197IU | Introduction to Sociology | 3 |
| 9 | IT064IU | Introduction to Computing | 3 |
| 10 | IT011UN | Functional Programming | 3 |
| 11 | IT120IU | Entrepreneurship | 3 |
| 12 | IT007UN | Skills for Communicating Information | 3 |
| 13 | IT151IU | Statistical Methods | 3 |
| 14 | BM013IU | Entrepreneurship in Biomedical Engineering | 3 |
| 15 | BM005IU | Statistics for Health Science | 3 |
| 16 | BM033IU | Information Technology in the Health Care System | 3 |

| 17 | ENEE2001IU | Introduction to Environmental Engineering | 3 |
|----|------------|---|---|
| 18 | ENEE2008IU | Environmental Ecology | 3 |
| 19 | BT152IU | Biostatistics | 3 |
| 20 | CHE2041IU | Mass Transfer Operations | 3 |
| 21 | MAFE105IU | Financial Economics | 3 |
| 22 | MAFE215IU | Financial Management | 3 |
| 23 | MAFE209IU | Financial markets | 3 |
| 24 | MAFE207IU | Decision Making | 3 |
| 25 | MAFE314IU | Financial Econometrics | 3 |
| 26 | MAFE308IU | Financial Risk Management 1 | 3 |
| 27 | MAFE402IU | Portfolio Management | 3 |
| 28 | PH027IU | Earth Observation and The Environment | 3 |
| 29 | PH047IU | Navigation Systems | 3 |
| 30 | PH045IU | Fundamental of Surveying | 3 |
| 31 | PH046IU | Geographic Information Systems (GIS) and Spatical Analysis | 3 |
| 32 | CE505IU | Geotechnics | 3 |
| 33 | CE503IU | Pavement design & Maintenance | 3 |
| 34 | EE049IU | Introduction to Electrical Engineering | 3 |

5. IU ISE PROGRAM (for batch 2021)

5.1 English Level 1: IELTS \geq 5.5

TOTAL CREDITS: 152 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| No. | Course | Courses | Credits | | | |
|------|------------|--|---------|--|--|--|
| | code | Courses | Credits | | | |
| Seme | Semester 1 | | | | | |
| 1 | EN007IU | Writing AE1 | 2 | | | |
| 2 | EN008IU | Listening AE1 | 2 | | | |
| 3 | MA001IU | Calculus 1 | 4 | | | |
| 4 | PH013IU | Physics 1 | 2 | | | |
| 5 | PH014IU | Physics 2 | 2 | | | |
| 6 | PT001IU | Physical Training 1 | 3 | | | |
| 7 | CH012IU | Chemistry Laboratory | 1 | | | |
| 8 | CH011IU | Chemistry for Engineers | 3 | | | |
| | | Total credits | 19 | | | |
| Seme | ster 2 | | | | | |
| 9 | EN011IU | Writing AE2 | 2 | | | |
| 10 | EN012IU | Speaking AE2 | 2 | | | |
| 11 | MA003IU | Calculus 2 | 4 | | | |
| 12 | PE008IU | Critical Thinking | 3 | | | |
| 13 | PT002IU | Physical Training 2 | 3 | | | |
| 14 | IS001IU | Introduction to Industrial Engineering | 1 | | | |
| 15 | IS054IU | Engineering Drawing | 3 | | | |
| 16 | PH015IU | Physics 3 | 3 | | | |

| | | Total credits | 21 |
|------|--------------|---|----|
| Sumi | mer semester | | |
| 17 | PE015IU | Philosophy of marxism and Leninism | 3 |
| 18 | PE016IU | Political economics of marxism and leninism | 2 |
| | | Total credits | 5 |
| Seme | ester 3 | | |
| 19 | MA027IU | Applied Linear Algebra | 2 |
| 20 | IS019IU | Production Management | 3 |
| 21 | IS086IU | Introduction to Computing | 3 |
| 22 | IS004IU | Engineering Probability & Statistics | 4 |
| 23 | MA023IU | Calculus 3 | 4 |
| 24 | PE017IU | Scientific socialism | 2 |
| 25 | IS090IU | Engineering Mechanics – Dynamics | 2 |
| | | Total credits | 20 |
| Seme | ester 4 | | |
| 26 | IS020IU | Engineering Economy | 3 |
| 27 | IS081IU | Deterministic models in OR | 4 |
| 28 | IS017IU | Work design & Ergonomics | 4 |
| 29 | IS085IU | CAD/CAM/CNC | 3 |
| 30 | IS034IU | Product Design & Development | 3 |
| 31 | PE018IU | History of the Communist Party of Vietnam | 2 |
| 32 | PE019IU | HCM's thoughts | 2 |
| | | Total credits | 21 |
| Sumi | mer semester | | |
| 33 | IS052IU | Internship 1 | 2 |

| 34 | | Military Training | 0 | | |
|------|------------|---|----|--|--|
| | | Total credits | 2 | | |
| Seme | Semester 5 | | | | |
| 35 | IS040IU | Management Information System | 3 | | |
| 36 | PE014IU | Environmental Science | 3 | | |
| 37 | IS025IU | Quality Management | 3 | | |
| 38 | IS026IU | Project Management | 3 | | |
| 39 | IS024IU | Probabilistic Models in OR | 3 | | |
| 40 | IS089IU | Numerical methods | 3 | | |
| | ISIU | Nhóm tự chọn số 01 - ISE Elective Course (choose 1 course below) | 3 | | |
| 41 | IS031IU | Experimental Design | 3 | | |
| 42 | IS087IU | Manufacturing Processes | 3 | | |
| 43 | IS058IU | Time series & forecasting techniques | 3 | | |
| | | Total credits | 21 | | |
| Seme | ster 6 | | | | |
| 44 | IS079IU | Scientific Writing | 2 | | |
| 45 | IS028IU | Simulation Models in IE | 4 | | |
| 46 | IS027IU | Scheduling & Sequencing | 3 | | |
| 47 | IS041IU | Lean Production | 3 | | |
| 48 | IS078IU | Logistics engineering & supply chain design | 3 | | |
| 49 | PE020IU | Ethnics and professional skills for engineers | 3 | | |
| | | Total credits | 18 | | |

| Summer semester | | | | |
|-----------------|---------|---|----|--|
| 50 | IS053IU | Internship 2 | 3 | |
| | | Total credits | 3 | |
| Semester 7 | | | | |
| 51 | IS083IU | Capstone Design | 3 | |
| 52 | IS033IU | Multi-Criteria Decision Making | 3 | |
| 53 | IS032IU | Facility Layout | 3 | |
| | ISIU | Nhóm tự chọn số 02 - ISE Elective Course | 6 | |
| | | (choose 2 courses below) | | |
| 54 | IS080IU | Creative Thinking | 3 | |
| 55 | IS035IU | Systems Engineering | 3 | |
| 56 | IS043IU | Flexible Manufacturing Systems | 3 | |
| 57 | IS045IU | Leadership | 3 | |
| 58 | IS023IU | Inventory Management | 3 | |
| 59 | IS082IU | Retail Management | 3 | |
| 60 | IS067IU | International Transportation & Logistics | 3 | |
| 61 | IS062IU | E-Logistics in Supply Chain Management | 3 | |
| 62 | IU | Nhóm tự chọn số 03 - Free Elective Course | 3 | |
| 02 | | (choose 1 course) | | |
| | | Total credits | 18 | |
| Semester 8 | | | | |
| 63 | IS048IU | Thesis | 10 | |
| | | Total credits | 10 | |

Free Elective Course: Student can select 01 course in the following list.

| No. | Course code | Courses | Credits |
|-----|-------------|---|---------|
| 1 | BA115IU | Introduction to Business Administration | 3 |
| 2 | BA117IU | Introduction to Micro Economics | 3 |
| 3 | BA120IU | Business Computing Skills | 3 |
| 4 | BA123IU | Principles of Management | 3 |
| 5 | BA119IU | Introduction to Macro Economics | 3 |
| 6 | BA118IU | Introduction to Psychology | 3 |
| 7 | BA167IU | Introduction to Vietnamese Legal System | 3 |
| 8 | BA197IU | Introduction to Sociology | 3 |
| 9 | IT064IU | Introduction to Computing | 3 |
| 10 | IT011UN | Functional Programming | 3 |
| 11 | IT120IU | Entrepreneurship | 3 |
| 12 | IT007UN | Skills for Communicating Information | 3 |
| 13 | IT151IU | Statistical Methods | 3 |
| 14 | BM013IU | Entrepreneurship in Biomedical Engineering | 3 |
| 15 | BM005IU | Statistics for Health Science | 3 |
| 16 | BM033IU | Information Technology in the Health Care System | 3 |
| 17 | ENEE2001IU | Introduction to Environmental Engineering | 3 |
| 18 | ENEE2008IU | Environmental Ecology | 3 |
| 19 | BT152IU | Biostatistics | 3 |
| 20 | CHE2041IU | Mass Transfer Operations | 3 |
| 21 | MAFE105IU | Financial Economics | 3 |
| 22 | MAFE215IU | Financial Management | 3 |

| 23 | MAFE209IU | Financial markets | 3 |
|----|-----------|--|---|
| 24 | MAFE207IU | Decision Making | 3 |
| 25 | MAFE314IU | Financial Econometrics | 3 |
| 26 | MAFE308IU | Financial Risk Management 1 | 3 |
| 27 | MAFE402IU | Portfolio Management | 3 |
| 28 | PH027IU | Earth Observation and The Environment | 3 |
| 29 | PH047IU | Navigation Systems | 3 |
| 30 | PH045IU | Fundamental of Surveying | 3 |
| 31 | PH046IU | Geographic Information Systems (GIS) and Spatical Analysis | 3 |
| 32 | CE505IU | Geotechnics | 3 |
| 33 | CE503IU | Pavement design & Maintenance | 3 |
| 34 | EE049IU | Introduction to Electrical Engineering | 3 |

5.2 English Level 2: IELTS = 5.0

TOTAL CREDITS: 171 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| No. | Course | Courses | Credits |
|-----|--------------|---|---------|
| | code | | |
| Sem | ester 1 | | |
| 1 | ENTP02 | Intensive English 2 - Twinning Program | 13 |
| 2 | MA001IU | Calculus 1 | 4 |
| 3 | PT001IU | Physical Training 1 | 3 |
| | | Total credits | 20 |
| Sem | ester 2 | | |
| 4 | EN007IU | Writing AE1 | 2 |
| 5 | EN008IU | Listening AE1 | 2 |
| 6 | CH012IU | Chemistry Laboratory | 1 |
| 7 | CH011IU | Chemistry for Engineers | 3 |
| 8 | PH013IU | Physics 1 | 2 |
| 9 | MA003IU | Calculus 2 | 4 |
| 10 | PH014IU | Physics 2 | 2 |
| 11 | MA027IU | Applied Linear Algebra | 2 |
| 12 | IS001IU | Introduction to Industrial Engineering | 1 |
| 13 | IS054IU | Engineering Drawing | 3 |
| | | Total credits | 22 |
| Sum | mer semester | | |
| 14 | PT002IU | Physical Training 2 | 3 |
| 15 | PE016IU | Political economics of marxism and leninism | 2 |

| 16 | PE015IU | Philosophy of marxism and Leninism | 3 | | |
|-----|-----------------|--------------------------------------|----|--|--|
| | | Total credits | 8 | | |
| Sem | Semester 3 | | | | |
| 17 | IS019IU | Production Management | 3 | | |
| 18 | EN011IU | Writing AE2 | 2 | | |
| 19 | EN012IU | Speaking AE2 | 2 | | |
| 20 | IS086IU | Introduction to Computing | 3 | | |
| 21 | IS004IU | Engineering Probability & Statistics | 4 | | |
| 22 | IS090IU | Engineering Mechanics – Dynamics | 2 | | |
| 23 | PH015IU | Physics 3 | 3 | | |
| 24 | MA023IU | Calculus 3 | 4 | | |
| | | Total credits | 23 | | |
| Sem | Semester 4 | | | | |
| 25 | IS020IU | Engineering Economy | 3 | | |
| 26 | IS081IU | Deterministic models in OR | 4 | | |
| 27 | IS017IU | Work design & Ergonomics | 4 | | |
| 28 | IS085IU | CAD/CAM/CNC | 3 | | |
| 29 | IS034IU | Product Design & Development | 3 | | |
| 30 | PE008IU | Critical Thinking | 3 | | |
| 31 | PE017IU | Scientific socialism | 2 | | |
| | | Total credits | 22 | | |
| Sum | Summer semester | | | | |
| 32 | IS052IU | Internship 1 | 2 | | |
| 33 | | Military Training | | | |
| | | Total credits | 2 | | |

| Sem | Semester 5 | | | |
|---------------|--------------|---|----|--|
| 34 | IS040IU | Management Information System | 3 | |
| 35 | PE014IU | Environmental Science | 3 | |
| 36 | IS025IU | Quality Management | 3 | |
| 37 | IS026IU | Project Management | 3 | |
| 38 | IS024IU | Probabilistic Models in OR | 3 | |
| 39 | IS089IU | Numerical methods | 3 | |
| | ISIU | Nhóm tự chọn số 01 - ISE Elective Course (choose 1 course below) | 3 | |
| 37 | IS031IU | Experimental Design | 3 | |
| 38 | IS087IU | Manufacturing Processes | 3 | |
| 39 | IS058IU | Time series & forecasting techniques | 3 | |
| Total credits | | | 21 | |
| Semester 6 | | | | |
| 40 | IS079IU | Scientific Writing | 2 | |
| 41 | IS028IU | Simulation Models in IE | 4 | |
| 42 | IS027IU | Scheduling & Sequencing | 3 | |
| 43 | IS078IU | Logistics engineering & supply chain design | 3 | |
| 44 | PE018IU | History of the Communist Party of Vietnam | 2 | |
| 45 | PE019IU | HCM's thoughts | 2 | |
| 46 | IS041IU | Lean Production | 3 | |
| 47 | PE020IU | Ethnics and professional akills for engineers | 3 | |
| | | Total credits | 22 | |
| Sum | mer semester | | | |
| 48 | IS053IU | Internship 2 | 3 | |

| | | Total credits | 3 | |
|------|------------|---|----|--|
| Semo | ester 7 | | | |
| 49 | IS083IU | Capstone Design | 3 | |
| 50 | IS033IU | Multi-Criteria Decision Making | 3 | |
| 51 | IS032IU | Facility Layout | 3 | |
| | ISIU | Nhóm tự chọn số 02 - ISE Elective Course (choose 2 courses below) | 6 | |
| 52 | IS080IU | Creative Thinking | 3 | |
| 53 | IS035IU | Systems Engineering | 3 | |
| 54 | IS043IU | Flexible Manufacturing Systems | 3 | |
| 55 | IS045IU | Leadership | 3 | |
| 56 | IS023IU | Inventory Management | 3 | |
| 57 | IS082IU | Retail Management | 3 | |
| 58 | IS067IU | International Transportation & Logistics | 3 | |
| 59 | IS062IU | E-Logistics in Supply Chain Management | 3 | |
| 60 | IU | Nhóm tự chọn số 03 - Free Elective Course (choose 1 course from the following list) | 3 | |
| | | Total credits | 18 | |
| Semo | Semester 8 | | | |
| 61 | IS048IU | Thesis | 10 | |
| | | Total credits | 10 | |

| No. | Course code | Courses | Credits |
|-----|-------------|--|---------|
| 1 | BA115IU | Introduction to Business Administration | 3 |
| 2 | BA117IU | Introduction to Micro Economics | 3 |
| 3 | BA120IU | Business Computing Skills | 3 |
| 4 | BA123IU | Principles of Management | 3 |
| 5 | BA119IU | Introduction to Macro Economics | 3 |
| 6 | BA118IU | Introduction to Psychology | 3 |
| 7 | BA167IU | Introduction to Vietnamese Legal System | 3 |
| 8 | BA197IU | Introduction to Sociology | 3 |
| 9 | IT064IU | Introduction to Computing | 3 |
| 10 | IT011UN | Functional Programming | 3 |
| 11 | IT120IU | Entrepreneurship | 3 |
| 12 | IT007UN | Skills for Communicating Information | 3 |
| 13 | IT151IU | Statistical Methods | 3 |
| 14 | BM013IU | Entrepreneurship in Biomedical Engineering | 3 |
| 15 | BM005IU | Statistics for Health Science | 3 |
| 16 | BM033IU | Information Technology in the Health Care System | 3 |
| 17 | ENEE2001IU | Introduction to Environmental Engineering | 3 |
| 18 | ENEE2008IU | Environmental Ecology | 3 |
| 19 | BT152IU | Biostatistics | 3 |
| 20 | CHE2041IU | Mass Transfer Operations | 3 |
| 21 | MAFE105IU | Financial Economics | 3 |

| 22 | MAFE215IU | Financial Management | 3 |
|----|-----------|---|---|
| 23 | MAFE209IU | Financial markets | 3 |
| 24 | MAFE207IU | Decision Making | 3 |
| 25 | MAFE314IU | Financial Econometrics | 3 |
| 26 | MAFE308IU | Financial Risk Management 1 | 3 |
| 27 | MAFE402IU | Portfolio Management | 3 |
| 28 | PH027IU | Earth Observation and The Environment | 3 |
| 29 | PH047IU | Navigation Systems | 3 |
| 30 | PH045IU | Fundamental of Surveying | 3 |
| 31 | PH046IU | Geographic Information Systems (GIS) and Spatical Analysis | 3 |
| 32 | CE505IU | Geotechnics | 3 |
| 33 | CE503IU | Pavement design & Maintenance | 3 |
| 34 | EE049IU | Introduction to Electrical Engineering | 3 |

5.3 English Level 3: IELTS = 4.5

TOTAL CREDITS: 188 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| No. | Course | Courses | Credits |
|------|--------------|---|---------|
| | code | | |
| Semo | ester 1 | | |
| 1 | ENTP01 | Intensive English 1- Twinning Program | 17 |
| 2 | ENTP02 | Intensive English 2- Twinning Program | 13 |
| | | Total credits | 30 |
| Semo | ester 2 | | |
| 3 | MA001IU | Calculus 1 | 4 |
| 4 | PH013IU | Physics 1 | 2 |
| 5 | PH014IU | Physics 2 | 2 |
| 6 | EN007IU | Writing AE1 | 2 |
| 7 | EN008IU | Listening AE1 | 2 |
| 8 | PT001IU | Physical Training 1 | 3 |
| | | Total credits | 15 |
| Sumi | mer semester | | |
| 9 | PE015IU | Philosophy of marxism and Leninism | 3 |
| 10 | PE016IU | Political economics of marxism and leninism | 2 |
| 11 | PT002IU | Physical Training 2 | 3 |
| | | Total credits | 8 |
| Semo | Semester 3 | | |
| 12 | MA027IU | Applied Linear Algebra | 2 |

| 13 | IS004IU | Engineering Probability & Statistics | 4 |
|------|--------------|--|----|
| 14 | CH012IU | Chemistry Laboratory | 1 |
| 15 | CH011IU | Chemistry for Engineers | 3 |
| 16 | PE008IU | Critical Thinking | 3 |
| 17 | IS086IU | Introduction to Computing | 3 |
| 18 | MA003IU | Calculus 2 | 4 |
| 19 | IS001IU | Introduction to Industrial Engineering | 1 |
| | | Total credits | 21 |
| Semo | ester 4 | | |
| 20 | IS081IU | Deterministic models in OR | 4 |
| 21 | EN011IU | Writing AE2 | 2 |
| 22 | EN012IU | Speaking AE2 | 2 |
| 23 | IS054IU | Engineering Drawing | 3 |
| 24 | MA023IU | Calculus 3 | 4 |
| 25 | PH015IU | Physics 3 | 3 |
| | | Total credits | 18 |
| Sum | mer semester | | |
| 26 | IS052IU | Internship 1 | 2 |
| 27 | | Military Training | 0 |
| | | Total credits | 2 |
| Semo | ester 5 | | |
| 28 | PE014IU | Environmental Science | 3 |
| 29 | IS019IU | Production Management | 3 |

| 30 | IS040IU | Management Information System | 3 |
|------|--------------|---|----|
| 31 | IS025IU | Quality Management | 3 |
| 32 | IS026IU | Project Management | 3 |
| 33 | PE017IU | Scientific socialism | 2 |
| 34 | IS090IU | Engineering Mechanics – Dynamics | 2 |
| | | Nhóm tự chọn số 01 - ISE Elective Course | |
| | ISIU | (choose 1 course below) | 3 |
| 35 | IS031IU | Experimental Design | 3 |
| 36 | IS087IU | Manufacturing Processes | 3 |
| 37 | IS058IU | Time series & forecasting techniques | 3 |
| | | Total credits | 22 |
| Semo | ester 6 | | |
| 38 | IS020IU | Engineering Economy | 3 |
| 39 | IS017IU | Work design & Ergonomics | 4 |
| 40 | IS034IU | Product Design & Development | 3 |
| 41 | IS085IU | CAD/CAM/CNC | 3 |
| 42 | IS041IU | Lean Production | 3 |
| 43 | PE018IU | History of the Communist Party of Vietnam | 2 |
| 44 | PE019IU | HCM's thoughts | 2 |
| | | Total credits | 20 |
| Sum | mer semester | | |
| 45 | IS053IU | Internship 2 | 3 |

| | | Total credits | 3 | | |
|------------|------------|---|----|--|--|
| Semester 7 | | | | | |
| 46 | IS033IU | Multi-Criteria Decision Making | 3 | | |
| 47 | IS032IU | Facility Layout | 3 | | |
| 48 | IS024IU | Probabilistic Models in OR | 3 | | |
| 49 | IS089IU | Numerical methods | 3 | | |
| | IU | Nhóm tự chọn số 02 - ISE Elective Course (choose 2 courses below) | 6 | | |
| 50 | IS080IU | Creative Thinking | 3 | | |
| 51 | IS035IU | Systems Engineering | 3 | | |
| 52 | IS043IU | Flexible Manufacturing Systems | 3 | | |
| 53 | IS045IU | Leadership | 3 | | |
| 54 | IS023IU | Inventory Management | 3 | | |
| 55 | IS082IU | Retail Management | 3 | | |
| 56 | IS067IU | International Transportation & Logistics | 3 | | |
| 57 | IS062IU | E-Logistics in Supply Chain Management | 3 | | |
| 58 | IU | Nhóm tự chọn số 03 - Free Elective Course (choose 1 course) | 3 | | |
| | | Total credits | 21 | | |
| Semo | Semester 8 | | | | |
| 59 | IS083IU | Capstone Design | 3 | | |
| 60 | IS028IU | Simulation Models in IE | 4 | | |
| 61 | IS027IU | Scheduling & Sequencing | 3 | | |

| 62 | IS078IU | Logistics engineering & supply chain design | 3 |
|------|---------|---|----|
| 63 | IS079IU | Scientific Writing | 2 |
| 64 | PE020IU | Ethnics and professional akills for engineers | 3 |
| | | Total credits | 18 |
| Semo | ester 9 | | |
| 65 | IS048IU | Thesis | 10 |
| | | Total credits | 10 |

| No. | Course code | Courses | Credits |
|-----|-------------|--|---------|
| 1 | BA115IU | Introduction to Business Administration | 3 |
| 2 | BA117IU | Introduction to Micro Economics | 3 |
| 3 | BA120IU | Business Computing Skills | 3 |
| 4 | BA123IU | Principles of Management | 3 |
| 5 | BA119IU | Introduction to Macro Economics | 3 |
| 6 | BA118IU | Introduction to Psychology | 3 |
| 7 | BA167IU | Introduction to Vietnamese Legal System | 3 |
| 8 | BA197IU | Introduction to Sociology | 3 |
| 9 | IT064IU | Introduction to Computing | 3 |
| 10 | IT011UN | Functional Programming | 3 |
| 11 | IT120IU | Entrepreneurship | 3 |
| 12 | IT007UN | Skills for Communicating Information | 3 |
| 13 | IT151IU | Statistical Methods | 3 |
| 14 | BM013IU | Entrepreneurship in Biomedical Engineering | 3 |
| 15 | BM005IU | Statistics for Health Science | 3 |
| 16 | BM033IU | Information Technology in the Health Care System | 3 |
| 17 | ENEE2001IU | Introduction to Environmental Engineering | 3 |
| 18 | ENEE2008IU | Environmental Ecology | 3 |
| 19 | BT152IU | Biostatistics | 3 |
| 20 | CHE2041IU | Mass Transfer Operations | 3 |
| 21 | MAFE105IU | Financial Economics | 3 |
| 22 | MAFE215IU | Financial Management | 3 |

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| 23 | MAFE209IU | Financial markets | 3 |
|----|-----------|---|---|
| 24 | MAFE207IU | Decision Making | 3 |
| 25 | MAFE314IU | Financial Econometrics | 3 |
| 26 | MAFE308IU | Financial Risk Management 1 | 3 |
| 27 | MAFE402IU | Portfolio Management | 3 |
| 28 | PH027IU | Earth Observation and The Environment | 3 |
| 29 | PH047IU | Navigation Systems | 3 |
| 30 | PH045IU | Fundamental of Surveying | 3 |
| 31 | PH046IU | Geographic Information Systems (GIS) and Spatical | 3 |
| 31 | 1110 1010 | Analysis | נ |
| 32 | CE505IU | Geotechnics | 3 |
| 33 | CE503IU | Pavement design & Maintenance | 3 |
| 34 | EE049IU | Introduction to Electrical Engineering | 3 |

5.4 English Level 4: IELTS \leq 4.0

TOTAL CREDITS: 201 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| No. | Courses code | Courses | Credits |
|------------|--------------|---|---------|
| | | Semester 1 | |
| 1 | ENTP00 | Intensive English 0- Twinning Program | 17 |
| 2 | ENTP01 | Intensive English 1- Twinning Program | 17 |
| | | Total credits | 34 |
| | | Semester 2 | |
| 3 | ENTP02 | Intensive English 2- Twinning Program | 13 |
| 4 | MA001IU | Calculus 1 | 4 |
| 5 | PT001IU | Physical Training 1 | 3 |
| | | Total credits | 20 |
| | | Summer semester | |
| 6 | PE015IU | Philosophy of marxism and Leninism | 3 |
| 7 | PE016IU | Political economics of marxism and leninism | 2 |
| 8 | EN007IU | Writing AE1 | 2 |
| 9 | EN008IU | Listening AE1 | 2 |
| 10 | PT002IU | Physical Training 2 | 3 |
| | | Total credits | 12 |
| Semester 3 | | | |
| 11 | IS001IU | Introduction to Industrial Engineering | 1 |
| 12 | MA027IU | Applied Linear Algebra | 2 |
| 13 | IS004IU | Engineering Probability & Statistics | 4 |

| 15 PH014IU Physics 2 2 16 PE008IU Critical Thinking 3 17 PE017IU Scientific socialism 2 18 IS086IU Introduction to Computing 3 Total credits 19 Semester 4 19 CH012IU Chemistry Laboratory 1 20 CH011IU Chemistry for Engineers 3 21 IS081IU Deterministic models in OR 4 22 EN011IU Writing AE2 2 23 EN012IU Speaking AE2 2 24 MA003IU Calculus 2 4 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Millitary Training 0 Millitary Training 0 Total credits< | 14 | PH013IU | Physics 1 | 2 |
|--|------------|---------|----------------------------|----|
| 17 PE017IU Scientific socialism 2 18 IS086IU Introduction to Computing 3 Total credits 19 Semester 4 19 CH012IU Chemistry Laboratory 1 20 CH011IU Chemistry for Engineers 3 21 IS081IU Deterministic models in OR 4 22 EN011IU Writing AE2 2 23 EN012IU Speaking AE2 2 24 MA003IU Calculus 2 4 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 Total credits 2 Semester 5 28 PE014IU Environmental Science 3 | 15 | PH014IU | Physics 2 | 2 |
| 18 | 16 | PE008IU | Critical Thinking | 3 |
| Total credits 19 | 17 | PE017IU | Scientific socialism | 2 |
| Semester 4 19 CH012IU Chemistry Laboratory 1 20 CH011IU Chemistry for Engineers 3 21 IS081IU Deterministic models in OR 4 22 EN011IU Writing AE2 2 23 EN012IU Speaking AE2 2 24 MA003IU Calculus 2 4 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 Total credits 2 Semester 5 28 PE014IU Environmental Science 3 | 18 | IS086IU | Introduction to Computing | 3 |
| 19 CH012IU Chemistry Laboratory 1 20 CH011IU Chemistry for Engineers 3 21 IS081IU Deterministic models in OR 4 22 EN011IU Writing AE2 2 23 EN012IU Speaking AE2 2 24 MA003IU Calculus 2 4 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 Total credits 2 Semester 5 28 PE014IU Environmental Science 3 | | | Total credits | 19 |
| 20 CH011IU Chemistry for Engineers 3 21 IS081IU Deterministic models in OR 4 22 EN011IU Writing AE2 2 23 EN012IU Speaking AE2 2 24 MA003IU Calculus 2 4 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 Total credits Semester 5 28 PE014IU Environmental Science 3 | | | Semester 4 | |
| 21 IS081IU Deterministic models in OR 4 22 EN011IU Writing AE2 2 23 EN012IU Speaking AE2 2 24 MA003IU Calculus 2 4 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 Total credits 2 Semester 5 28 PE014IU Environmental Science 3 | 19 | CH012IU | Chemistry Laboratory | 1 |
| 22 EN011IU Writing AE2 2 23 EN012IU Speaking AE2 2 24 MA003IU Calculus 2 4 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 Total credits 2 Semester 5 28 PE014IU Environmental Science 3 | 20 | CH011IU | Chemistry for Engineers | 3 |
| 23 EN012IU Speaking AE2 2 2 2 4 MA003IU Calculus 2 4 4 25 IS054IU Engineering Drawing 3 3 26 PH015IU Physics 3 3 3 | 21 | IS081IU | Deterministic models in OR | 4 |
| 24 MA003IU Calculus 2 4 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 0 Total credits 2 Semester 5 28 PE014IU Environmental Science 3 | 22 | EN011IU | Writing AE2 | 2 |
| 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 22 27 IS052IU Internship 1 2 Military Training 0 Total credits 2 Semester 5 28 PE014IU Environmental Science 3 | 23 | EN012IU | Speaking AE2 | 2 |
| 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 0 Total credits 2 Semester 5 28 PE014IU Environmental Science 3 | 24 | MA003IU | Calculus 2 | 4 |
| Total credits 22 | 25 | IS054IU | Engineering Drawing | 3 |
| Summer semester 27 IS052IU Internship 1 2 Military Training 0 Total credits 2 Semester 5 2 28 PE014IU Environmental Science 3 | 26 | PH015IU | Physics 3 | 3 |
| 27 IS052IU Internship 1 2 Military Training 0 Total credits 2 Semester 5 2 28 PE014IU Environmental Science 3 | | | Total credits | 22 |
| Military Training 0 Total credits 2 Semester 5 28 PE014IU Environmental Science 3 | | | Summer semester | |
| Total credits 2 Semester 5 28 PE014IU Environmental Science 3 | 27 | IS052IU | Internship 1 | 2 |
| Semester 5 28 PE014IU Environmental Science 3 | | | Military Training | 0 |
| 28 PE014IU Environmental Science 3 | | | Total credits | 2 |
| | Semester 5 | | | |
| 29 IS019IU Production Management 3 | 28 | PE014IU | Environmental Science | 3 |
| | 29 | IS019IU | Production Management | 3 |

| 30 | IS040IU | Management Information System | 3 | |
|---------------|-----------------|---|----|--|
| 31 | IS025IU | Quality Management | 3 | |
| 32 | IS026IU | Project Management | 3 | |
| 33 | MA023IU | Calculus 3 | 4 | |
| 34 | IS090IU | Engineering Mechanics – Dynamics | 2 | |
| | ISIU | Nhóm tự chọn số 01 - ISE Elective Course (choose 1 course below) | 3 | |
| 35 | IS031IU | Experimental Design | 3 | |
| 36 | IS087IU | Manufacturing Processes | 3 | |
| 37 | IS058IU | Time series & forecasting techniques | 3 | |
| | | Total credits | 24 | |
| | | Semester 6 | | |
| 38 | IS020IU | Engineering Economy | 3 | |
| 39 | IS017IU | Work design & Ergonomics | 4 | |
| 40 | IS034IU | Product Design & Development | 3 | |
| 41 | IS085IU | CAD/CAM/CNC | 3 | |
| 42 | IS041IU | Lean Production | 3 | |
| 43 | PE018IU | History of the Communist Party of Vietnam | 2 | |
| 44 | PE019IU | HCM's thoughts | 2 | |
| Total credits | | | | |
| | Summer semester | | | |
| 45 | IS053IU | Internship 2 | 3 | |

| | | Total credits | 3 | |
|----|------------|---|----|--|
| | | Semester 7 | | |
| 46 | IS033IU | Multi-Criteria Decision Making | 3 | |
| 47 | IS032IU | Facility Layout | 3 | |
| 48 | IS024IU | Probabilistic Models in OR | 3 | |
| 49 | IS089IU | Numerical methods | 3 | |
| | IU | Nhóm tự chọn số 02 - ISE Elective Course | 6 | |
| | 10 | (choose 2 courses below) | U | |
| 50 | IS080IU | Creative Thinking | 3 | |
| 51 | IS035IU | Systems Engineering | 3 | |
| 52 | IS043IU | Flexible Manufacturing Systems | 3 | |
| 53 | IS045IU | Leadership | 3 | |
| 54 | IS023IU | Inventory Management | 3 | |
| 55 | IS082IU | Retail Management | 3 | |
| 56 | IS067IU | International Transportation & Logistics | 3 | |
| 57 | IS062IU | E-Logistics in Supply Chain Management | 3 | |
| | IU | Nhóm tự chọn số 03 - Free Elective Course | 3 | |
| | 10 | (choose 1 course) | 3 | |
| | | Total credits | 21 | |
| | Semester 8 | | | |
| 58 | IS083IU | Capstone Design | 3 | |
| 59 | IS028IU | Simulation Models in IE | 4 | |

| 60 | IS027IU | Scheduling & Sequencing | 3 |
|----|---------|---|----|
| 61 | IS078IU | Logistics engineering & supply chain design | 3 |
| 62 | IS079IU | Scientific Writing | 2 |
| 63 | PE020IU | Ethnics and professional skills for engineers | 3 |
| | | Total credits | 18 |
| | | Semester 9 | |
| 64 | IS048IU | Thesis | 10 |
| | | Total credits | 10 |

| No. | Course code | Courses | Credits |
|-----|-------------|--|---------|
| 1 | BA115IU | Introduction to Business Administration | 3 |
| 2 | BA117IU | Introduction to Micro Economics | 3 |
| 3 | BA120IU | Business Computing Skills | 3 |
| 4 | BA123IU | Principles of Management | 3 |
| 5 | BA119IU | Introduction to Macro Economics | 3 |
| 6 | BA118IU | Introduction to Psychology | 3 |
| 7 | BA167IU | Introduction to Vietnamese Legal System | 3 |
| 8 | BA197IU | Introduction to Sociology | 3 |
| 9 | IT064IU | Introduction to Computing | 3 |
| 10 | IT011UN | Functional Programming | 3 |
| 11 | IT120IU | Entrepreneurship | 3 |
| 12 | IT007UN | Skills for Communicating Information | 3 |
| 13 | IT151IU | Statistical Methods | 3 |
| 14 | BM013IU | Entrepreneurship in Biomedical Engineering | 3 |

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| 15 | BM005IU | Statistics for Health Science | 3 |
|----|------------|---|---|
| 16 | BM033IU | Information Technology in the Health Care System | 3 |
| 17 | ENEE2001IU | Introduction to Environmental Engineering | 3 |
| 18 | ENEE2008IU | Environmental Ecology | 3 |
| 19 | BT152IU | Biostatistics | 3 |
| 20 | CHE2041IU | Mass Transfer Operations | 3 |
| 21 | MAFE105IU | Financial Economics | 3 |
| 22 | MAFE215IU | Financial Management | 3 |
| 23 | MAFE209IU | Financial markets | 3 |
| 24 | MAFE207IU | Decision Making | 3 |
| 25 | MAFE314IU | Financial Econometrics | 3 |
| 26 | MAFE308IU | Financial Risk Management 1 | 3 |
| 27 | MAFE402IU | Portfolio Management | 3 |
| 28 | PH027IU | Earth Observation and The Environment | 3 |
| 29 | PH047IU | Navigation Systems | 3 |
| 30 | PH045IU | Fundamental of Surveying | 3 |
| 31 | PH046IU | Geographic Information Systems (GIS) and Spatical | 3 |
| | 11104010 | Analysis | 3 |
| 32 | CE505IU | Geotechnics | 3 |
| 33 | CE503IU | Pavement design & Maintenance | 3 |
| 34 | EE049IU | Introduction to Electrical Engineering | 3 |

6. IU ISE PROGRAM (for batch 2022 and forward)

6.1 English Level 1: IELTS \geq 5.5

TOTAL CREDITS: 152 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| No. | Course | Courses | Credits |
|------|---------|--|---------|
| | code | Courses | Credits |
| Seme | ster 1 | | |
| 1 | EN007IU | Writing AE1 | 2 |
| 2 | EN008IU | Listening AE1 | 2 |
| 3 | MA001IU | Calculus 1 | 4 |
| 4 | PH013IU | Physics 1 | 2 |
| 5 | PH014IU | Physics 2 | 2 |
| 6 | PT001IU | Physical Training 1 | 3 |
| 7 | CH012IU | Chemistry Laboratory | 1 |
| 8 | CH011IU | Chemistry for Engineers | 3 |
| | | Total credits | 19 |
| Seme | ster 2 | | |
| 9 | EN011IU | Writing AE2 | 2 |
| 10 | EN012IU | Speaking AE2 | 2 |
| 11 | MA003IU | Calculus 2 | 4 |
| 12 | PE008IU | Critical Thinking | 3 |
| 13 | PT002IU | Physical Training 2 | 3 |
| 14 | IS001IU | Introduction to Industrial Engineering | 1 |
| 15 | IS054IU | Engineering Drawing | 3 |
| 16 | PH015IU | Physics 3 | 3 |

| | | Total credits | 21 |
|------|--------------|---|----|
| Sumi | mer semester | | |
| 17 | PE015IU | Philosophy of marxism and Leninism | 3 |
| 18 | PE016IU | Political economics of marxism and leninism | 2 |
| | | Total credits | 5 |
| Seme | ester 3 | | |
| 19 | MA027IU | Applied Linear Algebra | 2 |
| 20 | IS019IU | Production Management | 3 |
| 21 | IS086IU | Introduction to Computing | 3 |
| 22 | IS004IU | Engineering Probability & Statistics | 4 |
| 23 | MA023IU | Calculus 3 | 4 |
| 24 | PE017IU | Scientific socialism | 2 |
| 25 | IS090IU | Engineering Mechanics – Dynamics | 2 |
| | | Total credits | 20 |
| Seme | ester 4 | | |
| 26 | IS020IU | Engineering Economy | 3 |
| 27 | IS081IU | Deterministic models in OR | 4 |
| 28 | IS017IU | Work design & Ergonomics | 4 |
| 29 | IS085IU | CAD/CAM/CNC | 3 |
| 30 | IS034IU | Product Design & Development | 3 |
| 31 | PE018IU | History of the Communist Party of Vietnam | 2 |
| 32 | PE019IU | HCM's thoughts | 2 |
| | | Total credits | 21 |
| Sumi | mer semester | | |
| 33 | IS052IU | Internship 1 | 2 |

| 34 | | Military Training | 0 |
|------|---------|---|----|
| | | Total credits | 2 |
| Seme | ster 5 | | |
| 35 | IS091IU | Management Information Systems with Enterprise Resources Planning Application | 3 |
| 36 | PE014IU | Environmental Science | 3 |
| 37 | IS025IU | Quality Management | 3 |
| 38 | IS026IU | Project Management | 3 |
| 39 | IS024IU | Probabilistic Models in OR | 3 |
| 40 | IS089IU | Numerical methods | 3 |
| | ISIU | Nhóm tự chọn số 01 - ISE Elective Course (choose 1 course below) | 3 |
| 41 | IS031IU | Experimental Design | 3 |
| 42 | IS087IU | Manufacturing Processes | 3 |
| 43 | IS058IU | Time series & forecasting techniques | 3 |
| | | Total credits | 21 |
| Seme | ster 6 | | |
| 44 | IS079IU | Scientific Writing | 2 |
| 45 | IS028IU | Simulation Models in IE | 4 |
| 46 | IS027IU | Scheduling & Sequencing | 3 |
| 47 | IS041IU | Lean Production | 3 |
| 48 | IS078IU | Logistics engineering & supply chain design | 3 |
| 49 | PE020IU | Ethnics and professional skills for engineers | 3 |

| | | Total credits | 18 |
|------|--------------|--|----|
| Sumn | ner semester | | |
| 50 | IS053IU | Internship 2 | 3 |
| | | Total credits | 3 |
| Seme | ester 7 | | |
| 51 | IS083IU | Capstone Design | 3 |
| 52 | IS033IU | Multi-Criteria Decision Making | 3 |
| 53 | IS032IU | Facility Layout | 3 |
| | TC III | Nhóm tự chọn số 02 - ISE Elective Course | - |
| | ISIU | (choose 2 courses below) | 6 |
| 54 | IS080IU | Creative Thinking | 3 |
| 55 | IS035IU | Systems Engineering | 3 |
| 56 | IS043IU | Flexible Manufacturing Systems | 3 |
| 57 | IS045IU | Leadership | 3 |
| 58 | IS023IU | Inventory Management | 3 |
| 59 | IS082IU | Retail Management | 3 |
| 60 | IS067IU | International Transportation & Logistics | 3 |
| 61 | IS062IU | E-Logistics in Supply Chain Management | 3 |
| 62 | IU | Nhóm tự chọn số 03 - Free Elective Course (choose 1 course) | 3 |
| | | Total credits | 18 |
| Seme | ester 8 | | |
| 63 | IS048IU | Thesis | 10 |
| | | Total credits | 10 |

| No. | Course code | Courses | Credits |
|-----|-------------|---|---------|
| 1 | BA115IU | Introduction to Business Administration | 3 |
| 2 | BA117IU | Introduction to Micro Economics | 3 |
| 3 | BA120IU | Business Computing Skills | 3 |
| 4 | BA123IU | Principles of Management | 3 |
| 5 | BA119IU | Introduction to Macro Economics | 3 |
| 6 | BA118IU | Introduction to Psychology | 3 |
| 7 | BA167IU | Introduction to Vietnamese Legal System | 3 |
| 8 | BA197IU | Introduction to Sociology | 3 |
| 9 | IT064IU | Introduction to Computing | 3 |
| 10 | IT011UN | Functional Programming | 3 |
| 11 | IT120IU | Entrepreneurship | 3 |
| 12 | IT007UN | Skills for Communicating Information | 3 |
| 13 | IT151IU | Statistical Methods | 3 |
| 14 | BM013IU | Entrepreneurship in Biomedical Engineering | 3 |
| 15 | BM005IU | Statistics for Health Science | 3 |
| 16 | BM033IU | Information Technology in the Health Care System | 3 |
| 17 | ENEE2001IU | Introduction to Environmental Engineering | 3 |
| 18 | ENEE2008IU | Environmental Ecology | 3 |
| 19 | BT152IU | Biostatistics | 3 |
| 20 | CHE2041IU | Mass Transfer Operations | 3 |
| 21 | MAFE105IU | Financial Economics | 3 |

| 22 | MAFE215IU | Financial Management | 3 |
|----|-----------|--|---|
| 23 | MAFE209IU | Financial markets | 3 |
| 24 | MAFE207IU | Decision Making | 3 |
| 25 | MAFE314IU | Financial Econometrics | 3 |
| 26 | MAFE308IU | Financial Risk Management 1 | 3 |
| 27 | MAFE402IU | Portfolio Management | 3 |
| 28 | PH027IU | Earth Observation and The Environment | 3 |
| 29 | PH047IU | Navigation Systems | 3 |
| 30 | PH045IU | Fundamental of Surveying | 3 |
| 31 | PH046IU | Geographic Information Systems (GIS) and | 3 |
| | | Spatical Analysis | |
| 32 | CE505IU | Geotechnics | 3 |
| 33 | CE503IU | Pavement design & Maintenance | 3 |
| 34 | EE049IU | Introduction to Electrical Engineering | 3 |

6.2 English Level 2: IELTS = 5.0

TOTAL CREDITS: 171 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| No. | Course | Courses | Credits |
|-----|--------------|---|---------|
| | code | | |
| Sem | ester 1 | | |
| 1 | ENTP02 | Intensive English 2 - Twinning Program | 13 |
| 2 | MA001IU | Calculus 1 | 4 |
| 3 | PT001IU | Physical Training 1 | 3 |
| | | Total credits | 20 |
| Sem | ester 2 | | |
| 4 | EN007IU | Writing AE1 | 2 |
| 5 | EN008IU | Listening AE1 | 2 |
| 6 | CH012IU | Chemistry Laboratory | 1 |
| 7 | CH011IU | Chemistry for Engineers | 3 |
| 8 | PH013IU | Physics 1 | 2 |
| 9 | MA003IU | Calculus 2 | 4 |
| 10 | PH014IU | Physics 2 | 2 |
| 11 | MA027IU | Applied Linear Algebra | 2 |
| 12 | IS001IU | Introduction to Industrial Engineering | 1 |
| 13 | IS054IU | Engineering Drawing | 3 |
| | | Total credits | 22 |
| Sum | mer semester | | |
| 14 | PT002IU | Physical Training 2 | 3 |
| 15 | PE016IU | Political economics of marxism and leninism | 2 |

| 16 | PE015IU | Philosophy of marxism and Leninism | 3 | | |
|-----|--------------|--------------------------------------|----|--|--|
| | | Total credits | 8 | | |
| Sem | Semester 3 | | | | |
| 17 | IS019IU | Production Management | 3 | | |
| 18 | EN011IU | Writing AE2 | 2 | | |
| 19 | EN012IU | Speaking AE2 | 2 | | |
| 20 | IS086IU | Introduction to Computing | 3 | | |
| 21 | IS004IU | Engineering Probability & Statistics | 4 | | |
| 22 | IS090IU | Engineering Mechanics – Dynamics | 2 | | |
| 23 | PH015IU | Physics 3 | 3 | | |
| 24 | MA023IU | Calculus 3 | 4 | | |
| | | Total credits | 23 | | |
| Sem | ester 4 | | | | |
| 25 | IS020IU | Engineering Economy | 3 | | |
| 26 | IS081IU | Deterministic models in OR | 4 | | |
| 27 | IS017IU | Work design & Ergonomics | 4 | | |
| 28 | IS085IU | CAD/CAM/CNC | 3 | | |
| 29 | IS034IU | Product Design & Development | 3 | | |
| 30 | PE008IU | Critical Thinking | 3 | | |
| 31 | PE017IU | Scientific socialism | 2 | | |
| | | Total credits | 22 | | |
| Sum | mer semester | | | | |
| 32 | IS052IU | Internship 1 | 2 | | |
| 33 | | Military Training | | | |
| | | Total credits | 2 | | |

| Sem | Semester 5 | | | |
|-----|-----------------|---|----|--|
| 34 | IS091IU | Management Information Systems with Enterprise Resources Planning Application | 3 | |
| 35 | PE014IU | Environmental Science | 3 | |
| 36 | IS025IU | Quality Management | 3 | |
| 37 | IS026IU | Project Management | 3 | |
| 38 | IS024IU | Probabilistic Models in OR | 3 | |
| 39 | IS089IU | Numerical methods | 3 | |
| | ISIU | Nhóm tự chọn số 01 - ISE Elective Course (choose 1 course below) | 3 | |
| 37 | IS031IU | Experimental Design | 3 | |
| 38 | IS087IU | Manufacturing Processes | 3 | |
| 39 | IS058IU | Time series & forecasting techniques | 3 | |
| | | Total credits | 21 | |
| Sem | ester 6 | | | |
| 40 | IS079IU | Scientific Writing | 2 | |
| 41 | IS028IU | Simulation Models in IE | 4 | |
| 42 | IS027IU | Scheduling & Sequencing | 3 | |
| 43 | IS078IU | Logistics engineering & supply chain design | 3 | |
| 44 | PE018IU | History of the Communist Party of Vietnam | 2 | |
| 45 | PE019IU | HCM's thoughts | 2 | |
| 46 | IS041IU | Lean Production | 3 | |
| 47 | PE020IU | Ethnics and professional akills for engineers | 3 | |
| | | Total credits | 22 | |
| Sum | Summer semester | | | |

| 48 | IS053IU | Internship 2 | 3 | | |
|------|------------|---|----|--|--|
| | | Total credits | 3 | | |
| Semo | Semester 7 | | | | |
| 49 | IS083IU | Capstone Design | 3 | | |
| 50 | IS033IU | Multi-Criteria Decision Making | 3 | | |
| 51 | IS032IU | Facility Layout | 3 | | |
| | ISIU | Nhóm tự chọn số 02 - ISE Elective Course (choose 2 courses below) | 6 | | |
| 52 | IS080IU | Creative Thinking | 3 | | |
| 53 | IS035IU | Systems Engineering | 3 | | |
| 54 | IS043IU | Flexible Manufacturing Systems | 3 | | |
| 55 | IS045IU | Leadership | 3 | | |
| 56 | IS023IU | Inventory Management | 3 | | |
| 57 | IS082IU | Retail Management | 3 | | |
| 58 | IS067IU | International Transportation & Logistics | 3 | | |
| 59 | IS062IU | E-Logistics in Supply Chain Management | 3 | | |
| 60 | IU | Nhóm tự chọn số 03 - Free Elective Course (choose 1 course from the following list) | 3 | | |
| | | Total credits | 18 | | |
| Semo | Semester 8 | | | | |
| 61 | IS048IU | Thesis | 10 | | |
| | | Total credits | 10 | | |

| No. | Course code | Courses | Credits |
|-----|-------------|---|---------|
| 1 | BA115IU | Introduction to Business Administration | 3 |
| 2 | BA117IU | Introduction to Micro Economics | 3 |
| 3 | BA120IU | Business Computing Skills | 3 |
| 4 | BA123IU | Principles of Management | 3 |
| 5 | BA119IU | Introduction to Macro Economics | 3 |
| 6 | BA118IU | Introduction to Psychology | 3 |
| 7 | BA167IU | Introduction to Vietnamese Legal System | 3 |
| 8 | BA197IU | Introduction to Sociology | 3 |
| 9 | IT064IU | Introduction to Computing | 3 |
| 10 | IT011UN | Functional Programming | 3 |
| 11 | IT120IU | Entrepreneurship | 3 |
| 12 | IT007UN | Skills for Communicating Information | 3 |
| 13 | IT151IU | Statistical Methods | 3 |
| 14 | BM013IU | Entrepreneurship in Biomedical Engineering | 3 |
| 15 | BM005IU | Statistics for Health Science | 3 |
| 16 | BM033IU | Information Technology in the Health Care System | 3 |
| 17 | ENEE2001IU | Introduction to Environmental Engineering | 3 |
| 18 | ENEE2008IU | Environmental Ecology | 3 |
| 19 | BT152IU | Biostatistics | 3 |
| 20 | CHE2041IU | Mass Transfer Operations | 3 |
| 21 | MAFE105IU | Financial Economics | 3 |

| 22 | MAFE215IU | Financial Management | 3 |
|----|-----------|--|---|
| 23 | MAFE209IU | Financial markets | 3 |
| 24 | MAFE207IU | Decision Making | 3 |
| 25 | MAFE314IU | Financial Econometrics | 3 |
| 26 | MAFE308IU | Financial Risk Management 1 | 3 |
| 27 | MAFE402IU | Portfolio Management | 3 |
| 28 | PH027IU | Earth Observation and The Environment | 3 |
| 29 | PH047IU | Navigation Systems | 3 |
| 30 | PH045IU | Fundamental of Surveying | 3 |
| 31 | PH046IU | Geographic Information Systems (GIS) and Spatical Analysis | 3 |
| | | Spatical Allalysis | |
| 32 | CE505IU | Geotechnics | 3 |
| 33 | CE503IU | Pavement design & Maintenance | 3 |
| 34 | EE049IU | Introduction to Electrical Engineering | 3 |

6.3 English Level 3: IELTS = 4.5

TOTAL CREDITS: 188 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| No. | Course | Courses | Credits | |
|------|--------------|---|---------|--|
| | code | | | |
| Semo | ester 1 | | | |
| 1 | ENTP01 | Intensive English 1- Twinning Program | 17 | |
| 2 | ENTP02 | Intensive English 2- Twinning Program | 13 | |
| | | Total credits | 30 | |
| Semo | ester 2 | | | |
| 3 | MA001IU | Calculus 1 | 4 | |
| 4 | PH013IU | Physics 1 | 2 | |
| 5 | PH014IU | Physics 2 | 2 | |
| 6 | EN007IU | Writing AE1 | 2 | |
| 7 | EN008IU | Listening AE1 | 2 | |
| 8 | PT001IU | Physical Training 1 | 3 | |
| | | Total credits | 15 | |
| Sumi | mer semester | | | |
| 9 | PE015IU | Philosophy of marxism and Leninism | 3 | |
| 10 | PE016IU | Political economics of marxism and leninism | 2 | |
| 11 | PT002IU | Physical Training 2 | 3 | |
| | | Total credits | 8 | |
| Semo | Semester 3 | | | |
| 12 | MA027IU | Applied Linear Algebra | 2 | |

| 13 | IS004IU | Engineering Probability & Statistics | 4 |
|------|--------------|--|----|
| 14 | CH012IU | Chemistry Laboratory | 1 |
| 15 | CH011IU | Chemistry for Engineers | 3 |
| 16 | PE008IU | Critical Thinking | 3 |
| 17 | IS086IU | Introduction to Computing | 3 |
| 18 | MA003IU | Calculus 2 | 4 |
| 19 | IS001IU | Introduction to Industrial Engineering | 1 |
| | | Total credits | 21 |
| Semo | ester 4 | | |
| 20 | IS081IU | Deterministic models in OR | 4 |
| 21 | EN011IU | Writing AE2 | 2 |
| 22 | EN012IU | Speaking AE2 | 2 |
| 23 | IS054IU | Engineering Drawing | 3 |
| 24 | MA023IU | Calculus 3 | 4 |
| 25 | PH015IU | Physics 3 | 3 |
| | | Total credits | 18 |
| Sum | mer semester | | |
| 26 | IS052IU | Internship 1 | 2 |
| 27 | | Military Training | 0 |
| | | Total credits | 2 |
| Semo | ester 5 | | |
| 28 | PE014IU | Environmental Science | 3 |
| 29 | IS019IU | Production Management | 3 |

| 43 | PE018IU | History of the Communist Party of Vietnam | 2 |
|------------|---------|---|----|
| 42 | IS041IU | Lean Production | 3 |
| 41 | IS085IU | CAD/CAM/CNC | 3 |
| 40 | IS034IU | Product Design & Development | 3 |
| 39 | IS017IU | Work design & Ergonomics | 4 |
| 38 | IS020IU | Engineering Economy | 3 |
| Semester 6 | | | |
| | | Total credits | 22 |
| 37 | IS058IU | Time series & forecasting techniques | 3 |
| 36 | IS087IU | Manufacturing Processes | 3 |
| 35 | IS031IU | Experimental Design | 3 |
| | ISIU | Nhóm tự chọn số 01 - ISE Elective Course (choose 1 course below) | 3 |
| 34 | IS090IU | Engineering Mechanics – Dynamics | 2 |
| 33 | PE017IU | Scientific socialism | 2 |
| 32 | IS026IU | Project Management | 3 |
| 31 | IS025IU | Quality Management | 3 |
| 30 | IS091IU | Management Information Systems with Enterprise Resources Planning Application | 3 |

| 45 | IS053IU | Internship 2 | | | |
|------|---------|---|----|--|--|
| | | Total credits | 3 | | |
| Semo | ester 7 | | | | |
| 46 | IS033IU | Multi-Criteria Decision Making | 3 | | |
| 47 | IS032IU | Facility Layout | 3 | | |
| 48 | IS024IU | Probabilistic Models in OR | 3 | | |
| 49 | IS089IU | Numerical methods | 3 | | |
| | TTI | Nhóm tự chọn số 02 - ISE Elective Course | | | |
| | IU | (choose 2 courses below) | 6 | | |
| 50 | IS080IU | Creative Thinking | | | |
| 51 | IS035IU | Systems Engineering | 3 | | |
| 52 | IS043IU | Flexible Manufacturing Systems | 3 | | |
| 53 | IS045IU | Leadership | | | |
| 54 | IS023IU | Inventory Management | 3 | | |
| 55 | IS082IU | Retail Management | 3 | | |
| 56 | IS067IU | International Transportation & Logistics | 3 | | |
| 57 | IS062IU | E-Logistics in Supply Chain Management | 3 | | |
| 58 | IU | Nhóm tự chọn số 03 - Free Elective Course | 3 | | |
| | | (choose 1 course) | S | | |
| | | Total credits | 21 | | |
| Semo | ester 8 | | | | |
| 59 | IS083IU | Capstone Design | 3 | | |
| 60 | IS028IU | Simulation Models in IE 4 | | | |

| 61 | IS027IU | Scheduling & Sequencing 3 | | | |
|---------------|---------|---|----|--|--|
| 62 | IS078IU | Logistics engineering & supply chain design | | | |
| 63 | IS079IU | Scientific Writing | | | |
| 64 | PE020IU | Ethnics and professional akills for engineers | 3 | | |
| Total credits | | | | | |
| Semo | ester 9 | | | | |
| | | | | | |
| 65 | IS048IU | Thesis | 10 | | |

Free Elective Course: Student can select 01 course in the following list.

List of Free Elective Courses:

| No. | Course code | Courses | Credits |
|-----|-------------|--|---------|
| 1 | BA115IU | Introduction to Business Administration | 3 |
| 2 | BA117IU | Introduction to Micro Economics | 3 |
| 3 | BA120IU | Business Computing Skills | 3 |
| 4 | BA123IU | Principles of Management | 3 |
| 5 | BA119IU | Introduction to Macro Economics | 3 |
| 6 | BA118IU | Introduction to Psychology | 3 |
| 7 | BA167IU | Introduction to Vietnamese Legal System | 3 |
| 8 | BA197IU | Introduction to Sociology | 3 |
| 9 | IT064IU | Introduction to Computing | 3 |
| 10 | IT011UN | Functional Programming | 3 |
| 11 | IT120IU | Entrepreneurship | 3 |
| 12 | IT007UN | Skills for Communicating Information | 3 |
| 13 | IT151IU | Statistical Methods | 3 |
| 14 | BM013IU | Entrepreneurship in Biomedical Engineering | 3 |
| 15 | BM005IU | Statistics for Health Science | 3 |
| 16 | BM033IU | Information Technology in the Health Care System | 3 |
| 17 | ENEE2001IU | Introduction to Environmental Engineering | 3 |
| 18 | ENEE2008IU | Environmental Ecology | 3 |
| 19 | BT152IU | Biostatistics | 3 |
| 20 | CHE2041IU | Mass Transfer Operations | 3 |
| 21 | MAFE105IU | Financial Economics | 3 |
| 22 | MAFE215IU | Financial Management | 3 |

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| 23 | MAFE209IU | Financial markets | 3 | |
|----|-----------|--|---|--|
| 24 | MAFE207IU | Decision Making | 3 | |
| 25 | MAFE314IU | Financial Econometrics | 3 | |
| 26 | MAFE308IU | Financial Risk Management 1 | 3 | |
| 27 | MAFE402IU | Portfolio Management | 3 | |
| 28 | PH027IU | Earth Observation and The Environment | 3 | |
| 29 | PH047IU | Navigation Systems | 3 | |
| 30 | PH045IU | Fundamental of Surveying | | |
| 31 | PH046IU | Geographic Information Systems (GIS) and Spatical Analysis | 3 | |
| 32 | CE505IU | Geotechnics | 3 | |
| 33 | CE503IU | Pavement design & Maintenance | 3 | |
| 34 | EE049IU | Introduction to Electrical Engineering | 3 | |

6.4 English Level 4: IELTS \leq 4.0

TOTAL CREDITS: 201 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| No. | Courses code | Courses | Credits | |
|------|-----------------|---|---------|--|
| Sem | ester 1 | | | |
| 1 | ENTP00 | Intensive English 0- Twinning Program 1 | | |
| 2 | ENTP01 | Intensive English 1- Twinning Program | 17 | |
| | | Total credits | 34 | |
| Semo | ester 2 | | | |
| 3 | ENTP02 | Intensive English 2- Twinning Program | 13 | |
| 4 | MA001IU | Calculus 1 | | |
| 5 | PT001IU | Physical Training 1 | | |
| | | Total credits | 20 | |
| Sum | mer semester | | | |
| 6 | PE015IU | Philosophy of marxism and Leninism | 3 | |
| 7 | PE016IU | Political economics of marxism and leninism | 2 | |
| 8 | EN007IU | Writing AE1 | 2 | |
| 9 | EN008IU | Listening AE1 | 2 | |
| 10 | PT002IU | Physical Training 2 3 | | |
| | | Total credits | 12 | |
| Semo | ester 3 | | | |
| 11 | IS001IU | Introduction to Industrial Engineering | | |
| 12 | MA027IU | Applied Linear Algebra 2 | | |
| | | • | | |

| 14 PH013IU Physics 1 2 15 PH014IU Physics 2 2 16 PE008IU Critical Thinking 3 17 PE017IU Scientific socialism 2 18 IS086IU Introduction to Computing 3 Total credits 19 Semester 4 19 CH012IU Chemistry Laboratory 1 20 CH011IU Chemistry Laboratory 1 21 IS081IU Deterministic models in OR 4 22 EN011IU Writing AE2 2 23 EN012IU Speaking AE2 2 24 MA003IU Calculus 2 4 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 2 Summer semester 27 IS052IU Internship 1 2 Military Training 0 Total credits 2 Semester 5 28 </th <th>13</th> <th>IS004IU</th> <th colspan="2">Engineering Probability & Statistics 4</th> | 13 | IS004IU | Engineering Probability & Statistics 4 | | |
|--|-----|--------------|--|----|--|
| 16 PE008IU Critical Thinking 3 17 PE017IU Scientific socialism 2 18 IS086IU Introduction to Computing 3 Total credits 19 Semester 4 19 CH012IU Chemistry Laboratory 1 20 CH011IU Chemistry For Engineers 3 21 IS081IU Deterministic models in OR 4 22 EN011IU Writing AE2 2 23 EN012IU Speaking AE2 2 24 MA003IU Calculus 2 4 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 Total credits 2 Semester 5 | 14 | PH013IU | Physics 1 | | |
| 17 PE017IU Scientific socialism 2 18 IS086IU Introduction to Computing 3 Total credits 19 Semester 4 19 CH012IU Chemistry Laboratory 1 20 CH011IU Chemistry for Engineers 3 21 IS081IU Deterministic models in OR 4 22 EN011IU Writing AE2 2 23 EN012IU Speaking AE2 2 24 MA003IU Calculus 2 4 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 Total credits 2 Semester 5 | 15 | PH014IU | Physics 2 | 2 | |
| 18 IS086IU Introduction to Computing 3 Total credits 19 Semester 4 19 CH012IU Chemistry Laboratory 1 20 CH011IU Chemistry for Engineers 3 21 IS081IU Deterministic models in OR 4 22 EN011IU Writing AE2 2 23 EN012IU Speaking AE2 2 24 MA003IU Calculus 2 4 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 Total credits 2 Semester 5 | 16 | PE008IU | Critical Thinking | 3 | |
| Total credits 19 Semester 4 19 CH012IU Chemistry Laboratory 1 20 CH011IU Chemistry for Engineers 3 21 IS081IU Deterministic models in OR 4 22 EN011IU Writing AE2 2 23 EN012IU Speaking AE2 2 24 MA003IU Calculus 2 4 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 0 Total credits 2 Semester 5 | 17 | PE017IU | Scientific socialism | 2 | |
| Semester 4 19 | 18 | IS086IU | Introduction to Computing | 3 | |
| 19 CH012IU Chemistry Laboratory 1 20 CH011IU Chemistry for Engineers 3 21 IS081IU Deterministic models in OR 4 22 EN011IU Writing AE2 2 23 EN012IU Speaking AE2 2 24 MA003IU Calculus 2 4 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 Total credits 2 Semester 5 | | | Total credits | 19 | |
| 20 CH011IU Chemistry for Engineers 3 21 IS081IU Deterministic models in OR 4 22 EN011IU Writing AE2 2 23 EN012IU Speaking AE2 2 24 MA003IU Calculus 2 4 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 Total credits 2 Semester 5 | Sem | ester 4 | | | |
| 21 IS081IU Deterministic models in OR 4 22 EN011IU Writing AE2 2 23 EN012IU Speaking AE2 2 24 MA003IU Calculus 2 4 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 Total credits 2 Semester 5 | 19 | CH012IU | Chemistry Laboratory | 1 | |
| 22 EN011IU Writing AE2 2 23 EN012IU Speaking AE2 2 24 MA003IU Calculus 2 4 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 Total credits Semester 5 | 20 | CH011IU | Chemistry for Engineers | 3 | |
| 23 EN012IU Speaking AE2 2 2 2 2 4 MA003IU Calculus 2 4 4 25 IS054IU Engineering Drawing 3 3 26 PH015IU Physics 3 3 22 | 21 | IS081IU | Deterministic models in OR | | |
| 24 MA003IU Calculus 2 4 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 0 Total credits 2 Semester 5 | 22 | EN011IU | Writing AE2 | | |
| 25 IS054IU Engineering Drawing 3 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 Total credits Semester 5 | 23 | EN012IU | Speaking AE2 | | |
| 26 PH015IU Physics 3 3 Total credits 22 Summer semester 27 IS052IU Internship 1 2 Military Training 0 0 Total credits 2 Semester 5 | 24 | MA003IU | Calculus 2 | 4 | |
| | 25 | IS054IU | Engineering Drawing | 3 | |
| Summer semester 27 IS052IU Internship 1 2 Military Training 0 Total credits 2 Semester 5 | 26 | PH015IU | Physics 3 | 3 | |
| 27 IS052IU Internship 1 2 Military Training 0 Total credits 2 Semester 5 | | | Total credits | 22 | |
| Military Training 0 Total credits 2 Semester 5 | Sum | mer semester | | | |
| Total credits 2 Semester 5 | 27 | IS052IU | Internship 1 | 2 | |
| Semester 5 | | | Military Training | 0 | |
| | | | Total credits | 2 | |
| 28 PE014IU Environmental Science 3 | Sem | ester 5 | | | |
| | 28 | PE014IU | Environmental Science | 3 | |

| 29 | IS019IU | Production Management | | | | |
|------------|--------------|--|----|--|--|--|
| 30 IS091IU | | Management Information Systems with Enterprise | 3 | | | |
| 30 | 1309110 | Resources Planning Application | 3 | | | |
| 31 | IS025IU | Quality Management | 3 | | | |
| 32 | IS026IU | Project Management | 3 | | | |
| 33 | MA023IU | Calculus 3 | 4 | | | |
| 34 | IS090IU | Engineering Mechanics – Dynamics | 2 | | | |
| | IC III | Nhóm tự chọn số 01 - ISE Elective Course | 2 | | | |
| | ISIU | (choose 1 course below) | 3 | | | |
| 35 | IS031IU | Experimental Design | 3 | | | |
| 36 | IS087IU | Manufacturing Processes | 3 | | | |
| 37 | IS058IU | Time series & forecasting techniques | | | | |
| | | Total credits | 24 | | | |
| Semo | ester 6 | | | | | |
| 38 | IS020IU | Engineering Economy | 3 | | | |
| 39 | IS017IU | Work design & Ergonomics | 4 | | | |
| 40 | IS034IU | Product Design & Development | 3 | | | |
| 41 | IS085IU | CAD/CAM/CNC | 3 | | | |
| 42 | IS041IU | Lean Production | | | | |
| 43 | PE018IU | History of the Communist Party of Vietnam | 2 | | | |
| 44 | PE019IU | HCM's thoughts | 2 | | | |
| | | Total credits | 20 | | | |
| Sum | mer semester | | | | | |

| 45 | IS053IU | Internship 2 | | | |
|---------------|---------|---|---|--|--|
| | l | Total credits | 3 | | |
| Sem | ester 7 | | | | |
| 46 | IS033IU | Multi-Criteria Decision Making | 3 | | |
| 47 | IS032IU | Facility Layout | 3 | | |
| 48 | IS024IU | Probabilistic Models in OR | 3 | | |
| 49 | IS089IU | Numerical methods | 3 | | |
| | IU | Nhóm tự chọn số 02 - ISE Elective Course | 6 | | |
| | 10 | (choose 2 courses below) | U | | |
| 50 | IS080IU | Creative Thinking | 3 | | |
| 51 | IS035IU | Systems Engineering | | | |
| 52 | IS043IU | Flexible Manufacturing Systems | 3 | | |
| 53 | IS045IU | Leadership | 3 | | |
| 54 | IS023IU | Inventory Management | 3 | | |
| 55 | IS082IU | Retail Management | 3 | | |
| 56 | IS067IU | International Transportation & Logistics | 3 | | |
| 57 | IS062IU | E-Logistics in Supply Chain Management | 3 | | |
| | IU | Nhóm tự chọn số 03 - Free Elective Course | 3 | | |
| | 10 | (choose 1 course) | 3 | | |
| Total credits | | | | | |
| Sem | ester 8 | | | | |
| 58 | IS083IU | Capstone Design | 3 | | |

| 59 | IS028IU | Simulation Models in IE 4 | | | |
|------|---------|---|----|--|--|
| 60 | IS027IU | Scheduling & Sequencing 3 | | | |
| 61 | IS078IU | Logistics engineering & supply chain design | 3 | | |
| 62 | IS079IU | Scientific Writing | 2 | | |
| 63 | PE020IU | Ethnics and professional skills for engineers 3 | | | |
| | | Total credits | | | |
| Semo | ester 9 | | | | |
| 64 | IS048IU | Thesis | 10 | | |
| | | Total credits | 10 | | |

Free Elective Course: Student can select 01 course in the following list.

List of Free Elective Courses:

| No. | Course code | Courses | Credits |
|-----|-------------|---|---------|
| 1 | BA115IU | Introduction to Business Administration | 3 |
| 2 | BA117IU | Introduction to Micro Economics | 3 |
| 3 | BA120IU | Business Computing Skills | 3 |
| 4 | BA123IU | Principles of Management | 3 |
| 5 | BA119IU | Introduction to Macro Economics | 3 |
| 6 | BA118IU | Introduction to Psychology | 3 |
| 7 | BA167IU | Introduction to Vietnamese Legal System | 3 |
| 8 | BA197IU | Introduction to Sociology | |
| 9 | IT064IU | Introduction to Computing | 3 |
| 10 | IT011UN | Functional Programming | 3 |
| 11 | IT120IU | Entrepreneurship | 3 |
| 12 | IT007UN | Skills for Communicating Information | 3 |
| 13 | IT151IU | Statistical Methods | 3 |

| 14 | BM013IU | Entrepreneurship in Biomedical Engineering | 3 | | |
|----|------------|--|---|--|--|
| 15 | BM005IU | Statistics for Health Science | 3 | | |
| 16 | BM033IU | Information Technology in the Health Care System | 3 | | |
| 17 | ENEE2001IU | Introduction to Environmental Engineering | | | |
| 18 | ENEE2008IU | Environmental Ecology | 3 | | |
| 19 | BT152IU | Biostatistics | 3 | | |
| 20 | CHE2041IU | Mass Transfer Operations | 3 | | |
| 21 | MAFE105IU | Financial Economics | 3 | | |
| 22 | MAFE215IU | Financial Management | 3 | | |
| 23 | MAFE209IU | Financial markets | 3 | | |
| 24 | MAFE207IU | Decision Making | 3 | | |
| 25 | MAFE314IU | Financial Econometrics | 3 | | |
| 26 | MAFE308IU | Financial Risk Management 1 | 3 | | |
| 27 | MAFE402IU | Portfolio Management | 3 | | |
| 28 | PH027IU | Earth Observation and The Environment | 3 | | |
| 29 | PH047IU | Navigation Systems | 3 | | |
| 30 | PH045IU | Fundamental of Surveying | 3 | | |
| 31 | PH046IU | Geographic Information Systems (GIS) and Spatical Analysis | 3 | | |
| 32 | CE505IU | Geotechnics | 3 | | |
| 33 | CE503IU | Pavement design & Maintenance | 3 | | |
| 34 | EE049IU | Introduction to Electrical Engineering | | | |

7. ISE BS-MS PROGRAM

| Accumulate d Credits of bachelor program | Accumulate d Credits of master program | Maximum accumulate d credits | Minimum accumulate d credits | Note |
|---|---|------------------------------------|------------------------------------|---------------------------------------|
| 152 | 60 | 212 | 197 | Master program – Coursewor k method 1 |
| 152 | 60 | 212 | 197 | Master program – Research method 2 |

11.1.Bachelor program

| | Course | | | Credits | | Sem- |
|-----|---------|---|-------|---------|--------------|-------|
| No. | Code | Course | Total | Lecture | Labor -atory | ester |
| I | GENERAL | KNOWLEDGE | 45 | 44 | 1 | |
| 1 | EN007IU | Writing AE1 (Tiếng Anh chuyên ngành 1 - Viết) | 2 | 2 | | 1 |
| 2 | EN008IU | Listening AE1 (Tiếng Anh chuyên ngành 1 - Nghe) | 2 | 2 | | 1 |
| 3 | EN011IU | Writing AE2 (Tiếng Anh chuyên ngành 2 - Viết) | 2 | 2 | | 2 |

| | | Speaking AE2 (Tiếng | | | | |
|----|----------|--------------------------|---|---|---|---|
| 4 | EN012IU | Anh chuyên ngành 2 - | 2 | 2 | | 2 |
| | | Nói) | | | | |
| 5 | MA001IU | Calculus 1 (Giải tích 1) | 4 | 4 | | 1 |
| 6 | MA003IU | Calculus 2 (Giải tích 2) | 4 | 4 | | 2 |
| 7 | MA023IU | Calculus 3 (Giải tích 3) | 4 | 4 | | 3 |
| | | Applied Linear Algebra | | | | |
| 8 | MA027IU | (Đại số tuyến tính ứng | 2 | 2 | | 3 |
| | | dụng) | | | | |
| 9 | PH013IU | Physics 1 (Vật lý 1) | 2 | 2 | | 1 |
| 10 | PH014IU | Physics 2 (Vật lý 2) | 2 | 2 | | 1 |
| 11 | PH015IU | Physics 3 (Vật lý 3) | 3 | 3 | | 2 |
| 12 | CH012IU | Chemistry Laboratory | 3 | 3 | | 1 |
| 12 | C110121C | (Thí nghiệm hóa học) | 3 | 3 | | 1 |
| 13 | CH011IU | Chemistry for Engineers | 1 | | 1 | 1 |
| 13 | | (Hóa cơ bản) | 1 | | 1 | 1 |
| 14 | PE008IU | Critical Thinking (Tur | 3 | 3 | | 2 |
| 1. | Loudie | duy phản biện) | 3 | 3 | | 2 |
| 15 | PT001IU | Physical Training 1 | | | | 1 |
| | | (Giáo dục thể chất 1) | | | | |
| 16 | PT002IU | Physical Training 2 | | | | 2 |
| | 1100210 | (Gíao dục thể chất 2) | | | | _ |

| 17 | PE015IU | Philosophy of marxism and Leninism (Triết học Mác-Lênin) | 3 | 3 | | 4 |
|-------------|--------------------|---|----|----|---|---|
| 18 | PE017IU | Scientific socialism (Chủ nghĩa xã hội khoa học) | 2 | 2 | | 3 |
| 19 | PE018IU | History of the Communist Party of Vietnam (Lịch sử Đảng Cộng Sản Việt Nam) | 2 | 2 | | 4 |
| 20 | PE019IU | HCM's thoughts (Tư tưởng Hồ Chí Minh) | 2 | 2 | | 4 |
| | | | | | | |
| II | CORE KNO | OWLEDGE | 21 | 21 | 0 | |
| II 1 | IS004IU | Engineering Probability & Statistics (Xác suất thông kê cho kỹ thuật) | 4 | 4 | 0 | 3 |
| | | Engineering Probability & Statistics (Xác suất | | | 0 | 3 |
| 1 | IS004IU | Engineering Probability & Statistics (Xác suất thông kê cho kỹ thuật) Engineering Mechanics - Dynamics (Cơ kỹ thuật | 4 | 4 | 0 | |
| 2 | IS004IU IS090IU | Engineering Probability & Statistics (Xác suất thông kê cho kỹ thuật) Engineering Mechanics - Dynamics (Cơ kỹ thuật - Động học) Engineering Economy | 2 | 2 | 0 | 3 |

| | 1000/111 | Introduction to | 3 | 3 | | 2 |
|------|---------------|-------------------------------|----|----|---|---|
| 6 | IS086IU | Computing (Tin học cho kỹ sư) | 3 | 3 | | 3 |
| | | Numerical methods (Các | | | | |
| 7 | IS089IU | phương pháp số học) | 3 | 3 | | 5 |
| III | SPECIALI | ZED KNOWLEDGE | 88 | 86 | 2 | |
| | | | 52 | 50 | 2 | |
| Comj | pulsory speci | alized knowledge | 52 | 30 | 2 | |
| | | Introduction to Industrial | | | | |
| 1 | IS001IU | Engineering (Giới thiệu | 1 | 1 | | 2 |
| | | về kỹ thuật hệ thống công | | | | |
| | | nghiệp) | | | | |
| 2 | IS019IU | Production Management | 3 | 3 | | 3 |
| 2 | 1501710 | (Quản lý sản xuất) | 3 | 3 | | 3 |
| | | Deterministic models in | | | | |
| 3 | IS081IU | OR (Vận trù học 1 - các | 4 | 4 | | 4 |
| | | mô hình tất định) | | | | |
| | | Work design & | | | | |
| 4 | 10017111 | Ergonomics + Lab (Đo | 4 | 2 | 1 | 4 |
| 4 | IS017IU | lường lao đọng và thiết | 4 | 3 | 1 | 4 |
| | | kế công việc) | | | | |
| | | Product Design & | | | | |
| 5 | IS034IU | Development (Thiết kế | 3 | 3 | | 4 |
| | | và phát triển sản phẩm | | | | |

| 6 | IS040IU | Management Information System (Quản lý hệ thống thông tin) | 3 | 3 | | 5 |
|----|---------|--|---|---|---|---|
| 7 | PE014IU | Environmental Science (Khoa học môi trường) | 3 | 3 | | 5 |
| 8 | IS025IU | Quality Management (Quán lý chất lượng) | 3 | 3 | | 5 |
| 9 | IS026IU | Project Management (Quản lý dự án) | 3 | 3 | | 5 |
| 10 | IS024IU | Probabilistic Models in OR (Vận trù học 2 - các mô hình bất định) | 3 | 3 | | 5 |
| 11 | IS079IU | Scientific Writing (Tiếng Anh học thuật) | 3 | 3 | | 6 |
| 12 | IS083IU | Capstone Design (Đồ án môn học) | 3 | 3 | | 7 |
| 13 | IS028IU | Simulation Models in IE (Mô hình hóa và mô phỏng) | 4 | 3 | 1 | 6 |
| 14 | IS027IU | Scheduling & Sequencing (Kỹ thuật điều độ trong sản xuất và dịch vụ) | 3 | 3 | | 6 |

| 15 | IS041IU | Lean Production (Sån xuất tinh gọn) | 3 | 3 | | 6 |
|-------|---------------------------------------|---|----|----|---|---|
| 16 | IS032IU | Facility Layout (Thiết kế mặc bằng hệ thống công nghiệp) | 3 | 3 | | |
| 17 | IS078IU | Logistics engineering & supply chain design (Kỹ thuật thiết kế chuỗi cung ứng và Logistics) | 3 | 3 | | 6 |
| Elect | ive specialize | d knowledge | 36 | 36 | 0 | |
| ISE | Elective Co | ourse (choose 1 course | | | | |
| belov | v) | | | | | |
| 18 | IS031IU | Experimental Design (Thiết kế thực nghiệm) | 3 | 3 | | 5 |
| 19 | IS087IU | Manufacturing Processes (Các quá trình sản xuất) | 3 | 3 | | 5 |
| 20 | IS058IU | Time series & forecasting technique (Kỹ thuật dự báo) | 3 | 3 | | 5 |
| ISE | ISE Elective Course (choose 2 courses | | | | | 7 |
| belov | v) | | | | | / |
| 21 | IS080IU | Creative Thinking (Tu duy sáng tạo) | 3 | 3 | | 7 |

| 22 | IS035IU | Systems Engineering (Kỹ thuật hệ thống) | 3 | 3 | 7 |
|------|--|---|---|---|---|
| 23 | IS043IU | Flexible Manufacturing Systems (Hệ thống sản xuất linh hoạt) | 3 | 3 | 7 |
| 24 | IS045IU | Leadership (Kỹ năng lãnh đạo) | 3 | 3 | 7 |
| 25 | IS023IU | Inventory Management (Quản lý tồn kho) | 3 | 3 | 7 |
| 26 | IS082IU | Retail Management (Quản lý bán lẻ) | 3 | 3 | 7 |
| 27 | IS067IU | International Transportation & Logistics (Vận chuyển quốc tế) | 3 | 3 | 7 |
| 28 | IS062IU | E-Logistics in Supply Chain Management (Thương mại điện tử trong Logistics và Chuỗi cung ứng) | 3 | 3 | 7 |
| Free | Free Elective Course (choose 1 course) | | | | |
| 29 | IU | Free Elective Course (Tự chọn tự do) | 3 | 3 | 7 |

| IV | COMPLEMENTARY KNOWLEDGE | | 6 | 6 | |
|----|----------------------------|---|----|-----|------------|
| 1 | IS033IU | Multi-Criteria Decision Making (Kỹ thuật ra quyết định đa mục tiêu) | 3 | 3 | 7 |
| 2 | PE020IU | Ethnics and professional skills for engineers (Đạo đứuc và kỹ năng nghề nghiệp cho kỹ sư) | 3 | 3 | 7 |
| V | INTERNSH THESIS/DI | IIP, SSERTATION | 15 | 15 | |
| 1 | IS048IU | Thesis research (Luận văn tốt nghiệp) | 10 | 10 | 8 |
| 2 | IS052IU | Internship 1 (Thực tập 1) | 2 | 2 | Sum mer |
| 3 | IS053IU | Internship 2 (Thực tập 2) | 3 | 3 | Sum mer |
| | 1 | Total | | 152 | |

List of Free Elective Courses:

| No. | Course code | Courses | Credits |
|-----|-------------|--|---------|
| 1 | BA115IU | Introduction to Business Administration | 3 |
| 2 | BA117IU | Introduction to Micro Economics | 3 |
| 3 | BA120IU | Business Computing Skills | 3 |
| 4 | BA123IU | Principles of Management | 3 |
| 5 | BA119IU | Introduction to Macro Economics | 3 |
| 6 | BA118IU | Introduction to Psychology | 3 |
| 7 | BA167IU | Introduction to Vietnamese Legal System | 3 |
| 8 | BA197IU | Introduction to Sociology | 3 |
| 9 | IT064IU | Introduction to Computing | 3 |
| 10 | IT011UN | Functional Programming | 3 |
| 11 | IT120IU | Entrepreneurship | 3 |
| 12 | IT007UN | Skills for Communicating Information | 3 |
| 13 | IT151IU | Statistical Methods | 3 |
| 14 | BM013IU | Entrepreneurship in Biomedical Engineering | 3 |
| 15 | BM005IU | Statistics for Health Science | 3 |
| 16 | BM033IU | Information Technology in the Health Care System | 3 |
| 17 | ENEE2001IU | Introduction to Environmental Engineering | 3 |
| 18 | ENEE2008IU | Environmental Ecology | 3 |
| 19 | BT152IU | Biostatistics | 3 |
| 20 | CHE2041IU | Mass Transfer Operations | 3 |
| 21 | MAFE105IU | Financial Economics | 3 |
| 22 | MAFE215IU | Financial Management | 3 |
| 23 | MAFE209IU | Financial markets | 3 |

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| 24 | MAFE207IU | Decision Making | 3 |
|----|-----------|--|---|
| 25 | MAFE314IU | Financial Econometrics | 3 |
| 26 | MAFE308IU | Financial Risk Management 1 | 3 |
| 27 | MAFE402IU | Portfolio Management | 3 |
| 28 | PH027IU | Earth Observation and The Environment | 3 |
| 29 | PH047IU | Navigation Systems | 3 |
| 30 | PH045IU | Fundamental of Surveying | 3 |
| 31 | PH046IU | Geographic Information Systems (GIS) and Spatical Analysis | 3 |
| 32 | CE505IU | Geotechnics | 3 |
| 33 | CE503IU | Pavement design & Maintenance | 3 |
| 34 | EE049IU | Introduction to Electrical Engineering | 3 |

11.2. Master program – Coursework method 1

| | Course | Course | | Credi | ts | Seme- |
|-----|-------------|--|-------|---------|-----------------|-------|
| No | code | Course | Total | Lecture | Labora- tory | ster |
| Ι | GENERAI | L KNOWLEDGE | 3 | 3 | 0 | |
| 1 | PE500IU | Philosophy (Triết học) | 3 | 3 | 0 | 1 |
| II | CORE A | ND SPECIALIZED | 45 | 32 | 13 | |
| Con | npulsory un | its | 12 | 10 | 2 | |
| 1 | ISE003IU | Research Methodology (Phương pháp nghiên cứu khoa học) | 3 | 3 | 0 | |
| 2 | ISE502IU | Deterministic Optimization Models (Vận trù học I) | 3 | 2 | 1 | 1 |
| 3 | ISE503IU | Stochastic Models (Vận trù học II) | 3 | 2 | 1 | |
| 4 | ISE603IU | Total Quality Management (Quản | 3 | 3 | 0 | 1 |

| | | lý chất lượng toàn diện) | | | | |
|-----|----------------------------------|--|----|----|----|---|
| ISE | ISE specialized compulsory units | | 33 | 22 | 11 | |
| 5 | ISE501IU | Production and Service Analysis (Phân tích các hệ thống Sản xuất và Dịch vụ) | 3 | 2 | 1 | 1 |
| 6 | ISE504IU | System Modelling and Simulation (Mô hình hóa và mô phỏng hệ thống) | 3 | 2 | 1 | |
| 7 | ISE507IU | Facility Layout and Location (Hoạch định mặt bằng và vị trí) | 3 | 2 | 1 | 2 |
| 8 | ISE505IU | Multiple Criteria Decision Making (Kỹ thuật ra quyết định đa mục tiêu) | 3 | 2 | 1 | |
| 9 | ISE506IU | Inventory Control and Management | 3 | 2 | 1 | |

| | | (Quản lý và kiểm soát tồn kho) | | | | |
|----|-----------------------------------|---|----|----|----|---|
| 10 | ISE508IU | Production Planning and Scheduling (Kỹ thuật điều độ và hoạch định sản xuất) | 3 | 2 | 1 | |
| 11 | ISE610IU | Lean Production (Sån xuất tinh gọn | 3 | 2 | 1 | |
| 12 | ISE601IU | Engineering Economics (Kinh tế kỹ thuật) | 3 | 2 | 1 | |
| 13 | ISE509IU | Supply Chain Systems (Hệ thống chuỗi cung ứng) | 3 | 2 | 1 | 3 |
| 14 | ISE058IU | Forecasting Techniques (Kỹ thuật dự báo) | 3 | 2 | 1 | |
| 15 | ISE609IU | Quản lý dự án (Project Management) | 3 | 2 | 1 | |
| | LSCM specialized compulsory units | | 33 | 22 | 11 | |

| 16 | ISE501IU | Production and Service Analysis (Phân tích các hệ thống Sản xuất và Dịch vụ) | 3 | 2 | 1 | 1 |
|----|----------|--|---|---|---|--------|
| 17 | ISE605IU | Transportation Economics (Kinh tế vận tải) | 3 | 2 | 1 | 1 hoặc |
| 18 | ISE615IU | International Transportation (Vận tải quốc tế) | 3 | 2 | 1 | 2 |
| 19 | ISE509IU | Supply Chain Systems (Hệ thống chuỗi cung ứng) | 3 | 2 | 1 | |
| 20 | ISE508IU | Production Planning and Scheduling (Kỹ thuật điều độ và hoạch định sản xuất | 3 | 2 | 1 | 2 |
| 21 | ISE504IU | System Modelling and Simulation (Mô hình hóa và mô phỏng hệ thống | 3 | 2 | 1 | |
| 22 | ISE505IU | Multiple Criteria Decision Making | 3 | 2 | 1 | |

| | | (Kỹ thuật ra quyết định đa mục tiêu) | | | | |
|-----|--------------------|--|----|----|---|---|
| 23 | ISE506IU | Inventory Control and Management (Quản lý và kiểm soát tồn kho) | 3 | 2 | 1 | |
| 24 | ISE058IU | Forecasting Techniques (Kỹ thuật dự báo) | 3 | 2 | 1 | |
| 25 | ISE609IU | Project Management (Quản lý dự án) | 3 | 2 | 1 | |
| 26 | ISE057IU | Warehouse Management and Fulfillment center management (Quản trị kho hàng và trung tâm phân phối) | 3 | 2 | 1 | 3 |
| III | III MASTER THESISS | | 12 | | | |
| 1 | ISE613IU | SE613IU Thesis (Luận văn) 12 | | | 4 | |
| | Total | | | 60 | | |

11.3.Master program – Research method 2

| | Course | | | Credit | S | Seme- |
|-----------------------------------|---|--|-------|---------|-----------------|-------|
| No | code | Course | Total | Lecture | Labora- tory | ster |
| I | GENERAL | KNOWLEDGE | 3 | 3 | 0 | |
| 1 | PE500 Philosophy (Triết học) | | 3 | 3 | 0 | 1 |
| II CORE AND SPECIALZIED KNOWLEDGE | | 30 | 21 | 9 | | |
| Compulsory units | | | 9 | 7 | 2 | |
| 1 | ISE003IU | Research Methodology (Phương pháp nghiên cứu khoa học Khoa học) | 3 | 3 | 0 | |
| 2 | ISE502IU | Deterministic Optimization Models (Vận trù học I) | 3 | 2 | 1 | 1 |
| 3 | ISE503IU Stochastic Models (Vận trù học II) | | 3 | 2 | 1 | |
| ISE | ISE specialized compulsory units | | | 2 | 1 | |

| 4 | ISE508IU | Production Planning and Scheduling (Kỹ thuật điều độ và hoạch định sản xuất) | 3 | 2 | 1 | 2 |
|---|---------------------------------|--|----|----|---|---|
| | elective spe rses – 18 credi | cialized units (6 ts) | 18 | 12 | 6 | |
| 5 | ISE501IU | Production and Service Analysis (Phân tích các hệ thống Sản xuất và Dịch vụ) | 3 | 2 | 1 | 1 |
| 6 | ISE504IU | System Modelling and Simulation (Mô hình hóa và mô phỏng hệ thống | 3 | 2 | 1 | |
| 7 | ISE507IU | Facility Layout and Location (Hoach định mặt bằng và vị trí) | 3 | 2 | 1 | 2 |
| 8 | ISE505IU | Multiple Criteria Decision Making (Kỹ thuật ra quyết định đa mục tiêu | 3 | 2 | 1 | |
| 9 | ISE506IU | Inventory Control and Management | 3 | 2 | 1 | |

| | | (Quản lý và kiểm soát tồn kho | | | | |
|-----------------------------------|-----------------------------------|--|----|----|---|---|
| 10 | ISE610IU | Lean Production (Sån xuất tinh gọn) | 3 | 2 | 1 | 3 |
| 11 | ISE601IU | Engineering Economics (Kinh tế kỹ thuật) | 3 | 2 | 1 | 3 |
| LSCM specialized compulsory units | | | 3 | 2 | 1 | |
| 12 | ISE509IU | Supply Chain Systems (Hệ thống chuỗi cung ứng) | 3 | 2 | 1 | 2 |
| | CM elective sp rses – 18 credi | pecialized units (6 ts) | 18 | 12 | 6 | |
| 13 | ISE501IU | Production and Service Analysis (Phân tích các hệ thống Sản xuất và Dịch vụ) | 3 | 2 | 1 | 1 |
| 14 | ISE508IU | Production Planning and Scheduling (Kỹ | 3 | 2 | 1 | 2 |

| | | thuật điều độ và | | | | |
|-----|-----------|-------------------------------|---|---|---|---|
| | | hoạch định sản | | | | |
| | | xuất) | | | | |
| | | System | | | | |
| | | Modelling and | | | | |
| 15 | ISE504IU | Simulation (Mô | 3 | 2 | 1 | |
| | | hình hóa và mô | | | | |
| | | phỏng hệ thống) | | | | |
| | | Multiple Criteria | | | | |
| 1.0 | ICESOSIII | Decision Making | 2 | 2 | 1 | |
| 16 | ISE505IU | (Kỹ thuật ra quyết định đa | 3 | 2 | 1 | |
| | | mục tiêu) | | | | |
| | | Inventory | | | | |
| | | Control and | | | | |
| 17 | ISE506IU | Management | 3 | 2 | 1 | |
| | | (Quản lý và kiểm | | | | |
| | | soát tồn kho) | | | | |
| | | Transportation | | | | |
| 18 | ISE605IU | Economics (Kinh | 3 | 2 | 1 | |
| | | tế vận tải) | | | | 3 |
| | | International | | | | ٥ |
| 19 | ISE615IU | Transportation | 3 | 2 | 1 | |
| | | (Vận tải quốc tế) | | | | |

| III | SPECIAL ST | TUDY | 12 | |
|-------|------------|--|----|-----|
| 1 | ISE001IU | Special Study (Đề án, chuyên đề nghiên cứu khoa học) | 12 | 2-4 |
| IV | MASTER TI | HESIS | 15 | |
| 1 | ISE618IU | Thesis (Luận văn) | 15 | 4 |
| Total | | | 60 | |

11.4. List of modules of the master's degree program taught in the bachelor degree program:

When a student learns and passes a subject/block of knowledge in the master's program, these subjects/knowledge blocks will be used to consider exemption from the university curriculum/subject block in the university curriculum.

| Bachelor program | | | | Master programs | | | |
|------------------|-------------|--|-------------|-----------------|--|-------------|--|
| No . | Course code | Course | Credit s | Course code | Course | Credit s | |
| 1 | IS032IU | Facility Layout (Thiết kế mặt bằng hệ thống công nghiệp) | 3 | ISE507IU | Facility Layout and Location (Hoạch định mặt | 3 | |

| | | | | | bằng và vị trí) | |
|---|---------|---|---|----------|--|---|
| 2 | IS078IU | Logistics Engineering & Supply chain Design (Kỹ thuật thiết kế chuỗi cung ứng và Logistics) | 3 | ISE509IU | Supply Chain Systems (Hệ thống chuỗi cung ứng) | 3 |
| 3 | IS033IU | Multiple Criteria Decision Making (Kỹ thuật ra quyết định đa mục tiêu) | 3 | ISE505IU | Multiple Criteria Decision Making (Kỹ thuật ra quyết định đa mục tiêu) | 3 |
| 4 | IS041IU | Lean Production (Sån xuất tinh gọn) | 3 | ISE610IU | Lean Production (Sån xuất tinh gọn | 3 |
| 5 | IS027IU | Scheduling & Sequencing (Kỹ thuật điều | 3 | ISE508IU | Production Planning and | 3 |

| | | độ trong sản xuất và dịch vụ) | | | Scheduling (Kỹ thuật điều độ và hoạch định sản xuất) | |
|---|---------|---|---|----------|--|---|
| 6 | IS024IU | Probabilistic Models in OR (Vận trù học 2 - Các mô hình ngẫu nhiên) | 3 | ISE503IU | Stochastic Models (Vận trù học II) | 3 |
| 7 | IS023IU | Inventory Management (Quản lý tồn kho) | 3 | ISE506IU | Inventory Control and Manageme nt (Quán lý và kiểm soát tồn kho) | 3 |
| 8 | IS067IU | International Transportatio n & Logistics (Vận tải quốc tế) | 3 | ISE615IU | Internationa 1 Transportati on (Vận tải quốc tế) | 3 |
| 9 | IS031IU | Experimental Design (Thiết | 3 | ISE003IU | Research Methodolog | 3 |

| | | kế thực nghiệm) | | | y (Phương pháp nghiên cứu) | |
|-------|---------|---|-------|----------|--|---|
| 10 | IS025IU | Quality Management (Quản lý chất lượng) | 3 | ISE603IU | Total Quality Manageme nt (Quản lý chất lượng toàn diện) | 3 |
| Total | | 30 | Total | | 30 | |

Students participating in BS-MS program, during their studies at the undergraduate level, can register for courses at the master's level with the maximum total number of credits recognized for the master's degree. is 50% of the respective master's programme.

The maximum number of credits for subjects eligible for exemption at the undergraduate level is 15 credits.

8. LIST OF PREREQUISITE SUBJECTS

| No | ID | Subject | Prerequisite subject ID | Prerequisite subject | Classification |
|----|---------|--|-------------------------|---|----------------|
| 1 | IS018IU | CAD/CAM | IS054IU | Engineering Drawing | Học trước |
| 2 | IS023IU | Inventory Management | BT152IU | Biostatistics | Học trước |
| 3 | IS023IU | Inventory Management | IS004IU | Engineering Probability & Statistics | Học trước |
| 4 | IS024IU | Probabilistic Models in Opeations Research | IS004IU | Engineering Probability & Statistics | Tiên quyết |
| 5 | IS025IU | Quality Management | IS004IU | Engineering Probability & Statistics | Tiên quyết |
| 6 | IS026IU | Project Management | IS081IU | Deterministic Models in OR | Học trước |
| 7 | IS027IU | Scheduling & Sequencing | IS081IU | Deterministic Models in OR | Tiên quyết |
| 8 | IS028IU | Simulation Models in Industrial Engineering | BT152IU | Biostatistics | Tiên quyết |
| 9 | IS028IU | Simulation Models in Industrial Engineering | IS004IU | Engineering Probability & Statistics | Tiên quyết |
| 10 | IS031IU | Experimental Design | IS004IU | Engineering Probability & Statistics | Tiên quyết |
| 11 | IS032IU | Facility Layout | IS081IU | Deterministic Models in OR | Học trước |
| 12 | IS033IU | Multi-Criteria Decision Making | IS004IU | Engineering Probability & Statistics | Tiên quyết |
| 13 | IS033IU | Multi-Criteria Decision Making | IS081IU | Deterministic Models in OR | Học trước |
| 14 | IS043IU | Flexible Manufacturing Systems | IS018IU | CAD/CAM | Học trước |
| 15 | IS044IU | Computer Control Manufacturing Systems | IS018IU | CAD/CAM | Tiên quyết |
| 16 | IS058IU | Time Series & forecasting techniques | IS004IU | Engineering Probability & Statistics | Học trước |
| 17 | IS067IU | International transportation & Logistics | IS081IU | Deterministic Models in OR | Học trước |
| 18 | IS075IU | Introduction to Supply Chain Economy | MA001IU | Calculus 1 | Học trước |
| 19 | IS078IU | Logistics Engineering & Supply Chain Design | IS081IU | Deterministic Models in OR | Học trước |
| 20 | IS081IU | Deterministic Models in OR | MA027IU | Applied Linear Algebra | Học trước |
| 21 | IS081IU | Engineering Probability & Statistics | MA027IU | Applied Linear Algebra | Học trước |



(Curricula for the first two years in IU)

12. IU-SB PROGRAM (The State University of New York, University at Binghamton) (For batch 2020 and forwards)

12.1.English Level 1: IELTS \geq 6.0

TOTAL CREDITS: 49 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| Freshman Year (Year 1) | | | | | | | | | | |
|------------------------|----------------------------|------|----------------------|--|------|--|--|--|--|--|
| Semester 1 | | Crds | Semester 2 | | Crds | | | | | |
| EN007SB | Writing AE1 | 2 | EN011SB | Writing AE2 | 2 | | | | | |
| EN008SB | Listening AE1 | 2 | EN012SB | Speaking AE2 | 2 | | | | | |
| MA001SB | Calculus 1 | 4 | MA003SB | Calculus 2 | 4 | | | | | |
| PH013SB | Physics 1 | 2 | PH014SB | Physics 2 | 2 | | | | | |
| CH011SB | Chemistry for Engineers | 3 | PT002SB | Physical Training 2 | 3 | | | | | |
| CH012SB | Chemistry Laboratory | 1 | IS001SB | Introduction to Industrial Engineering | 1 | | | | | |
| PT001SB | Physical Training 1 | 3 | | | | | | | | |
| Total Cred | its | 17 | Total Credits | | 14 | | | | | |

| Sophomore Year (Year 2) | | | | | |
|--------------------------|---------------------------------|------|------------|---------------------|------|
| Semester 3 | | Crds | Semester 4 | | Crds |
| MA024SB or MA023SB | Differential Equations or Cal 3 | 4 | IS017SB | Human Factors | 4 |
| PH015SB | Physics 3 | 3 | IS020SB | Engineering Economy | 3 |
| PH016SB | Physics 3 Lab | 1 | PH012SB | Physics 4 | 2 |
| PE008SB | Critical Thinking | 3 | | | |
| IS004SB | Engineering Probability | 4 | | | |
| Total Credits 1 | | 15 | Total Cred | lits | 9 |

| ID | Subject | | Note |
|---------|--------------------------------------|--|------|
| EDD 111 | Introduction to Engineering Design | | * |
| EDD 112 | Introduction to Engineering Analysis | | * |
| ME 273 | Statics | | ** |

| Students must study programming subjects. This course is online in (*) consultation with the Counselor of Watson (Binghamton University). Study in the summer before transition |
|---|

(**) Subjects must be taken in the summer before transferring, online learning through Binghamton University

13.1.English Level 2: $5.5 \le IELTS < 6.0$

TOTAL CREDITS: 59 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| Freshman Year (Year 1) | | | | | |
|--------------------------------|---|------|------------|--|------|
| Semester 1 | | Crds | Semester 2 | | Crds |
| ENPT03 | Intensive English 3 – Twinning Program | 10 | EN007SB | Writing AE1 | 2 |
| MA001SB | Calculus 1 | 4 | EN008SB | Listening AE1 | 2 |
| PH013SB | Physics 1 | 2 | MA003SB | Calculus 2 | 4 |
| PT001SB | Physical Training 1 | 3 | PH014SB | Physics 2 | 2 |
| | | | CH011SB | Chemistry for Engineers | 3 |
| | | | CH012SB | Chemistry Laboratory | 1 |
| | | | PT002SB | Physical Training 2 | 3 |
| | | | IS001SB | Introduction to Industrial Engineering | 1 |
| Total Credits 19 Total Credits | | | its | 18 | |

| Sophomore Year (Year 2) | | | | | |
|--------------------------|--------------------------------------|------|------------|---------------------|------|
| Semester 3 | | Crds | Semester 4 | | Crds |
| EN011SB | Writing AE2 | 2 | IS017SB | Human Factors | 4 |
| EN012SB | Listening AE2 | 2 | IS020SB | Engineering Economy | 3 |
| MA024SB or MA023SB | Differential Equations or Calculus 3 | 4 | PH012SB | Physics 4 | 2 |
| IS004SB | Engineering Probability | 4 | | | |
| PH015SB | Physics 3 | 3 | | | |
| PH016SB | Physics 3 Lab | 1 | | | |
| PE008SB | Critical Thinking | 3 | | | |
| Total Cred | its | 19 | Total Cree | dits | 9 |

| ID | Subject | | Note |
|---------|--------------------------------------|--|------|
| EDD 111 | Introduction to Engineering Design | | * |
| EDD 112 | Introduction to Engineering Analysis | | * |
| ME 273 | Statics | | ** |

| Note: | |
|-------|---|
| (*) | Students must study programming subjects. This course is online in consultation with the Counselor of Watson (Binghamton University). Study in the summer before transition |
| (**) | Subjects must be taken in the summer before transferring, online learning through Binghamton University |

13.2. English Level 3: $5.0 \le IELTS < 5.5$

TOTAL CREDITS: 72 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| Freshman | Year (Year 1) | | | | |
|-------------------|--|------|------------|--|------|
| Semester 1 | | Crds | Semester 2 | | Crds |
| ENTP02 | Intensive English 2 - Twinning Program | 13 | EN007SB | Writing AE1 | 2 |
| ENTP03 | Intensive English 3 - Twinning Program | 10 | EN008SB | Listening AE1 | 2 |
| PT001SB | Physical Training 1 | 3 | PT002SB | Physical training 2 | 3 |
| | | | IS001SB | Introduction to Industrial Engineering | 1 |
| | | | MA001SB | Calculus 1 | 4 |
| | | | PH013SB | Physics 1 | 2 |
| Total Cred | Total Credits 26 Total Credits 14 | | | | |
| Sophomore | e Year (Year 2) | | | | |
| Semester 3 | | Crds | Semester 4 | | Crds |
| EN011SB | Writing AE2 | 2 | PH015SB | Physics 3 | 3 |
| EN012SB | Listening AE2 | 2 | PH016SB | Physics 3 Lab | 1 |
| MA003SB | Calculus 2 | 4 | IS017SB | Human Factors | 4 |
| PH014SB | Physics 2 | 2 | IS020SB | Engineering Economy | 3 |

| Total Credits | | 14 | Total Cred | its | 11 |
|----------------------|-------------------------|----|------------|-----|----|
| IS004SB | Engineering Probability | 4 | | | |

| Junior Yea | Junior Year (Year 3) | | | |
|--------------------------|---------------------------------|------|--|--|
| Semester 5 | | Crds | | |
| MA024SB or MA023SB | Differential Equations or Cal 3 | 4 | | |
| PE008SB | Critical thinking | 3 | | |
| CH011SB | Chemistry for Engineers | 3 | | |
| CH012SB | Chemistry Laboratory | 1 | | |
| PH012SB | Physics 4 | 2 | | |
| Total Credits | | 13 | | |

| ID | Subject | | Note |
|---------|--------------------------------------|--|------|
| EDD 111 | Introduction to Engineering Design | | * |
| EDD 112 | Introduction to Engineering Analysis | | * |
| ME 273 | Statics | | ** |

| Note: | |
|-------|--|
| (*) | |
| | Students must study programming subjects. This course is online in |

| | consultation with the Counselor of Watson (Binghamton University). |
|------|--|
| | Study in the summer before transition |
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| | |
| (**) | Subjects must be taken in the summer before transferring, online |
| | learning through Binghamton University |
| | |

13.3.English Level 4: $4.0 < IELTS \le 4.5$

TOTAL CREDITS: 89 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| Freshman Year (Year 1) | | | | | |
|-------------------------------|--|-------|-------------------------|--|-------|
| Semester 1 | | Crds | Semester 2 | Semester 2 | |
| ENTP02 | Intensive English 1 - Twinning Program | 17 | ENTP03 | Intensive English 3 - Twinning Program | 10 |
| ENTP03 | Intensive English 2 - Twinning Program | 13 | MA001SB | Calculus 1 | 4 |
| | | | PH013SB | Physics 1 | 2 |
| | | | PT001SB | Physical Training 1 | 3 |
| Total Credits | | 30 | Total Credits | | 19 |
| Sophomore | Year (Year 2) | | | | |
| Semester 3 | | | | | |
| Semester 3 | | Crds | Semester 4 | | Crds |
| Semester 3 EN007SB | Writing AE1 | Crds | Semester 4 PH015SB | Physics 3 | Crds |
| | Writing AE1 Listening AE1 | | | Physics 3 Physics 3 Lab | |
| EN007SB | 0 | 2 | PH015SB | | 3 |
| EN007SB EN008SB | Listening AE1 | 2 | PH015SB PH016SB | Physics 3 Lab | 3 |
| EN007SB EN008SB MA003SB | Listening AE1 Calculus 2 | 2 2 4 | PH015SB PH016SB EN011SB | Physics 3 Lab Writing AE2 | 3 1 2 |

| Total Credits | | 18 | Total Cred | its | 15 |
|----------------------|---------------------|----|------------|-----|----|
| PT002SB | Physical Training 2 | 3 | | | |

| Junior Year (Year 3) | | | |
|----------------------|------------------------|------|--|
| Semester 5 | | Crds | |
| MA024SB | Differential Equations | 4 | |
| or | or Cal 3 | | |
| MA023SB | | | |
| CH011SB | Chemistry for | 3 | |
| | Engineers | | |
| CH012SB | Chemistry Laboratory | 1 | |
| PE008SB | Critical thinking | 3 | |
| PH012SB | Physics 4 | 2 | |
| Total Cred | its | 13 | |

| ID | Subject | Crds | Note |
|---------|--------------------------------------|------|------|
| EDD 111 | Introduction to Engineering Design | | * |
| EDD 112 | Introduction to Engineering Analysis | | * |
| ME 273 | Statics | | ** |

| Note: | |
|-------|--|
| (*) | |
| | Students must study programming subjects. This course is online in |

| consultation with the Counselor of Watson (Binghamton University). |
|--|
| Study in the summer before transition |
| |
| |
| Subjects must be taken in the summer before transferring, online |
| learning through Binghamton University |
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| |

13.4.English Level 5: IELTS \leq 4.0

TOTAL CREDITS: 106 (Note: Credits of Physical Training 1 and Physical Training 2 are not included in cumulative credits)

| Freshman Year (Year 1) | | | | | |
|------------------------|--|------|---------------|--|------|
| Semester 1 | | Crds | Semester 2 | | Crds |
| ENTP02 | Intensive English 0 - Twinning Program | 17 | ENTP02 | Intensive English 2- Twinning Program | 13 |
| ENTP03 | Intensive English 1 - Twinning Program | 17 | ENTP03 | Intensive English 3- Twinning Program | 10 |
| | | | PT001SB | Physical Training 1 | 3 |
| Total Cred | Total Credits | | Total Credits | | 26 |
| Sophomore | e Year (Year 2) | | | | |
| Semester 3 | | Crds | Semester 4 | | Crds |
| EN007SB | Writing AE1 | 2 | EN011SB | Writing AE2 | 2 |
| EN008SB | Listening AE1 | 2 | EN012SB | Listening AE2 | 2 |
| MA001SB | Calculus 1 | 4 | MA003SB | Calculus 2 | 4 |
| PH013SB | Physics 1 | 2 | PH014SB | Physics 2 | 2 |
| IS004SB | Engineering Probability | 4 | IS017SB | Human Factors | 4 |
| IS001SB | Introduction to Industrial Engineering | 1 | | | |

| PT002SB | Physical traning 2 | 3 | | | |
|----------------------|--------------------|----|------------|-----|----|
| Total Credits | | 18 | Total Cred | its | 14 |

| Junior Year (Year 3) | | | | | |
|--------------------------|---------------------------------|------|------------|----------------------------|---|
| Semester 5 | | Crds | Semester 6 | Semester 6 | |
| MA024SB or MA023SB | Differential Equations or Cal 3 | 4 | CH011SB | Chemistry for Engineers | 3 |
| PE008SB | Critical thinking | 3 | CH012SB | Chemistry Laboratory | 1 |
| PH015SB | Physics 3 | 3 | IS020SB | Engineering Economy | 3 |
| PH016SB | Physics 3 Lab | 1 | PH012SB | Physics 4 | 2 |
| Total Credits | | 11 | Total Cred | lits | 9 |

| ID | Subject | Crds | Note |
|---------|--------------------------------------|------|------|
| EDD 111 | Introduction to Engineering Design | | * |
| EDD 112 | Introduction to Engineering Analysis | | * |
| ME 273 | Statics | | ** |

| Note: | |
|-------|--|
| (*) | |
| | Students must study programming subjects. This course is online in |

| consultation with the Counselor of Watson (Binghamton University). | |
|--|--|
| Study in the summer before transition | |
| | |
| | |
| Subjects must be taken in the summer before transferring, onl | |
| learning through Binghamton University | |
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| | |

Subject to change. The SB ISE curricula for students whose TOEFL scores below 500 provided here are just examples based on their English levels at the year of intake. The subjects to be taken are usually fixed in the freshmen year but might be varied in the years following, depending on their progress in English which is frequently assessed by every semester. The students will be counseled by their appointed advisors on the subjects to be taken in the new semester

14. COURSE DESCRIPTION

Writing Academic English 1 EN007IU

2 credits

This course provides students with instruction and practice in essay writing, including transforming ideas into different functions of writing such as definitions, classifications, cause – effects, arguments. Through reading a few representative university-level texts, students will develop the ability to read critically and write accurately, coherently, and in appropriate academic style in response to those texts. They will also practice necessary skills to write a research report.

EN008IU **Listening Academic English 1**

2 credits

To provide students with the study skills needed to listen to academic lectures, take effective notes and prepare for examinations.

EN011IU Writing Academic English 2

2 credits

This course provides an overview of the organizational format for a research paper and assists students in completing research projects in any content area course by providing assistance in writing effective research papers using a step-by-step process approach. Course content includes the components of a research paper, and techniques of selecting and narrowing topics; writing argumentative thesis statements; outlining; locating and documenting sources; taking notes. Students also have to read extensively about a chosen topic to explore different ideas of multiple authors about that topic. Students work with projects relating to their content area courses.

Prerequisite: EN007 & EN008 (Academic English 1)

| School of Industrial Engineering and Management |
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EN012IU **Speaking Academic English 2**

2 credits

Students are provided with practical strategies for effective presentations. They also have chance to practice giving presentations in class and receive feedback.

Prerequisite: EN007 & EN008 (Academic English 1)

PE015IU Philosophy of Marx - Lenin

3 credits

The course equips students with basic content about the worldview, Marxist - Lenin philosophical methodology, helps students apply the knowledge of the world view, Marxist - Leninist philosophical methodology, creativity in cognitive and practical activities, in order to solve the problems that the social life of the country and of the times are posing

PE018IU History of Vietnamese Communist Party 2 credits

- Regarding the content: providing the systematic and basic knowledge about the establishment of the Communist Party of Vietnam (1920-1930), the Party's leadership for the Vietnamese revolution in the struggle period. government (1930-1945), during the two resistance wars against French colonialism and American imperialism (1945-1975), in the cause of building and defending the country during the transition period to socialism, undertaking renovation (1975-2018)
- Regarding ideology: Through historical events and experiences of the Party's leadership to build a sense of respect for objective truth, improve pride and confidence in the Party's leadership career.
- About skills: Equipping scientific thinking method about history, skills of selecting research materials, studying subjects and the ability to apply historical awareness of practical work, criticizing misconceptions left about the history of the Party.

PE017IU Ho Chi Minh's Thoughts

3 credits

The course will provide students with the basic knowledge of the revolutionary lines of the Party, especially in the innovative periods.

PE015IU Philosophy of Marxism and Leninism

3 credits

2 credits

The course equips students with basic content about the worldview, Marxist - Lenin philosophical methodology, helps students apply the knowledge of the world view, Marxist - Leninist philosophical methodology. creativity in cognitive and practical activities, in order to solve the problems that the social life of the country and of the times are posing.

PE016IU Marxist – Leninist Political Economics

- Firstly, equip students with the basic and core knowledge of Marxist Leninist Political Economy in the context of the country's economic development and the world today. Ensuring the basics, systems, science, updating new knowledge, attaching to reality, creativity, skills, thinking, learners' quality, interconnection to overcome duplication, enhance integration and reduce the load, reduce the content that is no longer suitable or the content that is scholastic for students of colleges and universities that are not specialized in theory.
- Secondly, on the basis of forming the mindset, the skills of analyzing, evaluating and identifying the nature of economic benefit relations in the country's socio-economic development contribute to helping students build Suitable social responsibilities in job position and life after graduation.
- Thirdly, contributing to building a stance and Marxist Leninist ideology for students

PE017IU Scientific Socialism

2 credits

The course equips students with basic content about the worldview, Marxist - Lenin philosophical methodology, helps students apply the knowledge of the world view, Marxist - Leninist philosophical methodology, creativity in cognitive and practical activities, in order to solve the problems that the social life of the country and of the times are posing.

MA001IU Calculus 1

4 credits

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

MA003IU Calculus 2

4 credits

Sequence and Series; Convergence Tests; Power Series; Taylor and Maclaurin Series; Cartesian Coordinates; Lines, Planes and Surfaces; Derivatives and Integrals of Vector Functions, Arc Length and Curvature, Parametric Surfaces; Functions of Several Variables; Limits, Continuity, Partial Derivatives, Tangent Planes; Gradient Vectors; Extrema; Lagrange Multipliers; Multiple Integrals: Double Integrals, Triple Integrals, Techniques of Integration; Vector Fields, Line Integrals, Surface Integrals.

Prerequisite: MA001 (Calculus 1)

Calculus 3 MA023IU

4 credits

Complex numbers, complex series, complex functions, complex derivatives; Laplace transform, z-transform, Fourier series, Fourier transform, the inverse transform, transforms of derivatives and integrals, first-order differential equations, second-order differential equations, difference equations, applications to electrical circuits and signal processing.

Prerequisite: MA003 (Calculus 2)

MA027IU Applied Linear Algebra 2 credits

The course provides the student with basic knowledge in linear algebra with applications, in particular the skill of solving linear systems of equations using Gauss elimination method.

Prerequisite: None

MA027IU Numerical Methods 3 credits

Analysis of errors, matrices, systems of linear equations, approximation theory, solutions of systems of non-linear equations, numerical interpolation, discrimination and integral calculus, solving numerical equations, finding sum of series, introduction to generating and simulating random numbers, introduction to linear and programming simulation. Programming and application projects will be highlighted.

Prerequisite: None

PH013IU Physics 1 2 credits

An introduction to mechanics including: planar forces, free body diagrams, planar equilibrium of rigid bodies, friction, distributed forces, shear force and bending moment diagrams, simple stress and strain and associated material properties, kinematics and kinetic of particles, work and energy, motion of rigid bodies in a plane.

PH014IU Physics 2

2 credits

This course provides students basic knowledge about fluid mechanics; macroscopic description of gases; heat and the first law of thermodynamics; heat engines and the second law of thermodynamics; microscopic description of gases and the kinetic theory of gases.

PH015IU Physics 3

3 credits

To provide a thorough introduction to the basic principles of physics to physics and engineering students in order to prepare them for further study in physics and to support their understanding and design of practical applications in their fields. Content: Electrostatics, particles in electric and magnetic fields, electromagnetism, circuits, Maxwell's equations, electromagnetic radiation.

Co-requisite: PH016 (Physic 3 Laboratory)

PH016IU **Physics 3 Lab** 1 credit

Physics 3 Lab is an experimental course on electricity and magnetism given to undergraduate students who attended Physics 3 (Electricity and Magnetism). Each student will do eight different experiments in a small group, and then write a lab

report based on the experimental results.

CH011IU **Chemistry for Engineers** 3 credits

This course is designed for non-chemistry majors, as it is intended for students pursuing a degree in information technology, electronic and telecommunication. The course is designed to provide a strong background in the fundamentals of chemistry, preparing students for further study in their major field. Topics include important principles, theories, concepts of chemistry, and chemical calculations necessary for a comprehension of the structure of matter, the chemical actions of the common elements and compounds. The impact of chemistry on everyday life and on the environment is also introduced wherever possible.

Prerequisite: Co-requisite: CH012 (Chemistry for Engineers Laboratory)

CH012IU **Chemistry Laboratory** 1 credit

This course is designed for non-chemistry majors, as it is intended for students pursuing a degree in information technology, electronic and telecommunication. The

course introduces the lab-work with emphasis on techniques relevant to engineering in chemistry.

Prerequisite: None

PE008IU Critical Thinking

3 credits

This course aims to introduce to you the fundamentals of critical thinking. Its course integrates basic critical thinking, persuasive communication, and related errors in thinking lessons with examination of arguments from several sources, including literature, politics, commercials, and the media.

The primary focus of this course is the development of critical skills. To this end, you will learn to identify common fallacies, reflect on the use of language for the purpose of presentation, and think critically about ethical judgments, advertisement, TV and film, magazines and newspapers.

IS001IU Introduction to Industrial Engineering

1 credit

Introduction to basic engineering concepts. Opportunities are provided to develop skills in oral and written communication, and department-specific material. Case studies are presented and analyzed.

IS003RG Introduction to Microeconomic

3 credits

This course seeks to provide an in-depth understanding of basic economic concepts and scare resources, market in which supply, demand and prices are examined in connection with consumers as well as producer behavior. The students can also evaluate various types of market structures as well as the Government intervention into the market. The subject also provides the students with necessary abilities to evaluate economic variables of efficiency. All of the help students plan for a company's short-run and long-run development more effectively with consideration of effects of the government's policies.

IS004IU Engineering Probability & Statistics 4 credits

The aim of this course is to examine various concepts in probability and statistics. This course also discusses various statistical techniques and the use of them in practical situations. Key topics of this course include: descriptive statistics, discrete and continuous random variables, sampling and sampling distributions, confidence intervals, hypothesis testing, analysis of variance, simple linear and multiple regressions.

IS004RG Mechanics of Solids

3 credits

Axial force, shear, moment, and torque in structural members; stress, strain, and stress-strain relations; principal stresses and strains; torsion of circular shafts; bending of singly symmetric beams; compound loading; buckling of columns; statically indeterminate systems.

IS012RG Introduction to Macro economics 3 credits

Knowledge in the subject would enable the students not only to understand various broad economic issues of a country or a region but also to evaluate macroeconomic policies as well as economic fluctuations both in a country and in the world. The subject also provides the students with necessary abilities to evaluate economic variables as a whole. All of this helps the students plan for a company's short-run and long-run development more effectively with consideration of effects of the government's macroeconomic policies.

IS014RG Analytical Physics 2B

3 credits

The course covers the fundamental ideas of geometrical and wave optics and of modern physics (relativity, quantum, atomic, nuclear and particle physics). It thus gives an understanding of the nature and behaviors of light, electrons, atoms and nuclei, which are fundamental to a wide range of modern technologies. Tracing the historical development these subjects, it explains why relativity and quantum mechanics are needed, the key equations and concepts, and their applications in diverse fields from telecommunications to nuclear power.

IS015RG Analytical Physics 2B Lab

1 credit

Laboratory to complement Analytical Physics 2B

IS016IU Engineering Mechanics – Dynamics

3 credits

Kinematics of particles to rigid bodies, rotation of a rigid body, plane motion of a rigid body, relative motion, the principles of work and energy, impulse and momentum, impact.

IS017IU Work Design & Ergonomics

4 credits

Problem solving tools (recording and analysis tools, activity charts, line balancing). Operation analysis, manual work design (principles of motion economy, motion study). Time study (performance rating and allowances). Work sampling, predetermined time systems. Work environment design.

IS017SB Human Factors

3 credits

Introduction: Historical background, definition, importance. Human Machine Systems/ interfaces, Ergonomics at Work Place. Anthropometric Principles, Anthropometric Data – Sample, equipment, analysis. Applied Anthropometry and Work Space Design & Seating, Product design. Work related musculoskeletal

disorders, visual environment, thermal environment, auditory environment, vibrations. Legal and Safety Aspects

Prerequisite: Engineering Probability & Statistics

Laboratory: This lab gives students opportunities to perform hands-on experimentation in human factors

IS085IU CAD/CAM/CC

3 credits

his course aims to help students to design parts or mechanical products by CAD/CAM software. The students are studied geometric transformations, geometric modeling, mathematical representations of curves, Wire frame modeling, surface and solid modeling. Numerical control systems and machine tools. Manual part programming, computerized part programming, CAD-CAM-CNC systems integration

IS080IU Creative Thinking

3 credits

Students will learn techniques for improving the flexibility and originality of their thinking and will explore approaches used by managers and organizations to create and sustain high levels of innovation. Topics include: personal thinking preferences, everyday creativity and eliminating mental blocks, creative thinking techniques, idea selection approaches, teaming techniques for creativity, conditions that promote creativity, design for interaction, disruptive technologies, and intellectual property. The course uses fun and hands-on activities to stimulate innovation.

IS086IU Manufacturing Processes

3 credits

This course provides students with basic background about the manufacturing processes of products by using machining technologies such as casting, forging, welding, turning, milling, grinding, . . . These are the basic machining processes and common use; students can apply and develop in manufacturing areas for produce new products with advanced technologies.

IS084IU Environmental Science

2 credits

This course provides the basic knowledge of environmental science that includes general issues, ecology, and the impact of human activities to natural resources and environment and sustainable development & study all general issues; ecology: the basics of environmental science; population growth and utilization of natural resources and the environment; natural resources and current exploitation; pollution and its impacts, environmental economic and sustainable development & develop general awareness of the students about possible impacts of human activities on the environment and natural resources in order to justify relevant economic practices.

IS083IU Capstone design

3 credits

Capstone design is a semester-long course, this work will be done by group project including 2-3 students taken at the senior year. This project reflects practical industrial system engineering. Each project includes the use of open-ended problems, development and use of design methodology, formulation of design problem statements and specification; consideration of alternative solutions, feasibility consideration and detailed system descriptions. It also includes realistic constraints (such as economic factors, social impact, and environmental problem).

The students choose the particular design project with approval of appropriate faculty, advisors. The capstone design topics should be related to the real case from industry, e.g. projects in the internship company of students in the previous semester. Also, this project emphasizing the use of knowledge in previous courses to design, evaluate a system such as facility designs, mathematical modeling and optimization, implement Lean tools, value stream mapping concepts, time-motion studies, etc.

IS086IU Introduction to Computing

3 credits

This course will cover some basic topics and applications of Matlab about variables, data types, statements, control structures, arrays, strings, functions and Graphical User Interfaces (GUIs). Students are learning consists solely of an extensive lesson, a broad overview of Matlab.

IS019IU Production Management

3 credits

Introduction to production systems. Production planning and control in decision making. Forecasting. Aggregate production planning. Capacity planning. Materials requirement planning. Scheduling. Advanced techniques and approaches in modern production planning and control for designing manufacturing and service systems.

IS020IU Engineering Economy

3 credits

Economic decisions involving engineering alternatives; annual cost, present worth, rate of return, and benefit-to-cost; before and after tax replacement economy; organizational financing; break-even charts; unit and minimum-cost public sector studies.

IS023IU Inventory Management

3 credits

Every organization holds stocks of materials to allow for variations and uncertainty in supply and demand. Stocks are replenished by deliveries from suppliers and reduced to meet demands from customers. Inventory management is responsible for all aspects of stock control. High stock buffer comes at a high price and organizations are continually looking for ways of reducing their inventory costs without affecting service.

This course provides students with an understanding of the principles, processes and methods for the effective management of inventory in relation to other activities in the supply chain. The course examines both the independent demand and dependent demand methods. Attention is given to the information needed to support these methods, including information from the inventory management information system, forecasts of demand and planned operations.

IS027IU Scheduling and Sequencing

3 credits

This course gives an introduction to scheduling problems: techniques, principles, algorithms and computerized scheduling systems. Topics include scheduling algorithms for single machine, parallel machine, flow shop, job shop and also solution methodologies such as heuristic procedures, constructive algorithms, branch and bound approaches, and genetic algorithms.

IS028IU Simulation Models In IE

4 credits

Systems modeling and simulation techniques find applications in fields as diverse as physics, chemistry, biology, economics, medicine, computer science, and engineering. The purpose of this course is to introduce fundamental principles and concepts in the general area of systems modeling and simulation. Topics to be

covered in this course include basics of discrete-event system simulation, mathematical and statistical models.

IS029IU Logistics Engineering and Supply Chain Design 3 credits

Logistics and Supply chain management involves a number of decisions that benefit by quantitative techniques of analysis and design. The course will explore modeling, computation implementation of solutions in some areas of Logistics and Supply Chain Management. The content also includes material flow management across the supply chain, value management and analysis of total supply chain costs, robust design of supply chains, co-ordination of supply chain decisions and handling of uncertainties in supply chain management.

IS031IU Experimental Design

3 credits

An applied statistics course on planning, statistical analysis, and interpretation of experiments of various types. Coverage includes factorial designs, randomized blocks, Latin squares, incomplete block designs, nested, crossover designs, and optimal design.

IS032IU Facility Layout

3 credits

This course focuses on the fundamentals of the design, layout, and location of industrial and nonmanufacturing facilities. Selection of machines and material handling equipment and their efficient arrangement. Emphasis on quantitative methods. Warehouse layout. Facility location theory.

IS033IU Multi- Criteria Decision Making

3 credits

Decision making is one of the important parts in operation research or management science. Decision making techniques help management to choose the best alternative based on quantitative criteria. This course provides students with basic knowledge about decision model formulation, so that they can make decisions based on the results of the models. This course also provides students with specific techniques for practical applications in production and services.

IS034IU Product Design and Development

3 credits

Product Design and Development course introduces to the students the role of multiple functions in creating a new product (*e.g.* marketing, finance, industrial design, engineering, production) as well as tools and methods for product design and development. Highlight of the course is the project in which the students will design a new product and produce a prototype version of it. Throughout the project, the students will apply their learned principles and methods of product development in a realistic context. The course also enables the students to coordinate interdisciplinary tasks in order to achieve a common objective.

IS035IU Systems Engineering

3 credits

Systems Science is the course of methods to developing and analyzing the systems. This course provides the knowledge and skills necessary for the engineers in the development process and systems analysis (manufacturing and services): systems engineering processes, methods of evaluation, selection and integration of system components, system simulation, and assessment of reliability, availability, and serviceability of the systems.

IS040IU Management Information Systems

3 credits

Integrates topics of management and organization theory, information and communication theory, and systems theory relevant to managing an organization's information resources. Includes computer hardware and software, telecommunications, and database concepts and emphasizes the e-commerce and Internet based business models to get a competitiveness of global based business environments. This course meets the requirements for a Technology Intensive course.

IS041IU Lean Production

3 credits

This course will help students to understand the concepts and philosophies of lean, get familiar with lean tools/techniques, especially the concepts behind the tools/techniques used, and develop analytical, problem solving skills. Therefore, the students will be able to join well in most of foreign-invested enterprises or large organizations in Vietnam after graduation. Ultimately, they will be able to apply lean philosophy creatively in each unique practical situation.

IS043IU Flexible Manufacturing Systems

3 credits

This course studies the concept and method of flexible manufacturing system planning and control. The study covers flexible manufacturing system technology, flexible manufacturing system component, flexible manufacturing system performance evaluation: analytical model, simulation model, flexible manufacturing system configuration planning: routing optimization, capacity optimization, tools optimization, flexible manufacturing system production planning and control: batching, set-up planning. The course provides ability to plan and control flexible manufacturing system.

IS044IU Computer Controls of Manufacturing Systems 3 credits

Programmable automation applied to manufacturing. Controller architecture, sensors and automatic data acquisition, computer control of actuators, continuous and discrete control of processes, computer integration and local area networks.

IS045IU Leadership

3 credits

Organizational development and learning; leading learning organizations; leadership theories and perspectives, followership, leadership development; coaching and mentoring; leading groups and teams, leadership and diversity.

IS052IU Internship 1

2 credits

This course is an internship and is designed to supplement traditional classroom-based learning with experiential learning. The internship provides students with the opportunity to practically apply knowledge gained in their courses of Industrial & Systems Engineering.

Internships can be with a variety of host organizations, including foreign companies, government agencies and private industries. A minimum of 15 working days is required (5 days visit factory, 5 days write report, 5 days to get approval from supervisor). Whether the students have arranged their internship themselves or have been assisted in arranging one by the program assistant or other lecturers, they should let the program assistant know once there is a problem with the internship. The program coordinator can either intervene appropriately or see if the students can be transferred to a different company.

Students should be both supported and challenged and encouraged to take initiative and develop life-long learning skills. Each intern works under a site supervisor at the host organization and an advisor from IU (ISE's lecturer). The role of the site

supervisor (or advisor) is to oversee the students and provide mentorship throughout the internship. The site supervisor and advisor will complete a performance evaluation form at the conclusion of the internship. Students will discuss their experiences through weekly reports and online discussions.

IS053IU Internship 2

3 credits

This course is an internship and is designed to supplement traditional classroom-based learning with experiential learning. The internship provides students with the opportunity to practically apply knowledge gained in their courses of Industrial & Systems Engineering.

Internships can be with a variety of host organizations, including foreign companies, government agencies and private industries. A minimum of 320 working hours or 40 working days is required. Whether the students have arranged their internship themselves or have been assisted in arranging one by the program assistant or other lecturers, they should let the program assistant know once there is a problem with the internship. The program coordinator can either intervene appropriately or see if the students can be transferred to a different company.

Students should be both supported and challenged and encouraged to take initiative and develop life-long learning skills. Each intern works under a site supervisor at the host organization and an advisor from IU (ISE's lecturer). The role of the site supervisor (or advisor) is to oversee the students and provide mentorship throughout the internship. The site supervisor and advisor will complete a performance evaluation form at the conclusion of the internship. Students will discuss their experiences through weekly reports and online discussions.

IS054IU Engineering Drawing

3 credits

This course provides students skills to present and interpret spatial models on planar models, present engineering drawings according to international standards (ISO). Methods of presenting models: orthogonal projection, isometric projection, oblique projection... Apply the projections to present objects in the drawings.

IS055IU Principles of Logistics and Supply Chain 3 credits Management

This is an introductory course to Logistics and supply chain management (SCM). It provides an overview of fundamental concepts, business processes and models/tools. The objective of this course is to identify problems, issues and strategies in today's supply chain operations via real-world cases. Analytical models and technical tools are introduced as needed. This course combines SCM business knowledge with analytical thinking and pinpoints the role of SCM relative to other business disciplines. It serves as a roadmap to more in-depth courses on related topics.

IS056IU Introduction to Logistics and Supply 3 credits Chain Management

This course focuses on familiarizing new Logistics & Supply Chain Management students to Logistics & Supply Chain Management in general and Logistics & Supply Chain Management at IU. The intention is to prepare students to become successful at IU and successful Logistics & Supply Chain Management Engineers.

IS057IU Warehouse Engineering Management

3 credits

This course provides the students with an understanding of the principles, processes and techniques for the effective planning, management and operation of warehouses. Through this exposure, students will gain insights into how warehousing adds value to the organization's supply chain and how warehousing decisions impact the performance of the organization.

IS058IU Time series & Forecasting Techniques 3 credits

The simplest definition of economic forecasting is that it is a process that has as its objective the prediction of future events or conditions to reduce that uncertainty so that our decisions will be better ones.

Specific objectives are to instruct you in:

- 1. The formulation and specification of forecasting models;
- 2. Data collection, interpretation, organization, and analysis for building forecasting models;
- 3. Fundamental statistical and probability concepts used in forecasting;
- 4. The existence of a hierarchy of forecasting models;
- 5. The use of econometric software in a lab setting.

IS059IU Materials Handling Systems

3 credits

Proper methods for material handling and storage including safety practices, proper equipment usage, engineering controls, and personal protective equipment. Included are procedures for storage of non-hazardous and hazardous materials, material handling equipment preventative maintenance, and motor fleet safety.

IS062IU E-Logistics in Supply Chain Management 3 credits

Comprehensive inquiry into the role of e-commerce in collaborative distribution and logistics relationships. Special attention is afforded to resource and technology interdependencies, exchange governance mechanisms and relationship management bench-marking. Emphasis is given to the tools for creating value in the supply chain.

IS063IU Sustainability in Supply Chain 3 credits

There is global experience and examples that show how comprehensive organizational environmental sustainability and archaeological criteria integrated into the supply chain management/procurement process and decision-making of public and private agencies, organizations and corporate entities can improve financial and environmental performance, while addressing ethics, social regeneration, resource/waste impacts and economic development concerns. This course will allow students to participate in applied research projects that include designing supply chain management and procurement systems and products, which address environmental, social and ethical considerations in organizational and corporate policy, program and reporting.

IS064IU Entrepreneurship in Supply Chain 3 credits

The nature and importance of entrepreneurship; forms of entrepreneurship; the entrepreneurial process; the entrepreneurial mind; creativity, ideas and innovation; screening entrepreneurial opportunities; identifying resources to support entrepreneurial activities; intellectual property issues; accessing finance and other resources; the entrepreneurial team; assessing risk; business structure and ethics; entrepreneurial strategy; finding and reaching customers and marketing innovation; feasibility planning.

IS065IU Supply Security and Risk Management 3 credits

Supply security and risk management have become major business concerns in view of the need to protect the supply chain and maintain business continuity in the wake of high-consequence disruptive events. This course provides a broad overview of key supply chain security areas and issues in the context of homeland security.

IS066IU Data Mining in Supply Chain 3 credits

Data mining refers to a family of techniques used to detect interesting nuggets of relationships/knowledge in data. With the availability of large databases to store, manage and assimilate data, the new thrust of data mining lies at the intersection of database systems, artificial intelligence and algorithms that efficiently analyze data. The distributed nature of several databases, their size and the high complexity of many techniques present interesting computational challenges.

An overview of business intelligence in the field of supply chain management and marketing. Addresses how to leverage business intelligence systems to define KPIs, sharpen the accuracy of forecasting and planning, track business activities, and deliver dashboards, scorecards, strategic reporting, and operational/real-time reporting to enhance decision making for supply chain and marketing. SAP business intelligence solution is introduced to illustrate the concepts.

IS067IU International Transportation & Logistics 3 credits

Students learn the significance of international traffic and transport logistics. Student will learn basic methods and applications of operations research to implement, operate and optimize overall company material flow technical networks. This applies in particular to the subject of the optimal arrangement of

sources and outflows and their dimension as well as their optimal interconnection from a transport technology point of view.

Topics include: requirements for logistics companies; active in road freight, rail, air and sea transport; competition in international transport; competition in international transport; cost accounting for freight forwarding; price setting in road freight, rail, air and sea transport; information management in freight forwarding.

IS068IU Procurement Management

3 credits

This unit covers the following: the role of Purchasing and Procurement in Supply Chain Management, purchasing procedures, supplier sourcing and management, negotiations, supplier relationships, specifying product quality, matching supply with demand and support tools for purchasing and procurement. Comprehensive theories and models developed by practitioners are examined.

IS072IU Port Planning and Operations

3 credits

This course provides the students with an understanding of port system, geographical location of ports, related planning and operational issues. Methods and processes for port planning and design. Besides that, the students are provided the knowledge about Inland connectivity, port's linkage to transport infrastructure, intermodal connections, and marine operations in ports. Traffic management, cargo handling, terminal operations, facilities and equipment, port security.

IS073IU Business Law

3 credits

The aim of this course is to:

• Familiarize the student with legal language; basic concepts, principles and general knowledge of business Law.

- Introduce to students about main business forms in Vietnam and regulations for each. Also, possibility of reorganization and Insolvency for enterprises, as main subject matter of this course.
- Increase the student's understanding of the Vietnamese regulations over business dispute resolution.
- Expose the student to legal reasoning and develop his/her ability to apply legal concepts.
- Introduce students to main trade international organizations and main international trade rules.
- Develop problem solving and legal analyzing skills and apply it to day-today practical situations.

IS074IU Import & Export Management 3 credits

The basic objective of this course is to provide to students with the necessary knowledge, skills and foundations for acquiring a wide range of rewarding careers into the rapidly expanding world of Import & Export Management. In addition, this course aims at imparting knowledge of trade procedures and documentation formalities with a view to enable the participants to develop a systematic approach in handling trade transaction and incidental paper work.

IS079IU Scientific Writing

3 credits

The basic objective of this course is to provide to students with the necessary knowledge, skills and foundations for acquiring a wide range of rewarding careers into the rapidly expanding world of Import & Export Management. In addition, this course aims at imparting knowledge of trade procedures and documentation

formalities with a view to enable the participants to develop a systematic approach in handling trade transaction and incidental paper work.

IS081IU Deterministic Models in Operations Research 4 credits

Elements of problem solving and algorithmic design. Use of numerical analysis and linear algebra to solve industrial engineering problems. Topics to be covered include: problem formulations, simplex method in tableau form, duality theory, an introduction to the geometry of the simplex method, sensitivity analysis, transportation and network flow problems, optimality conditions and basic numerical methods for nonlinear programs.

IS082IU Retail Management

3 credits

This course provides the student with a comprehensive view of retailing and an application of marketing concepts in a practical retail managerial environment. As a potential marketing manager, this course will give students insight into the retailing environment of which students will be a part and allow students to make informed decisions in your interaction with retailers. The course also provides a good foundation for those interested in owning or running a small retail business or those interested in pursuing a retail career as a merchandise buyer or store manager.

BA003IU Principles of Marketing

3 credits

The course of Principles of Marketing provides the students with necessary information on the basic concepts of Marketing. It focuses on the understanding of Market Demand and Customers Behaviors as well as Marketing strategies developed by firms in terms of Pricing, Product, Place, Promotion, etc. The course

also mentions various methods to market research and environmental factors that affects the marketing activities.

BA028IU Organizational Behavior

3 credits

The nature of organizational behavior, individual behavior in organizations; personality; perception; motivation concepts; decision-making; cultural differences; leadership; managing and understanding groups and teams; influence and power; managing organizations through change; stress management and organizational culture.

BA032IU Sales Management

3 credits

Problems, policies, and functions of sales management as the vital link between selling and marketing. Role of the sales manager in the development of a successful salesforce. Topics include territory and market analyses, compensation, sales planning, and control.

BA156IU Human Resource Management

3 credits

This course studies the effects of sociological, legal, economic, ethical, political, strategic and environmental changes, issues and developments on human resource management processes, practices, programs and policies.

BA184IU Financial Accounting

4 credits

This course develops a basic understanding on the theories, principles, and applications of accounting and financial reporting, essentials in the US standard, including topics such as the theory of debit and credit, accounts, special journals, the accounting cycle, notes and interest, accruals and deferrals, cash, receivables,

inventory, fixed assets, and the preparation of financial statements. In general, its primary aim is to provide the basic knowledge in preparing and processing accounting transactions in order to present financial details in a relevant and effective manner, as well as interpreting this accounting information for different types of external and internal investors, management and other accounting information users

PE020IU Ethnics and professional skills for 4 credits engineering

This course is designed to introduce engineering students to the concepts, theory and practice of engineering ethics. The course also explores the relationship between ethics and engineering and apply classical moral theory and decision making to engineering issues encountered in academic and professional careers. Our society places a great deal of responsibility on its professionals and requires that they conduct themselves in a manner fitting to the place of prominence accorded to them by the community. Studying and understanding professional ethics is as much a part of your development as an engineer as is the study of higher order mathematics You must be able to broaden your mind and be open to society's ever changing character. It is important that you learn to share ideas and concepts regardless of the fact that you may not always agree; therefore, we will be working in teams on majority of the assignments in this course.

IS071IU Thesis 10 credits

Thesis project is a semester-long, individual study taken at the last semester of the senior year. Students are required to solve a large-scale problem by designing a new system or developing a comprehensive solution to improve the current system. The new design or solution for improvement must take into account realistic constraints such as economic, social and environmental conditions.

15. REGULATIONS ON FORMAL UNDERGRADUATE EDUCATION APPLYING ACADEMIC CREDIT SYSTEM AT 1U-VNU-HCM

CHAPTER 1

GENERAL PROVISIONS

Article 1: Scope of regulations and subjects of application

- This Decision provides a set of regulations for organizing and managing undergraduate education at International University, including curriculum and study period; organizing and planning teaching activities; assessing outcome standards and accrediting; other regulations for undergraduate students.
- 2. These regulations apply to organizations and individuals involved in undergraduate education at IU. Joint programs whose accreditations are provided by partnering universities may follow these regulations or partnering universities' own regulations provided that the partnering universities' regulations are compatible with IU's regulations.
- 3. List of all abbreviations:

| IU | International University |
|----|--------------------------|
| | |

VNU-HCM Vietnam National University - Ho Chi Minh City

TS Teaching staff

AA Academic advisor

CI Curriculum

OS Outcome standard

SAM Semester average mark

AAM Accumulated average mark

ME Military Education

PE Physical Education

Cr. Credit

Int. Graduation internship

Thesis Graduation thesis

Article 2: Curriculum and study period

- 1. Credits are used for calculating the academic load of the students. A credit shall be equivalent to 15 theory periods; 30 45 periods of practice, experiment or discussion; 45 90 hours of internship; 45 60 hours of thesis, coursework or graduation thesis ('thesis'). For theory courses or practical courses, students shall spend at least 30 hours for selfpreparation. A study period shall last 50 minutes.
- 2. A "course" means a nearly complete amount of knowledge which students can accumulate during the study process. Most courses can carry 2 to 4 credits, course content is provided completely and evenly during a semester. Knowledge in each course shall correspond to a level according to the course design and shall be structured as a part of a subject or a collection of subjects. Each course shall be designated with a particular code as regulated by the university. Courses are divided into compulsory and elective courses:
 - a) A compulsory course contains the primary knowledge of a curriculum which all students must acquire;
 - b) An elective course contains the necessary knowledge that students are allowed to select for themselves under the guidance of their respective universities in order to diversify the specialties or select freely to accumulate sufficient courses as required.
- 3. A "specialty" is the body of knowledge or professional skills of a scientific domain or a vocation. A specialty may consist of one or many subspecialties. Each specialty shall be designated with a particular code in the MOET's level-four classification of education at undergraduate level.
- 4. A curriculum shall specify the aim(s) of education; knowledge and skill standards; the scope and structure of the educational content; methods and forms of training; forms of evaluation for each course, credit, specialty and level of education:
 - a) A curriculum shall be developed according to the credit system and structured from individual courses; a curriculum shall cover all compulsory courses and meet the current curriculum standards as prescribed by the MOET. In cases of multidisciplinary and disciplinary - subdisciplinary education, the curriculum shall specify the general and specific workload for each discipline/subdiscipline;
 - b) The aim(s) of education shall be specific, compatible with the values and vision of IU, consistent with the aim of education as prescribed by the MOET.
- 5. Outcome standards (OS) are requirements for students after completing the curriculum, pertaining to both competences and virtues. These standards consist of minimum requirements for knowledge, skills, autonomy and other

responsibilities that students shall meet when graduate. OS shall meet the following criteria:

- a) Be specific and realistic, clearly exemplify the learners' learning outcomes in terms of general knowledge, core knowledge at their level of education, and other requirements for their specialties and disciplines;
- b) Clearly evaluate and differentiate different levels of thinking; execute and improve the curriculum as well as teaching methods; assess and evaluate academic performance and award degrees to learners;
- c) Be consistent with the aims of the program; clearly demonstrate contributions and at the same time meet the representative requirements of contemporary recruiters and other related parties;
- d) Be able to specify the level of education and meet the outcome standards for knowledge, autonomy, responsibilities, and competences, as prescribed by the Vietnamese qualification framework for the respective level of education;
- e) Ensure continuity with the admission requirements for higher level(s) of education (if applicable); at the same time create interconnectivity with samelevel curricula, especially with curricula in the same area of specialty or expertise;
- f) Be clearly and concretely present in the outcome standards for each credit and course in the curriculum; and at the same time be executed systematically through the connection between academic credits and courses;
- g) Be feasible and suitable for the academic workload in order for most learners who have met the admission requirements to complete the curriculum in the standard time:
- h) Meet the qualifications prescribed in VNU-HCM's requirements for competences and virtues.
- 6. The curriculum's content and outcome standards shall be applied uniformly to different forms and methods of teaching as well as types of learners. For learners that have completed a different academic level or specialty, the actual academic workload is calculated on the basis of the respective accreditation(s), or converted the accumulated credits and excluded credits for the previous program(s).
- 7. The content of the curriculum shall be publicized for learners before admission and the start of the course; modifications made to the curriculum shall be applied according to current regulations as well as approved and announced to learners before the enrollment course in order not to cause adverse effects to students.

- 8. The curriculum shall provide a standard academic plan for the enrollment course in order to orient students. The time of education for formal undergraduate education shall conform to the regulations prescribed in the MOET's structural framework of the national education system and at the same time ensure that most students will be able to complete the curriculum.
- 9. For programs offering bachelor's degrees, each curriculum can carry from 120 to 130 credits, which are designed for the standard study duration of 4 years. For programs offering engineering degrees, each curriculum can carry from 150 to 160 credits, which are designed for the standard study duration of 4 to 5 years.
- 10. The maximum time for students to complete their curriculum is one and a half of the standard study duration for that enrollment course. Under certain circumstances, the rector may permit to prolong the time of education to up to 2 times the standard study duration for that enrollment course. For students that have already completed a university degree and have had the study duration deducted accordingly, the maximum time to complete the curriculum shall be discerned on the basis of the deducted workload.

Article 3: Method of training organization

- 1. IU agrees to conduct its training under the credit system, which shall be applied to all programs and forms of training;
- 2. Education applying academic credit system is a method of training organization which divides the knowledge into different courses, allowing students to accumulate credits from each course and complete their training program according to their personal plan and IU's teaching plan;
- 3. Students who fail to complete a compulsory course shall have to take that course again or substitute it with an equivalent course in the training program, or take a replacement course if that course is no longer offered;
- 4. Students who fail to complete an elective course shall take that course again or choose another elective course as prescribed in the training program.

Article 4: Forms of education

- 1. IU offers formal university training for undergraduate courses for which the university or its accredited partner provides certifications;
- 2. All teaching activities are conducted on IU campuses. Field trips, practical activities, practical experience activities and online teaching activities may be conducted outside of the university campuses;
- 3. The time to conduct teaching activities is from 6 a.m. to 8 p.m. every day of

the week (excluding Sunday). The time to conduct other specific activities in the curriculum shall be decided on a case-by-case basis by the Rector.

CHAPTER II

FORMULATE AND EXECUTE TEACHING PLANS

Article 5: Teaching and learning plans

- 1. Teaching and learning plans shall elaborate the curriculum of that year or semester, concurrent with training activities at IU.
- 2. The plan for the academic year shall specify the different milestones for all training activities in that academic year. The plan shall be publicized to all concerned parties before the start of the academic year. Each academic year has two main semesters (the first and second semester), each semester has at least 15 study weeks. Aside from the two semesters, IU also offers a summer semester (the third semester), which lasts for at least 7 weeks.
- 3. The plan for the semester consists of a plan to open courses, form of teaching and learning (in-person, online, or hybrid), academic calendar, exam schedule for all modules in the respective courses of that semester, training plan. The plan for that semester shall be formulated and announced 2 weeks before course registration, complete with all necessary information so that students may formulate their own academic plan.
- 4. The agenda specifies the time, location, teaching and learning activities for each class in that course and training program. The agenda for each module is divided evenly in the weeks of that semester.

Article 6: Organization of course registration

- 1. Before the start of each semester, the Office of Undergraduate Academic Affairs (OUAA), departments/schools and supervisors are responsible for notifying and instructing students to register for courses on the school's registration software.
- Students shall sign up for courses that they intend to take that semester, including new courses, unfinished courses (in order to take them again) and completed courses (in order to improve their grades, if they so desire) based on the list of all courses offered in that semester and the prerequisites for respective courses.
- 3. The course registration process abides by the following regulations:

- a) Before a semester, the OUAA formulates the plan for that semester, timetable, course registration plan and announces the information to schools/department in order for them to publicize the information to their respective students;
- b) Schools/Departments shall publicize the following information to their students: (a) a list of all courses offered that semester; (b) TS for that semester and prerequisites for respective courses and (c) deadline for course registration;
- c) Academic advisors are responsible for: (a) giving students advice on how to form their own academic schedules; (b) organizing the registration so that students may sign up for all necessary courses within the prescribed time period; (c) on the basis of the curriculum and each student's academic performance, giving students advice on choosing the appropriate number of credits and courses for that semester; (d) checking and vetting the registration of students. Academic advisors shall meet with students at least once per semester;
- d) Students register for courses within the prescribed time period;
- e) For each student, the amount of workload in any given semester is no less than two-thirds (2/3) of the standard workload for a semester but also no more than three-halves (3/2) of the standard workload;
- f) First year students ('freshmen') do not need to register for courses. The OUAA will automatically sign them up for courses based on the university's standard curriculum for students. Students in previous academic years will be given priority in course registration;
- g) Students do not need to register for courses during the summer semester.
- 4. Adding, dropping, and modifying courses:
- a) Registered courses may be cancelled before or one week after the start of a semester when they do not meet the criteria for starting a course. Cancelled courses will not appear on the agenda or incur tuition fees;
- b) Students may modify their course registration during the first week of a main semester (first or second semester). They may not modify their course registration for the summer semester;
- c) Students may be permitted to add, drop, or modify courses after the first week of a main semester on the basis of the requested time for modification. Their tuition may also be recalculated on the same basis.
- 5. The registration results are stored on lU's academic affairs management software.

Article 7: Organizing teaching and learning activities

- 1. Principles for organizing teaching and learning activities:
- a) Promoting the professional competences and liability of every lecturer while adhering to current regulations for working regimes for lecturers;
- b) Promoting an active role while upholding each student's responsibilities, facilitating and encouraging students to actively study; upholding academic rigor, increasing the teaching quality and effectiveness;
- c) Having an inspection regime, internal surveillance and a quality improvement regime based on the collection of learners' feedback.
 - 2. Online teaching and learning:
- a) IU shall organize online classes when the university has met all current regulations for applying technology in managing and organizing training through the Internet; have solutions to ensure the quality of these online classes and the ability to demonstrate that the quality of online classes is not lower than that of in-person classes;
- b) The number of credits from online courses shall not exceed 30% of the total credits of the curriculum. In case of natural disasters, pandemics or *force majeure* circumstances, online classes will be organized in accordance with the current regulations prescribed by the MOET and VNU-HCM.
 - 3. Responsibilities in organizing teaching and learning activities:
 - a) Schools/Departments are responsible for assigning lecturers to courses: lecturers are liable for teaching theories, giving students instructions on how to do experiments, internships, projects, theses and other learning activities; ensuring their own professional competences and liabilities, in concurrence with current IU regulations on working regime for lecturers;
 - b) The Office of Quality Assurance and Testing (OQAT) is responsible for collecting the feedback of students on quality assurance measures and learning efficiency; reporting the results to the unit(s) responsible for the courses and the schools/departments responsible for the lecturer assignment; reporting to the Board of Rectors after the semester ends. The results of the feedback survey shall be publicized on the official website;
 - c) Lecturers assigned to teach or instruct students have to ensure the academic workload and teaching quality conform to IU regulations on teaching activities;
 - d) Upon enrolling in a course; participating in an experiment; practicing; undertaking an internship, a project, a thesis or any other learning activities, students shall be liable for completing all assigned tasks and

meeting the minimum required study time; students shall also adhere to all rules and regulations of the university, as well as the professional requirements of their lecturers. Students participating in an experiment; practicing; undertaking an internship, a project, a thesis or any other learning activities reserve the rights to be instructed and to practice, to be informed publicly of all regulations and evaluation methods, and to complain about the evaluated results and other matters arising during the study duration.

Article 8: Tuition fees

- 1. Students shall fulfill their financial responsibilities when registering for courses in any given semester, as prescribed by IU regulations.
- 2. The tuition fee for each module shall be calculated based on the number of credits that module carries. The tuition fee of each credit in any given module shall be decided by the Rector. The tuition rates for special modules shall be calculated separately.
- 3. Tuition payment:
 - a) Students shall pay for tuition fees on time, for all courses that have been registered and/or have official timetables. Students can check for tuition fees on the EdusoftWeb software and pay for tuition fees accordingly, before the deadline prescribed by the Office of Finance and Planning (OFP). Fees that have not been paid will be debited;
 - b) For main semesters, students shall have to pay for tuition fees before midsemester (specifically announced every semester). Students who fail to pay the tuition before the deadline will not be allowed to take examinations or register for courses in the upcoming semester;
 - c) In case a student fails to pay for tuition fees before the deadline due to unforeseen difficulties, he or she shall make a petition to prolong the tuition deadline and submit it to the OFP. In the petition, s/he has to specify the reasons in order to be permitted to take examinations, register for courses and gets their own agenda for next semester.
- 4. Students who fail to pay for tuition fees without a legitimate reason will be considered for academic sanction according to the regulations on student affairs and other IU regulations.

CHAPTER III

ACADEMIC EVALUATION AND CERTIFYING

Article 9: Evaluation and calculation of academic modules

- 1. The official scale of assessment is a 100-point scale, rounded to the nearest unit. The other scales of assessment are used for referential purposes only. The conversion to other scales of assessment have to be conducted from the official 100-point scale.
- 2. For any academic module, students are evaluated through at least two component scores. Modules that carry fewer than one credit only have one component point. Component scores are calculated on the 100-point scale. Forms, methods of evaluation and weightage of component scores are regulated in the detailed syllabus which has been approved for that module. The weightage for each component score included in the final result shall be calculated as follows:
- Score given for practice exercises, homework and essays: 20-40%;
- Score given for midterm examinations: 20-40%;
- Score given for final examinations: 30-50%.

For practical modules, the weightage for each component score shall be calculated as follows:

- Score given for practice exercises throughout the semester: 70-80%;
- Score given for final examinations: 20-30%.

For online courses, the weightage shall be calculated as follows:

- Score given for practice exercises, homework and essays: 30-60%;
- Score given for midterm examinations: 20-40%;
- Score given for final examinations: 20-40%.

The total percentage of all component scores is 100%.

- 3. The form of online evaluation shall be employed in an honest, fair and impartial manner, similarly to in-person evaluation. Online evaluation shall not contribute to more than 50% of that module's score. Online thesis/essay evaluation may account for a higher weightage if these additional conditions are fulfilled:
 - a) The evaluation has to be conducted by an evaluation panel consisting of at least 3 members;
 - b) The form of online defense and evaluation has to be approved by the

- members of the panel and the learners;
- c) The proceedings of the defense session shall be recorded on video and audio, and archived;
- d) In case of natural disasters, pandemics or *force majeure* circumstances, the form of online evaluation shall be considered for a higher weightage by the Rector.
- 4. The evaluation of a module has to be conducted in accordance with the approved detailed syllabus. A module may consist of multiple examinations but there shall only be one midterm examination and one final examination. During the summer semester, the university is responsible for organizing the final examination. TS members are responsible for organizing the midterm examination. Modules that replace the midterm and final examinations with other forms of evaluation that are not in the detailed syllabus have to be recommended by the department/school and approved by the Board of Rectors within 02 weeks (or 01 week for the summer semester) after the start of the module.
- 5. The content of the midterm and final examinations has to be suitable with the approved content of the module:
 - a) For modules that are taught to one class, the content of the examination is developed by the lecturer;
 - b) For modules that are taught to multiple classes by multiple lecturers, the OUAA (for general modules) or Departments/schools (for modules that are managed by Departments/schools) shall be responsible for the development of the exam content: one or multiple lecturers who teach the modules are responsible for the developing the content of the examination or compiling the exam papers that the lecturers have composed into one test:
 - c) Exam papers approved by the Department/school shall be presented in IU style. The approver and exam maker shall be responsible for the professionalism and security of the exam paper;
 - d) If multiple classes study the same module, the final examination shall take place at the same time by using only one test paper;
 - e) The exam lasts between 45 and 120 minutes;
 - f) In some cases, (disasters, pandemics) the final examination shall be organized according to the regulations approved by the Board of Rectors.
- 6. Final examinations in the form of oral exams may be moderated by one or many lecturers. The oral exam score is announced publicly after each exam session. In case the lecturers are unable to agree on the score, the lecturers

- shall present the scores to the Head of the school/department for decision.
- 7. For projects and theses, the evaluation shall be conducted by a panel approved by the Rector. The minimum number of members in a panel is 3. The Rector will regulate the addition of bonus points for journal articles related to the research topic, based on the recommendations made by the school/department and the Office of Research and Development. Modules concerning graduation internship, internship, excursion outside of IU campuses as well as practical and other specialized modules shall be evaluated according to the plan of the respective school or department, which shall be clearly specified in the module's syllabus.
- 8. The Rector shall make regulations pertaining to the preservation of answer sheets, the grading process and archive of answer sheets after grading.
- 9. Exam prohibition, absence, delay and late arrival:
 - a) For theoretical modules, students who are absent for more than 20% of the course duration will be prohibited from taking the final exam and receive a zero (0) for that course. For practical modules, students who are absent (with or without reason) for more than 20% of the practice sessions (defined as seminars, experiments, homework) and 50% of the quizzes shall receive a zero for both the practical and theoretical parts; the list of students prohibited from taking the final examination shall be compiled by the lecturer and announced publicly at lab rooms and the office of the Department/school right after the module ends;
 - b) Students who are absent from lab sessions, practice sessions, in-class quizzes, noncentralized tests shall submit a petition clearly specifying the justifications for such absence to the lecturer. The deadline for submission is one day after the date of absence (excluding Sundays and holidays). If the justifications are accepted the student will be arranged for a makeup test by the lecturer. If the justifications are not accepted or the students fail to present the justifications for their absence, they will receive 0s for the absent sessions;
 - c) Students who are absent from the centralized final exam shall submit a petition specifying the justifications for such absence to their respective Department/school within 05 days from the date of examination (excluding Sundays and holidays). If the justifications are not accepted or the students fail to present the justifications for their absence, they will receive 0 for that exam session. Only after the School/department has approved the petition and the OUAA has issued an approval, the absence will be accepted as legitimate and, in the score sheet, the score will be marked as 'incomplete';

- d) Students who arrive any later than 15 minutes after the start of the exam will not be allowed to enter the test room and considered "absent" for that exam session.
- 10. The score of an academic component is calculated by multiplying the component scores with their respective weightages and rounding the result to the nearest unit. The performance will be ranked by using the following systems:
 - a) The classification of pass marks, which is used for modules whose scores are included in the GPA:

| Rank | 100-point scale | Letter grade | 4-point scale |
|-------------|-----------------|--------------|---------------|
| Excellent | 90 to 100 | A+ | 4,0 |
| Very good | 80 to near 90 | A | 3,5 |
| Good | 70 to near 80 | B+ | 3,0 |
| Rather good | 60 to near 70 | В | 2,5 |
| Fair | 50 to near 60 | С | 2,0 |

- b) The non-classified pass system, which is used for modules that only require a pass and are not counted towards the GPA (P-scale);
- c) The classification of non-pass marks:

| Rank | 100-point scale | Letter grade | 4-point scale |
|------|-----------------|--------------|---------------|
| Weak | 40 to near 50 | D+ | 1,5 |
| Poor | 30 to near 40 | D | 1,0 |
| | Under 30 | F | 0.0 |

d) Special cases where special letters are used for classification and not counted towards the GPA:

I: Incomplete with permission to be absent from the test/exam;

X: Incomplete due to insufficient data;

WH: exempted modules and credits;

PC: prohibited from taking the exam.

- 11. Conditions and procedures to request an "I" mark
- a) Students have to fulfill all of the following conditions to qualify for an "I" mark:

- Attended the course, completed all exams and quizzes during the course and activities related to the module such as experiments, practice sessions, homework etc.
- Paid for the module's tuition fee;
- Have not got an "I" for the course they want to apply for (students may only receive one "I" for every module);
- The course is one that organizes exam sessions. Practical courses, experimentoriented courses, PE courses, internship, in-class quizzes, graduation thesis, graduation internship are therefore not eligible;
 - Absent due to *force majeure* reasons, such as funeral, hospitalization, etc.;
- The student is currently not under exam prohibition or barred from taking the exam due to late arrival. Students who are under academic admonition, suspension, disciplined for violations as regulated in this decision, or currently pausing their study are also disqualified.
 - b) Procedures to request an "I" mark:
- In case a student requests an "I" mark before the exam day: the student submits a petition with valid justifications and proof to the lecturer. Based on the opinion of the lecturer and the approval of the Department/school, the OUAA will consider approving the student's request for an "I" mark;
- In case where the university dispatches a student for competition, work-related trips or student exchange: the student submits a petition with the dispatch decision of the Board of Rectors or the admission letter of the partnering university to the OUAA;
- In case of emergency (funeral, hospitalization): the student or his/her relative submits a petition to the OUAA with the justifications and proof (in case of hospitalization, it shall be the hospital admission record, medicine prescriptions, health booklet, social security paper etc.); in case of a close relative's (grandparents, parents, siblings) funeral, students shall submit a copy of the death certificate within 05 days from the date of absence. Based on the opinion of the lecturer and the approval of the school/department, the OUAA will consider approving the student's request;
- In case of natural disasters and pandemics, the deadline for proof submission

may be extended by up to 30 days;

- Other special circumstances: students shall submit the petition to their respective school/department. The school/department shall make a letter of suggestion for the Board of Rectors to approve. The letter of suggestion shall then be sent back to the OUAA for update.
 - c) Procedures to cancel an "I" mark:
- Students who are approved for an "I" mark do need to enroll in the course for which they receive an "I." Instead, they shall submit a petition to re-take the examination within 01 week after the exam date is announced. If students do not re-take the exam to cancel the "I" mark one year after the date of approval, the "I" mark will be automatically converted into a zero (0). In case where the school/department does not open the course, the deadline to cancel the "I" mark may be extended at the behest of the school/department. In case where students decide to enroll in the course for which they receive an "I," the "I" will be automatically converted into a 0.
- 12. Students are exempted from taking a module if the module is equivalent to one of the modules they have completed and successfully accumulated during the study process:
 - a) The percentage of exempted modules does not exceed 50% of all modules;
 - b) Students eligible for module exemption include: (1) students who have successfully completed equivalent/commutative modules during their learning period at IU (automatically exempted based on IU category of equivalent/commutative modules);
 - (2) students who have received a certificate and/or completed all political/ME modules;
 - (3) students who have completed modules at other universities which IU considers to be equivalent upon comparing the curricula of the two universities (in order to qualify as equivalent, a module needs to have the same or longer study duration as its counterpart at IU and the content of the module needs to be at least 70% similar to the content of its IU counterpart);
 - c) Students who want to be considered for module exemption shall submit a petition and supply all necessary proof. The OUAA shall decide whether some courses are equivalent or commutative based on the list of equivalent or commutative courses, which is presented by the School/Department and

- approved by the Board of Rectors;
- d) When a module has been considered to be equivalent and the request for exemption is approved, the OUAA will use the letters "WH" to differentiate the exempted module from the other accumulative modules. If students aspire to receive a higher score, they will have to enroll in that module again;
- e) The scores of equivalent modules at IU will not be counted towards that semester's GPA but will be included in the accumulated GPA. In case the students transfer from other universities to IU, the scores of equivalent modules will be reserved and not included in either the semester's GPA or the accumulated GPA:
- f) The scores of equivalent modules will not be used for scholarship consideration:
 - g) Credits from equivalent modules will not be counted towards that semester's accumulated credits but included in the number of accumulated credits at that time;
 - h) For students switching majors or programs, the score sheet will display the scores of all academic modules starting from freshman year (including those that are not from the students' current majors). However, the accumulated GPA will be calculated based on the modules of the students' current majors while the other modules are excluded;
 - 13. Re-taking courses, taking courses and tests to improve scores.
 - a) Students who fail to complete a module shall re-take that module as prescribed in Article 3 of this Decision; the score of the latest attempt shall be the official score for that module; the scores of all attempts shall be archived in full in the students' respective databases;
 - b) Students who pass a module may re-take that module to improve their scores, according to the university's current regulations. The highest score shall be the official score for that module; the scores of all attempts shall be archived in full in the students' respective databases.
 - 14. Announcing the module evaluation results:
 - a) Within 02 weeks from the test date (for mid-term and final exams), lecturers shall announce the scores on the university's academic affairs software according to current regulations and submit 02 official score sheets (with the signatures of the lecturers and the School/Department): a copy is saved at the Department/school and the other is saved at the OUAA. For subjects that do not have an exam date, the deadline for score sheet submission is the end of the last exam week for that semester;

- b) If there are any errors in the original score sheet, the lecturers shall send in a score modification sheet (with the signatures of the lecturers and the School/Department) to the OUAA, then print and re-submit a new score sheet by following the same procedures within 02 months from the end of the semester;
- c) Schools/Departments shall announce the module evaluation results every semester. The OUAA is liable for announcing the module evaluation results for general modules.

15. Re-marking:

- a) For in-class quizzes and mid-term exams, students shall contact the lecturer if they have any concerns about the scores. The deadline to make a re-marking request is 01 week from the announcement of the results. If there are any changes in the results, the lecturer will announce the new results to the students and send the new scores to the OUAA in the appropriate form;
- b) For final exams, students reserve the right to make a re-marking request. The remarking request for final exams shall be sent to the OUAA or responsible Schools/Departments within 02 weeks from the date of result announcement. Past this deadline, students reserve no rights to petition for a re-marking request. The remarking results will be announced publicly within 01 week from the request deadline.

16. Re-taking courses to improve scores:

- a) If students wish to improve their scores for successfully completed courses, they will need to enroll in that course again and pay for the tuition fees according to current regulations;
- b) Based on the current teaching situation, IU shall specify which courses are not eligible for re-taking (if applicable);
- c) The scores of re-taken courses are not considered for scholarship consideration but they are included in that semester's GPA and the accumulated GPA.

Article 10: Evaluation of academic performance by semester and academic year

- 1. The academic performance of students is evaluated every semester and every academic year based on the results of all curricular modules they have accumulated. The evaluation is based on the following criteria:
 - a) The number of credits that a student fails to accumulate in a semester or

- academic year, or the number of credits in arrears from the beginning of the enrollment course;
- b) The number of credits that a student has accumulated from the beginning of the enrollment course (accumulated credits), including exempted and commutative credits:
- c) The average score of all modules in a semester (semester's GPA), in an academic year (yearly GPA) or from the beginning of the enrollment course (accumulated GPA), calculated based on the official score of that module and its weightage (the number of credits that module carries).
- 2. The semester's GPA and the accumulated GPA is calculated as follows:

$$\sum_{i=1}^{N} n_{i}$$

In which:

A is the semester's GPA or the accumulated GPA

 n_{E} is the number of credits of i^{th} module

 U_i is the number of credits of i^{th} module

N is the total number of credits

- a) The scores from intensive English, Physical Education and Military education courses are not included in the semester's, yearly or accumulated GPA. The scores of reserved and exempted modules are not included in the semester's GPA and accumulated GPA;
- b) The semester's GPA is used for scholarship and commendation consideration but also serves as a basis for allowing a student to study beyond their level and embark on a multi-disciplinary and multi-university track. The GPA is calculated by averaging the scores of first-attempt modules in the corresponding semester. The accumulated GPA is used for classifying academic performance, issuing academic disciplinary measures and classifying academic degrees;
- c) The addition of bonus points for prize-winning scientific projects to the semester's and accumulated GPA shall be decided by the Rector and publicized to all students.

- 3. Letter grades that are not included in clause 10, article 9 will not be included in the semester's, yearly or accumulated GPA. Modules that are outside of the curriculum will not be included in the academic assessment.
- 4. The students' academic performance (semester's, yearly or accumulated GPA) is classified as follows:

| Rank | 100-point scale | Letter grade | 4-point scale |
|-------------|-----------------|---------------|---------------|
| Excellent | 90 to 100 | A+ | 4,0 |
| Very good | 80 to near 90 | A | 3,5 |
| Good | 70 to near 80 | $\mathbf{B}+$ | 3,0 |
| Rather good | 60 to near 70 | В | 2,5 |
| Fair | 50 to near 60 | C | 2,0 |
| Weak | 40 to near 50 | D+ | 1,5 |
| Poor | 30 to near 40 | D | 1,0 |
| | Under 30 | F | 0,0 |

- 5. Students' yearly academic performance is classified based on the number of credits they have accumulated from the beginning of the enrollment course (hereby referred to as N) and the average number of credits for a standard academic year (hereby referred to as M). The details are as follows:
 - a) For first-year students: N<M;
 - b) For second-year students: M < N < 2M;
 - c) For third-year students: 2M < N < 3M;
 - d) For fourth-year students: 3M <N <4M;
 - e) For fifth-year students: 4M < N < 5M.
- 6. During the study duration, students may request a transcript of their academic performance. In order to receive a transcript, students will need to fill out a form and pay for the required fees. The transcript will be available after 05 working days at the latest. The transcript contains the information for all academic modules.

Article 11: Issuing disciplinary measures based on academic credits

- 1. At the end of each semester, students may receive academic warnings for the following violations:
 - a) The number of unsuccessfully completed credits exceeds 50% of that semester's total number of registered credits, or the number of arrears credits from the beginning of the course exceeds 24;
 - b) The GPA of that student is below 35 (out of 100) or the GPA of two

- consecutive semesters is below 40 (out of 100);
- c) Students fail to pay for the tuition, the health insurance cost and other fees as required by the university.
- 2. Students will be dismissed from the university in these circumstances:
 - a) The student has received academic warnings more than twice;
 - b) The study duration exceeds the maximum study duration as regulated in clause 10, Article 2 of this Decision;
 - c) The student has paused their study for 02 consecutive main semesters or for longer than permitted;
 - d) The student has dropped out of university for more than 01 semester or has not done the procedures to enroll in an academic module;
 - e) The student has violated academic affairs, disciplinary, and other IU regulations to the point of dismissal;
 - f) Other special circumstances which shall be decided by the Rector.
- 3. Students who have received more than 02 academic warnings may be temporarily reaccepted if the following criteria are satisfied:
- a) The student has been evaluated and accepted by his/her Department or school;
 - b) The student has completed all procedures at his/her Department or school in a timely manner and signed up for a salvaging semester;
 - c) Other special circumstances shall be taken into consideration by the Rector at the behest of the OUAA. After the student has been temporarily re-accepted, he or she may be officially re-accepted if he or she does not commit any violations in the following semester.
 - 4. Academic advisors are responsible for tracking the progress of students and reporting to their school/department to issue academic warnings by semester. This is done in order for low-performing students to correct and adjust their academic schedules so that they may be able to graduate within the prescribed timeframe.
 - 5. Every year, the university will issue academic disciplinary measures in two batches: after the first semester and after the summer semester. Academic performance during the summer semester will be considered an extension of the second semester's performance and calculated jointly. The OUAA will process the statistics and compile a list of students considered for disciplinary measure. The final verdict shall be issued by an Academic affairs council, which is comprised of representatives from all schools/departments. The verdict shall then be announced to the students and their respective

- schools/departments as well as sent to their permanent residencies.
- 6. In case the student is expelled from the university, his/her accumulated academic results will be reserved for 3 years from the date of the decision for expulsion.
- 7. The calculation, evaluation and classification of training points will be conducted in accordance with the framework for evaluating students' training points.

Article 12: Outcome standards and recognition for fulfilling the foreign language outcome

- 1. Students will have to satisfy the input conditions for English fluency in order to start studying specialized modules; students who are accepted into IU will have to take an English placement test under the formats of IELTS or TOEFL iBT, after which they will be classified into English classes that correspond to their English fluency; alternatively, students may submit their valid international certificates in lieu of taking the English placement test; the input conditions for English fluency, the conversion between different scales and the list of accepted certificates shall be decided by the Rector.
- 2. The English fluency outcome in order to be considered for graduation shall be modified by the Rector at the suggestion of the Science and Education panel but the outcome shall not be lower than that of VNU-HCM or the MOET.
- 3. In order to be recognized for fulfilling the foreign language outcome, students shall submit their international English certificates according to the regulations. The OUAA will present to the Rector the Decision on recognizing the fulfillment of the foreign language outcome several times a year, which is valid throughout the study period.

Article 13: Graduation internship and graduation thesis

- 1. In order to register for a graduation internship module, students have to satisfy all prerequisites such as previous courses and the number of accumulated credits. The prerequisites may vary between schools/departments due to the characteristics of each school/department. Students may only do a graduation internship if their names appear on the approved list of all students who will do a graduation internship that semester. The prerequisites for the graduation internship module shall be publicly announced on the school/department's website.
- 2. In order to do a graduation thesis, students have to satisfy all prerequisites for doing the graduation thesis, which varies between schools/departments;

- accumulate at least 90% of all credits in their respective curriculum; receive a recognition for fulfilling the foreign language outcome; appear on the approved list of all students who will do a graduation thesis that semester.
- 3. The Rector shall decide: the prerequisites for doing a graduation thesis; form and duration of the thesis; requirements for thesis advisors; the establishment of a thesis evaluation panel and the form of evaluation; the maximum number of students an advisor can take on at the same time.

Article 14: Recognition of academic results and credit transfer

- 1. The academic results that a student has accumulated from another training level, in another specialty, during another program or at another university shall be considered for recognition and credit transfer.
- 2. The Rector shall establish a professional council at the suggestion of a school/department in order to consider the academic results for recognition and credit transfer. The consideration shall be done on the basis of comparing the outcome standards, academic workloads, methods of evaluation and quality assurance measures. There are several levels of recognition:
 - a) Recognition and transfer of individual academic modules;
 - b) Recognition and transfer of individual groups of modules;
 - c) Recognition and transfer of the entire training program.
- 3. In order to be considered for credit transfer, academic modules from a previous training program shall fulfill the following criteria:
 - a) The module is from a current formal undergraduate program and the outcome result of the module is classified as "Pass" according to Article 9 of this Decision;
 - b) The module has similar content to the module in comparison and the number of credits it carries has to be equal to or greater than the number of credits the module in comparison carries.
- 4. Modules that are not considered for credit transfer: graduation internship, graduation thesis and other modules that do not meet the requirements of clause 3 in this Article.
- 5. The university shall be liable for certifying the academic results of students when they complete their study process.

Article 15: Recognition of graduation and granting graduation degrees

1. Students are considered and recognized for graduation once they have fulfilled the following conditions:

- a) Accumulated sufficient modules and credits; completed all compulsory modules as required by the curriculum; met the outcome standard of the curriculum;
- b) The accumulated GPA is classified as "Average" or above;
- c) Met the foreign language outcome; completed the ME and PE modules, as well as other compulsory modules according to the regulations of VNU-HCM and IU (including political courses and citizens' activities sessions);
- d) At the time of consideration, students are not being examined for penal liability or under academic suspension;
- e) Students have fulfilled all responsibilities and obligations according to current IU regulations.
- 2. Students who have fulfilled all of the aforementioned conditions will be recognized for graduation and issued graduation degrees or temporary graduation certificates within 03 months from the date of condition fulfillment.
- 3. Graduation classification is determined based on the final accumulated GPA as decreed in clause 4 Article 10 of this Decision. The classification of students who have "very good" or "excellent" GPA shall be reduced by one rank if they belong to one of the following cases:
 - a) The weightage of re-taken modules (due to unsuccessful completion, not including modules that are re-taken to improve grades) exceeds 5% of all required credits for that curriculum;
 - b) The students have received disciplinary measures above warning.
- 4. Students who have exhausted the maximum study duration but have not fulfilled the graduation conditions due to uncompleted ME/PE modules or failure to meet the foreign language outcome may fulfill the unmet criteria and request for graduation consideration within 03 years from dropping out.
- 5. Students who fail to graduate will be granted certificates for modules accumulated during their study duration.
- 6. The procedures for considering and recognizing graduation are as follows:
 - a) Every year, IU establishes a council for graduation consideration in 02 batches: May and September. Based on the criteria for graduation, the council will make a list of all students who have fulfilled the conditions for graduation and request approval from the Rector;
 - b) During the processing time, qualified students may be issued a temporary certificate. This certificate is valid from the date of issuance to the date of

the issuance of the official degree and does not replace the degree.

7. Academic results of students who fail to graduate will be reserved and recognized according to MOET's and VNU-HCM's regulations.

CHAPTER IV

OTHER REGULATIONS FOR STUDENTS

Article 16: Hiatus and suspension

- 1. Students may take a hiatus and have their academic results reserved if they belong to one of the following cases:
 - a) Inducted into the armed forces;
 - b) Inducted by a competent agency to represent the nation in an international competition or other contests;
 - c) Sickness, pregnancy or long-term rehabilitation after an accident with the recognition of competent medical establishments as decreed by the Ministry of Health;
 - d) Other personal reasons, on the condition that the student has studied at least one semester on campus and is not being considered for disciplinary measures or academic suspension. The Rector will consider and approve these reasons on a case-by-case basis.
- 2. Academic pauses taken for personal reasons as specified at point d clause 01 of this Article will be included in the total study time as decreed in clause 10 Article 02 of this Decision.
- 3. Students who want to drop out due to personal reasons, except for being considered for disciplinary measures or academic suspension, will have to partake in the admission process like any other candidates should they wish to return to IU. Other special cases shall be considered and decided by the Rector.
- 4. Students may only take a hiatus with the permission of the Rector. The hiatus shall not span 02 consecutive main semesters and the total amount of time reserved for academic pauses shall be equivalent to 04 main semesters for 4-to 6-year programs.
- 5. Students who return from a hiatus shall have to complete the required admission procedures on a timely manner. The deadline is 04 weeks before the start of a semester.
- 6. Students who take a hiatus for military duty shall submit the discharge

- decision/confirmation of duty accomplishment.
- 7. In order to perform the procedures for taking a hiatus, dropping out, getting readmitted, reserving and having academic results certified, students shall fill out a form provided by the OUAA and submit the form back to the OUAA. The requests will be processed for no longer than 07 days from the date of request reception.

Article 17: Switching majors, changing universities, changing campuses, changing forms of learning

- 1. Students may change programs or switch majors if they fulfill the following conditions:
 - a) The student is not in the first or final academic year, not being considered for academic suspension and still has enough study time as decreed in clause 10 Article 2 of this Decision;
 - b) The student has met the admission requirements of the program and the major in the same enrollment course;
 - c) The receiving major or program fulfills all conditions for quality assurance and has not surpassed its training capacity according to current MOET's regulations;
 - d) The student has received permission from the head of that major, program and the Rector.
 - 2. Students who are in joint programs with foreign universities and wish to switch to another joint program in the same major will need to fulfill the following conditions:
 - a) The student is not in the first or final academic year, not being considered for academic suspension and still has enough study time as decreed in clause 10 Article 2 of this Decision;
 - b) The student is currently not in an intensive English class to meet the foreign language requirements;
 - c) The program has not surpassed its training capacity;
 - d) The student has met the admission requirements of the program and the major in the same enrollment course;
 - e) The student has received permission from the head of that major, program and the Rector.
 - 3. Procedures to switch majors: students will submit the form for major change consideration between the fifth and eighth week in a main semester and between the first and second week in a summer semester. The form will be

- processed for no longer than 15 days from the date of reception.
- 4. The maximum study duration for students who switch majors or programs is the maximum study duration decreed in clause 10 Article 2 of this Decision.
- 5. Students may change universities if they fulfill the following conditions:
 - a) The student is not in the first or final academic year, not being considered for academic suspension and still has enough study time as decreed in clause 10 Article 2 of this Decision;
 - b) The student has met the admission requirements of the program and the major in the same enrollment course at the new university;
 - c) The receiving university fulfills all conditions for quality assurance and has not surpassed its training capacity according to current MOET's regulations;
 - d) The student has received permission from the Rector of the receiving university and the Rector of IU.
- 6. Procedures to change universities:
 - a) The student who wishes to change university shall fill out a form for university transfer and submit the form with necessary proof. The form shall then be sent to the Rector of the receiving university for approval and additional conditions (if applicable);
 - b) If the receiving university accepts the request, the student will send the form with his/her academic profile to the receiving university. The Rector of IU shall issue a decision on accepting the university transfer, supply the academic transcript and verify the academic profile of the student at the request of the receiving university;
 - c) The Rector of the receiving university shall issue a decision on accepting the student and begin recognizing the accumulated academic modules at the recommendation of the department/school-in-charge;
- d) The deadline for these procedures is 15 days from the reception of the request.

Article 18: Student exchange and cooperation in training

- 1. "Student exchange program" is the reception of students from a partnering university or the dispatch of IU students to a partnering university for a short period of time, with the aim of short-term training (with or without credit) and socializing within a framework designed by IU and its partnering universities.
- 2. The procedures for participating in a student exchange program and other related regulations are conducted according to IU regulations for managing

- and organizing student exchange programs.
- 3. In training cooperation between IU and a partnering university, the two rectors may agree on certifying each other's credits and using a shared evaluation method. In that case, the number of credits a student may accumulate at a partnering university shall not exceed 25% of the workload in the curriculum.
- 4. Audit students: students who wish to supplement their knowledge in one or several subjects and satisfy all academic, personal requirements may be considered to become audit students:
- a) Audit students shall have to pay 100% of the tuition fee for each enrolled module:
 - b) Audit students will be provided with a certificate of completion and have their results recognized if they strictly follow all regulations on training and academic affairs and meet the requirements of the lecturer throughout the course;
 - c) Audit students may not do projects, graduation thesis or be considered for a degree. Audit students who are foreigners will not be supported for passport application.

Article 19: Studying two curricula at the same time

- 1. For education applying academic credit system, students may register for courses from another major or program when facility conditions permit, but they may only enjoy the official benefits and be considered for graduation in the second program once they have successfully enrolled in the second program, as regulated in clause 2 of this Article.
- 2. Students may enroll in the second program as soon as they are in second year of the first program. At the time of enrollment, students shall satisfy the following conditions:
 - a) Possess suitable academic aptitude and entry score, which shall be defined as satisfying one of the following two conditions:
- The accumulated GPA is classified as "good" or above and meets the quality assurance threshold of the second program for that enrollment year; or
- The accumulated GPA is classified as "fair" or above and meets the admission requirements of the second program for that enrollment year;
- b) The specialty of the second program shall differ from the specialty of the first program;
- c) There are no differences in the form and level of training between the two programs.

- 3. During the study duration, if the accumulated GPA of the first program falls below "fair" or becomes subject to academic warning, the student shall suspend the second program in the following semester; the student will also be eliminated from the list of enrolled students in the second program.
- 4. The maximum study duration for students enrolling in two programs is also the maximum study duration for the first program, as decreed in clause 10 Article 2 of this Decision. The results of equivalent or commutative programs in the first program will be recognized for the second program.
- 5. Students may only be considered for graduation in the second program if they have met the requirements for graduation in the first program and enrolled in the second program for at least 02 years from the date of consideration.

Article 20: Handling students' violations

- 1. Students who cheat during quizzes, exams and academic evaluations will be subject to disciplinary measures for every affected module, according to the current regulation on High school graduation exam promulgated by MOET, except for cases regulated in clause 2 of this Article.
- 2. Students who take exams for other students or ask other people to take exams on their behalf will be academically suspended for 01 year for the first violation and dismissed from the university for the second violation.
- 3. Students who use forged profiles, documents and certificates to meet the admission or graduation requirements will be dismissed from the university; any issued degrees will be recalled and nullified.

CHAPTER V

ORGANIZING THE IMPLEMENTATION OF THIS DECISION

Article 21: Formulating and implementing training regulations

- 1. The OUAA has the responsibility to advise the Board of Rectors on formulating, updating, issuing and organizing the implementation of training regulations at the suggestions of the council of science and training and on the basis of internal regulations.
- 2. IU schools and departments will publicize and instruct their students in the matters of regulations and provisions on students' rights and obligations from

- the beginning of the enrollment course.
- 3. The OQAT is liable for monitoring the teaching quality, collecting feedback from students, advising the Board of Rectors on maintaining the teaching quality.
- 4. The Office of Inspection and Legal affairs is liable for supervising and conducting internal inspections on the implementation of this Decision as well as other training-related matters;
- 5. In case of necessity, the Rector may make amendments or supplementations to this Decision in accordance with the actual situation.

Article 22: Reporting, archiving, and publicizing information

- 1. Before the 31st day of December every year, the OUAA reports to the MOET and VNU- HCM the following statistics: newly admitted students, graduated students, suspended students, in-training students, students expected to graduate next year, graduated students that have found a job within 12 months from the date of graduation; as well as classify the statistics by enrollment demographics, majors, enrollment courses and forms of training.
- 2. Documents pertaining to the training process shall be archived and preserved in a secure manner by the OUAA, according to the MOET's regulations:
 - Admission decisions, original score sheets, recognition of graduation decisions, the original version of booklets used for degree issuance shall be preserved permanently;
 - b) Other documents pertaining to the admission and training process shall be preserved throughout the training process;
 - c) The disposal of documents pertaining to the admission and training process whose archival time has expired shall be conducted in accordance with current MOET's regulations.
- 3. IU shall publicize the following information on its website at the latest 45 days before organizing the admission procedures:
 - Regulations on academic affairs and other related regulations on managing the training process;
 - b) Decisions on opening new departments and decisions on organizing the training process in accordance with current regulations;
 - c) Quality assurance conditions according to current MOET's regulations;
 - d) Proof that the training programs attain the quality promulgated by current MOET's regulations;
 - e) Admission notification according to current regulations on admission./.