EDUCATION AND EXAMINATION REGULATIONS
2017-2018
for the master’s programs in
Innovation Management, Operations Management & Logistics,
Human-Technology Interaction, and Innovation Sciences

according to the Graduate School

The Board of the Industrial Engineering & Innovation Sciences Department of Eindhoven University of Technology, TU/e,
in view of Articles 9.5, 9.15, paragraph 1, under a, Article 7.13, paragraphs 1, 2 and 3,
Article 9.38, under b, and Article 9.18, paragraph 1, under a, of the Higher Education and
Scientific Research Act (WHW),
in view of the consent by the University Council on April 10th 2017,
in view of the consent by the Departmental Council of the Industrial Engineering & Innovation
Sciences Department,
having heard the advice of the Degree Program Committee of Industrial Engineering
resp. Innovation Sciences,
hereby establishes these Education and Examination Regulations for the master’s degree
programs in Innovation Management, Operations Management & Logistics, Human-Technology
Interaction en Innovation Sciences.

These Education and Examination Regulations, which enter into force on September 1st,
2017,
read as follows:
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CHAPTER 1  GENERAL PROVISIONS

Article 1.1  Scope

1. These regulations apply to the teaching, examinations and final examinations relating to the Master's degree programs in Innovation Management, Operations Management & Logistics, Human-Technology Interaction and Innovation Sciences.

2. Stipulations of the Education and Examination Regulations of a Bachelor's program shall apply to Bachelor's program courses taken by a student of a Master's program, mentioned in the previous paragraph.

Article 1.2  Definitions

In these regulations, the following terms shall be understood to mean:

- Academic year: the period from September 1 of one year to August 31 of the following year
- Competency: an individual's ability to acquire, select and use the set of attitudes, skills and knowledge that is required to behave effectively in a specific professional, societal or learning setting
- Competence Assessment (CA): an assessment (as referred to in Article 7.10, paragraph 1 of the Act) of the student's academic and professional competence development; the CA results in a verdict and is based on both oral, written, digital and/or physical information and evidence
- Course: study component, i.e. a component of the degree program aimed at achieving clearly defined goals concerning knowledge, insight and skills, with an associated examination
- Digital Education Guide: the digitally available education guide of the TU/e, which contains the study program and corresponding components ([https://educationguide.tue.nl](https://educationguide.tue.nl))
- ESA: Education and Student Affairs (formerly STU), the central location at the TU/e where students a.o. can make use of a diverse variety of educational services
- Examination: an audit as part of a course into the knowledge, insight and skills of a student, as well as an assessment of the results of that audit
- Examiner: the functionary responsible for an individual course at the TU/e who is appointed by the Examination Committee to assess students by means of examinations/CAs about the course and to determine their results
- Mentor: an assistant professor, an associate professor or a full professor, appointed by the director of the Graduate Program, who supervises the student as he/she puts together his/her program of examinations and the choices that need to be made for this
- Practical exercise: an educational activity in one of the following forms:
  - writing a thesis,
  - undertaking a project or an experimental design,
  - carrying out a design or research assignment,
  - doing a literature study,
  - doing an internship,
• making a public presentation,
• taking part in fieldwork or an excursion,
• conducting tests and experiments,
• writing a position paper,
• taking part in other required educational activities designed to acquire specific skills;

the educational activity in question is a course or part of a course that is finalized with an exam or a CA

Pre-Master’s student : a student who is required to follow a pre-Master’s program to eliminate deficiencies before being admitted to the Master’s program

Pre-Master’s program : a program to eliminate deficiencies and prepare for a Master’s program

Professional skills : non-disciplinary competencies required in a professional environment by a successful Master’s graduate

Quarter : each of the four periods the academic year is divided into; the start and end of these four quarters are determined annually in the TU/e Annual Academic Calendar

Response term : a period of four weeks within which the Examination Committee must respond following receipt of the request, unless the request was made after the Examination Committee meeting held in June, in which case it will be processed at the very latest in the Examination Committee August meeting

Student : a person taking a study program at TU/e who is enrolled in a study program in accordance with the TU/e Regulations ‘Registration, Study Choice Check, Enrollment and Termination of Enrollment 2017’

Study workload : the expected number of hours of study required to successfully complete a degree program or course; the unit used to express this number is the “credit,” where 1 credit is equal to 28 hours

Subject specialist : a functionary with content expertise, who is not a student

Teaching period : a period in which the teaching of the degree programs takes place, as determined by the Executive Board at the start of each academic year

Thesis supervisor : a member of the academic staff, i.e. an assistant professor, an associate professor or a full professor, who is responsible for the student’s graduation project

Working day : one of the weekdays, i.e. Monday through Friday, except public holidays recognized by the Dutch government, and with the exception of the days when the university is closed


Other terms used in these regulations shall have the meaning ascribed to them in the WHW.

Article 1.3 TU/e Code of Conduct for Scientific Integrity

During enrollment students are held to the Code of Conduct for Scientific Integrity. In the first half of the program, the student must sign a statement in the presence of the mentor indicating he/she shall act in accordance with the TU/e Code of Conduct for Scientific Integrity throughout the Master’s program. An attachment is added at the beginning of the Master’s thesis stating that the student will act in accordance with the TU/e Code of Conduct for Scientific Integrity.
When the Master’s thesis is completed, a statement is attached indicating that the thesis was realized in accordance with the code of conduct. Violation of this code of conduct may be reported to the Complaints Committee for Scientific Integrity at the TU/e. This Complaints Committee decides who shall process the incident: the Complaints Committee or the Examination Committee of the respective study program, that deals with fraud in accordance with the stipulations of the Regulations for the Examination Committee.

CHAPTER 2  ADMISSION TO AND ENROLLMENT IN THE PROGRAM

Article 2.1  Enrollment and admission
1. Enrollment in the Master’s degree program is open only to those who have direct access to this program based on a Bachelor’s degree certificate, as specified in Appendix 1 under m, a proof of admission as referred to in paragraph 2, or who possess a statement issued by the Examinations Committee of the Bachelor’s program in question.
2. Proof of admission will be issued by the Departmental Board on the basis of the ‘TU/e Admission Regulations for Master’s Programs 2012’.
3. Students who have followed a TU/e Bachelor’s program or a TU/e pre-Master’s program may be admitted to the Master’s program on the first day of the month, provided they meet the requirements and have been enrolled at the university for a continuous period. Other students can enroll in the Master’s program starting on September 1 and February 1 of each academic year, provided they meet the requirements. See also Appendix 1, under k.

Article 2.2  Following Master’s program courses without admission/enrollment
In accordance with Article 5.2 of the Education and Examination Regulations for Bachelor’s programs, a Bachelor’s student or Pre-Master’s student may participate in some courses of the Master’s program (without actually being enrolled in the Master’s program), provided the requirements have been fulfilled and permission to do so has been obtained from the Examination Committee of the relevant Master’s program. See also Article 4.3, paragraph 2 of these Education and Examination Regulations.

CHAPTER 3  STRUCTURE AND CONTENT OF THE DEGREE PROGRAM

Article 3.1  Learning outcomes of the degree program
Master of Science graduates of the degree program:
- are qualified to degree level within the domain of ‘science engineering & technology’,
- are competent in the relevant domain-specific discipline(s), as mentioned in Appendix 1, under p,
- are able to conduct research and design independently,
- have the ability and attitude to include other disciplines in their research, where necessary,
- have a scientific approach to complex problems and ideas,
- possess intellectual skills that enable them to reflect critically, reason and form opinions,
- have the ability to communicate the results of their learning, thinking and decision-making processes at an international level,
- are aware of the temporal and social context of science and technology (comprehension and analysis) and can integrate this context in their scientific work,
- in addition to a recognizable domain-specific profile, possess a sufficiently broad basis to be able to work in an interdisciplinary and multidisciplinary context; In this context, multidisciplinary means being focused on other relevant disciplines needed to solve the design or research problem in question;
- actively seek new potential applications, taking the social context into consideration.

Article 3.2 Requirements specific to the degree program
1. With reference to the program, Appendix 1 includes the following for each Master's program:
   a. the content of the degree program and corresponding examination,
   b. if applicable, the content of the specializations,
   c. the organization of the practical exercises as necessary,
   d. the study workload of the program and of each of the accompanying courses,
   e. the number and the sequence of the examinations, and the times at which they can be taken,
   f. whether the program is offered as a full time or a part time program,
   g. whether examinations are to be taken orally, in writing or otherwise,
   h. where necessary, that successful participation in examinations is a condition for admission to other examinations,
   i. where necessary, the obligation to take part in practical exercises with a view to taking the examination in question,
   j. where necessary, the courses from which the student must choose in order to complete the elective part of the degree program,
   k. the number of opportunities to join the Master's program,
   l. the requirements for issuing a certificate of admission,
   m. Bachelor's degree certificates that provide direct access to the Master's program,
   n. the transitional arrangements as referred to in Article 7.1,
   o. the conditions under which the Examinations Committee may grant an exemption for one or more examinations on the basis of past successful examination results in higher education or knowledge and skills acquired outside of higher education,
   p. the relevant domain-specific discipline(s), as mentioned in Article 3.1,
   q. the way in which education in the study program is evaluated and the results are made available to the relevant official bodies; the evaluation takes place through periodic course evaluations and by other study program evaluations within the agreed TU/e formats.
2. Appendix 2 contains the rules and procedures for pre-Master's programs.
3. Appendix 3 describes the contents of the pre-Master's programs.
4. Appendix 4 contains an elaboration of the Honors tracks.
5. The appendices constitute an integral part of these Regulations.

Article 3.3 Language
The program will be delivered entirely in English and the examinations and final examinations will be administered in English.

Article 3.4 Structure of the degree program
1. The program is a coherent set of courses designed to achieve the learning outcomes of the program.
2. The study workload of the program is 120 credits. Appendix 1 contains details on the study program (see Article 3.2, paragraph 1, part a, in conjunction with Appendix 1, under a)
3. The program will include a diagnostic test of the student's professional skills at the start of the program and a subsequent mentoring meeting during the first quarter.
Article 3.5 Mentor

1. Every student will receive program-related supervision from a mentor from the degree program for the duration of the program. The student will be coupled to a mentor no later than five months after the study program has commenced, unless there are special circumstances determined by the Examination Committee at the request of the student.

2. A mentor:
   - supervises the student in his/her choice of specialized elective courses and gives advice;
   - supervises the student as he/she composes the rest of the program of examinations;
   - within the framework of developing professional skills, meets with the student to discuss the results of the professional skills diagnostic test (see Article 3.4, paragraph 3) and the professional skills development plan he/she has developed.

3. If the student has not chosen to include a minimum of 15 credits worth of international experience in their program of examinations, he/she must discuss this with his/her mentor.

Article 3.6 Program of Examinations

1. A program of examinations is the aggregate of courses that make up a student’s degree program.

2. The student must make a choice from the specialized courses and free elective courses at Master’s level included in Appendix 1, under j. The specialized elective courses are only added to the program of examinations after advice from the mentor. Within the free electives, a maximum of 15 credits of Bachelor’s courses may be used to compensate deficiencies (homologation courses).

3. Students must submit all electives and other courses that will make up their program of examinations to the departmental student administration before they start their graduation project. The graduation project is also included in the program of examinations. At the same time, the student must submit his/her program of examinations including the advice issued by the mentor, to the Examination Committee for approval. The Examination Committee must reach their decision within the response term and must indicate whether the student may commence with his/her graduation project.

4. A decision to deny approval may not be made before the student has been given the opportunity to be heard by the Examination Committee.

5. Ultimately nine months after the start of their Master’s program, every student must submit his/her provisional program of examinations, signed by the mentor, to the Examination Committee for information. When composing this program, the student should consult with the mentor to ensure that sufficient cohesion is achieved.

Article 3.7 Flexible degree program

1. A student who is enrolled in the degree program may select courses from a university to compose a curriculum that involves an examination, in accordance with Article 7.3d of the law.

2. A substantiated request for permission to take a flexible program must be submitted to the Board of Examiners at least twelve weeks before the start of the program or programs in question.

3. The Examinations Committee shall decide within the response term. If necessary, at the request of the Board of Examiners, the Executive Board can delegate this decision to the Board of Examiners of another program.

4. A decision not to grant the approval will only be taken by the Examinations Committee after the student in question has been given an opportunity to be heard.

5. The decision shall state the degree program to which the flexible program is deemed to belong.

6. The Examinations Committee may deviate from the deadline set in paragraph 3.
Article 3.8 Exemption

1. A written request for exemption from one or more examinations/CA’s or practical exercises must be submitted to the Examinations Committee.
2. The request must include all documents reasonably needed to assess whether the student in question can be granted an exemption.
3. The grounds on which the Examinations Committee can grant an exemption for taking a particular examination/CA or for a practical exercise are exclusively related to the level, the content and the quality of the examinations/CA’s the student in question has already passed, or to the student’s knowledge, insight and skills acquired outside higher education.
4. An exemption cannot be granted for a Master’s course passed as part of the curriculum of a Bachelor’s program. If this Master’s course is a compulsory component of a certain track or specialization within a Master’s program, the Examinations Committee should indicate an alternative component within the program, or to provide permission for a substitute course chosen by the student.
5. The Examinations Committee shall decide within the response term.
6. A decision not to grant an exemption shall only be taken by the Examinations Committee once the student has been given an opportunity to be heard. The decision must be substantiated with arguments.
7. The decision to grant an exemption for taking an examination or participating in a practical exercise shall correspond to the grade “satisfactory” and be marked VR.
8. Any additional conditions that apply to the granting of exemption are set out in Appendix 1, under o, to these regulations.

CHAPTER 4 TESTING

Article 4.1 Frequency, structure and sequence of examinations and CA’s

1. Annually, before August 1, the Executive Board will draw up a timetable for written examinations/CA’s, which will be published in the first week of August.
2. In special cases, the Departmental Board may deviate from the timetable referred to in the previous paragraph, no later than eight weeks before the written examinations/CA’s take place. The Departmental Board must inform the students of the change without delay, giving reasons.
3. Examinations/CA’s to be administered orally will be administered at a time determined by the examiner, wherever possible in consultation with the student in question.
4. For each course, students shall be given the opportunity to take the examinations of the degree program at least twice during each academic year (see Appendix 1, under e).
5. If a course is removed from the curriculum, at least two more opportunities shall be given to take the examination in that course during the first academic year in which the course is no longer taught.
6. Contrary to the provisions of paragraph 4, at least one opportunity shall be given in each academic year to take an examination for any course not taught in that academic year. This does not apply to competence-centered programs.
7. In special cases, the Examinations Committee may decide to deviate from the set number of times an examination/CA may be taken, and from the form and the sequence in which the examination is taken.
Article 4.2 Oral examinations and CA’s
1. No more than one person will be given an oral examination/CA at a time.
2. When an oral examination/CA is taken, two authorized teachers or an authorized teacher and a subject specialist shall be present.
3. Oral examinations/CA’s shall be administered publicly.
4. In special cases, the Examinations Committee may deviate from the provisions in the previous paragraphs of this article.

Article 4.3 Participation and registration for exams
1. A student must be enrolled in a degree program in order to take the examinations/CA’s offered by that program, taking into account the sequence specified in Appendix 1, under e, h and i.
2. The Examination Committee may grant permission to a Bachelor’s or pre-Master’s student to take specific Master’s components without being enrolled in that program, as long as the requirements have been met as stated in Article 5.2 of the Education and Examination Regulations. The following paragraph shall apply mutatis mutandis to participation in the examination. See also Article 2.2 of these Education and Examination Regulations.
3. A student wishing to take part in a centrally organized written examination must register through the system used by the TU/e, no later than 10 working days before the scheduled date of the relevant examination period. Students are able to register for examinations from August 1 preceding the start of the academic year. The registration and closing dates shall be made known annually by the Education and Student Service Center (henceforth ESA). A student wishing to take part in either an exam or a CA is automatically enrolled for the exam or CA after registering for the course.
4. A student is obliged, before or during the examination/CA, and at the request of the examiners or the invigilators, to identify him-/herself by showing his/her campus card and valid proof of enrollment for the current academic year. Students who do not have a campus card can also identify themselves using a valid means of identification. If the student is unable to do this, he/she may not take part in the examination/CA.
5. A student who has already taken an examination three times without passing should consult with the academic advisor before registering for the examination/CA in question again, to discuss how the problem is to be addressed on the basis of a study plan drawn up by the student.
6. With reference to paragraph 5, students who register for an examination/CA but fail to turn up, or who do not hand in the completed examination work/examination answer form, will be deemed to have failed the examination/CA.
7. The work of students who take part in an examination/CA without having registered for it will not be assessed. In such cases, the student shall be deemed not to have taken the examination/CA.
8. If there are extenuating personal circumstances that prevented the student from registering for the examination in time, the Examinations Committee can decide that the examiner must assess the student’s work after all.
9. The Examinations Committee determines whether the student fulfills the conditions for admission to the examination/CA.
10. In exceptional circumstances, the Examinations Committee can permit a student to take an alternative examination to the centrally organized examination/CA.
11. When it is considered necessary for organizational or educational reasons, registration for educational activities, such as practical exercises and lectures, must take place at least fifteen working days in advance of the start of courses through the system used by the TU/e.
Students who do not comply with these rules when registering for an educational activity, or who register after the date specified, may not participate in the activity in the period concerned. The Examination Committee may make exceptions to this paragraph.

Article 4.4 Withdrawal

1. After registering for an examination, a student can withdraw no later than five working days before the examination period, by notifying ESA through the system used by the TU/e. A student is only permitted to withdraw from a CA up to three weeks before the first final demonstration day.

2. With reference to paragraph 5 of Article 4.3, students who withdraw within five working days before the examination period, or in the case of a CA fewer than three weeks before the first final demonstration day, shall be deemed to have failed this examination.

3. A student is only permitted to withdraw from a CA up to three weeks before the final demonstration day and after consulting and receiving the approval of the study advisor, resulting in the student being registered as a non-participant for that CA.

4. In special cases and upon written request by the student, the academic advisor may rule that withdrawal as referred to in the preceding paragraph shall not be subject to Article 4.3, paragraph 5.

Article 4.5 Assessment of examinations and CA’s

1. The assessment of examinations/CA’s and practical exercises is carried out by one or more examiners.

2. The results of examinations/CA’s and practical exercises will be determined for each individual student, and may be divided into a number of components.

3. a. The assessment of an examination, as well as the investigation mentioned in Article 5.1, paragraph 2, shall be expressed in whole numbers on a scale of 0 to 10 or with “exemption” (VR), “no show” (NV) or “incomplete” (NVD).

   b. The assessment of practical exercises is expressed in tenths, or using the designations Failed (ON), Sufficient (VO), Good (GO), Very Good (ZG), Complete (GN) or No Show (NV).

   c. If the exam is divided into a number of components, the subject description in the digital education guide shall describe those components and indicate how they count with respect to the final grade.

   d. The assessment of the ‘International Course’ shall be expressed in Sufficient (VO) or Failed (ON).

   e. The assessment of the graduation project shall be rounded to the nearest half grade on a scale of 0 to 10. The graduation project is considered successfully completed if it is assessed with a final grade of 6.0 or more. The assessment of professional skills that are completed during graduation is part of the assessment of the graduation project. The course catalogue indicates if and when interim evaluations of the Master’s thesis take place.

   f. Meeting the requirements of professional skills as well as having passed all courses belonging to a curriculum is a formal requirement for admission to assessment of the graduation project.

4. a. A student passes an examination by scoring a 6 or higher on the examination or with a grade of VR (exemption).

   b. A student passes a practical exercise as a course if the grade is 6 or higher, or with an assessment of VO, GO, ZG or GN or, in the case of an exemption, VR.

5. If a student registers for an examination/CA but fails to appear or has not withdrawn in time, he/she will be deemed to have failed the examination/CA under the provisions of paragraph 5 of Article 4.3, and the examination/CA result will be marked as a “no-show” (NV).

6. If a student has cheated, the examination result, in accordance with Article 4.3, paragraph 5, will be deemed “failed” (ON).
7. The assessment standards will be announced at the latest immediately before the start of the examinations/CA’s or the practical exercise as a course. The weight of the separate questions will be announced immediately before the start of a written test or an examination. In exceptional cases, the examiner may decide to adjust the weight of the questions after the examination.

8. The method of assessment should enable the student to ascertain how the results of the examination or the practical exercise as a course were determined.

9. The Examination Committee has the authority to declare an examination null and void for an individual student or for all students who took the exam at that time if there is a case of serious irregularity.

Article 4.6 Determining results/mark ing periods

1. The examiners shall determine the result of a written examination and announce it to the student no later than 15 working days after the examination has taken place.

2. The examiners will determine the results of an oral examination no more than one day later and will communicate these immediately to the student. The examiners will determine the final CA verdict within five working days of the presentation and will communicate the verdict to the student.

3. In the case of examinations/CA’s taken in other than oral or written form, the Examinations Committee shall determine beforehand how and within what period the student will receive a written statement giving the result.

4. The examiners will determine the result of a practical exercise that serves as a course as soon as possible, but no later than fifteen working days after it has been submitted or, if a deadline has been agreed, fifteen working days after this deadline, and they will communicate the mark (or final mark) to the student. If a term or date has been determined for the submission of a practical exercise and if the student has not submitted the practical exercise on time due to extenuating personal circumstances, the Examinations Committee can, on the student’s request, decide to have the practical exercise assessed anyway.

5. If the examiners in question are unable to meet the requirements in the previous paragraphs due to special circumstances, they shall notify the Examinations Committee, stating the reasons. The student involved will immediately be informed of the delay by the Examinations Committee, and of the term within which the results will be made known.

6. Students shall be informed of the result of the examination/CA by or on behalf of the Examinations Committee, in written or electronic form.

7. When they receive their results, students will be informed of their rights of inspection, as referred to in Article 4.7, the opportunity to evaluate the examination, as referred to in Article 4.8, and the opportunity to submit an objection to the Examination Appeals Board.

8. In the case of special circumstances, the examiner may alter the grade of an examination previously determined within four weeks of its initial announcement both to the advantage or disadvantage of the student.

If the alteration to the final grade has consequences for the completion of the Master’s program, the examiner shall, in consultation with the Examination Committee, take a decision.

9. The examination/CA will be dated in accordance with the date on which the written or oral examination is administered or the CA is completed. An examination in the form of a practical exercise shall be dated in accordance with the date on which the final report is submitted or the date of the oral presentation, or, if there is no report or final presentation, the day on which the practical exercise is completed.
Article 4.7 Right of inspection for written examinations
1. Students shall be given the opportunity, on request, to inspect their assessed work up to at least 20 working days after the announcement of the result of a written examination. At the student’s request, a copy of the assessed work will be provided.
2. During the term mentioned in paragraph 1, any interested person may, on request, inspect the questions and assignments of a given examination, as well as the standards on which the assessment was based.
3. Within five working days after the request for inspection has been received, the examiner shall announce the venue and the time of the inspection referred to in paragraphs 1 and 2.
4. If students or interested persons can prove that they were prevented from appearing at the fixed place and time through no fault of their own, they shall be offered another opportunity, if possible within the term mentioned in paragraph 1 of this article.

Article 4.8 Evaluation
As soon as possible after the announcement of the result of an oral examination/CA, at the request of the student concerned or on the initiative of the examiner, an evaluation will take place between the examiner and the student. In such cases, the assessments given shall be substantiated. An examiner can organize a collective evaluation.

Article 4.9 Term of validity and retention periods
1. In principle, examination/CA results are valid for an unlimited period.
2. If an examination/CA result is older than six years and the examined knowledge or examined insight is demonstrably dated, or if examined skills are demonstrably dated, however, the Examinations Committee may require that the student take a supplementary or alternative examination/CA.
3. Written and digital examinations must be retained for at least two years following determination of the grade, with the exception of homework assignments.
4. (Three-dimensional) projects must be retained for at least six weeks after the grade has been determined but, in any event, for the duration of any objections and appeal procedure.
5. Internship reports and theses must be retained for at least seven years.

CHAPTER 5 FINAL EXAMINATIONS
Article 5.1 Final examinations
1. The Examinations Committee determines the result of the final examination and issues the degree certificate as specified in Article 5.3, as soon as the student has met the requirements of the examination program, unless, on the grounds of paragraph 6, the student has asked the Examinations Committee to delay awarding the certificate. The result of the final examination shall be “passed” or “withdrawn” and the results attained shall be retained. If a student has taken an examination/CA more than once, the Examinations Committee shall take into account the highest grade obtained in determining the result of the final examination.
2. Assessment of the examination dossier is part of the final examination. The date of the examination shall be the date on which the student carried out the final program activity.
3. In order to pass the final examination, the student must obtain the “satisfactory” grade for all components, in compliance with the exemptions granted and the compensation arrangement from Article 4.2 of the Regulations of the Examination Committee. The Examinations Committee can determine, under conditions established by the Committee itself, that not every
examination has to be passed in order for a student to pass the final examination (see Article 4.3 of the Regulations of the Examination Committee).

4. A further condition for passing the examination and receiving the degree certificate is that the student was enrolled for a TU/e degree program during the period in which the examinations were taken.

5. Students who have passed the final examination, and are eligible for the award of a degree certificate, can ask the Examinations Committee to delay awarding it. This request must be submitted no later than two weeks after the student has been informed of the final examination result. The request must specify when the student wishes to receive the degree certificate.

The Examinations Committee shall in any event comply with the request if the following situations apply:
- the student wants to try to graduate with the *cum laude* classification and wants to re-take examinations for certain courses to this end;
- the student is planning to take one or more extra courses that will be included in the diploma supplement.

**Article 5.2 Frequency of final examinations**

There shall be monthly opportunities to take the final Master's examination, with the exception of July. The dates of the Examination Committee sessions shall be announced by the Examination Committee before the beginning of the academic year.

**Article 5.3 Certificate and supplement**

1. The certificates for each program shall be awarded in public, unless, in exceptional cases, the Examinations Committee decides otherwise.

2. The degree certificate shall, in any event, contain the information specified in Article 7.11, paragraph 2, of the WHW, together with the qualifications specified in Article 5.4 of these regulations. If applicable, the degree certificate should state that the student has met the competency requirements as stated in Article 36 of the Higher Education Act.

3. When the degree certificate is awarded, the student shall also receive a supplement. One degree certificate is awarded for each degree program.

4. The supplement shall contain the information specified in Article 7.11, paragraph 3, of the WHW, as well as the grades obtained for parts of the examination and, if required, for other courses that are not part of the examination, if the students in question have passed the examinations for those courses before the Examinations Committee determines the final examination result. If applicable, the transcript shall state for which school subjects and for which level of secondary education the student is authorized to teach (Article 33 and 36 of the Higher Education Act).

**Article 5.4 Special qualifications for the Master’s program**

1. The Examinations Committee may award the classification “*cum laude*” if the student achieves an average grade of 8.0 or higher for all the courses, with the additional requirement that the graduation project must have a grade of 9.0 or higher. In addition, none of the courses may have a grade lower than a 6.

2. The Examinations Committee may award the classification “*with great appreciation*” if the student achieves an average grade of 7.5 or higher for all the courses and the graduation project is graded with 8.0 or higher. In addition, none of the courses may have a grade lower than a 6.

3. With regard to the calculation of the average grade, as referred to in the preceding paragraphs, the results of the course ‘International Course’ will not be included in the calculation.
CHAPTER 6  STUDY COUNSELING AND STUDY PROGRESS

Article 6.1 Study counseling
1. The Departmental Board shall provide counseling to students on the opportunities for courses of study inside or outside the degree program, including appointing one or more academic advisors/coaches/student mentors.
2. The academic advisor will advise students, either on request or on the advisor’s own initiative, on all the aspects of the degree program, and will ensure, partly based on the student's study progress and whenever necessary, adequate referral to the competent bodies of TU/e, to ESA student advisors or TU/e confidential counselors.

Article 6.2 Monitoring study progress
1. The Departmental Board will ensure that the examination results of the individual students are registered and made known in good time in the TU/e’s education information system.
2. Where appropriate, the Departmental Board will organize a discussion of the results between the student and his/her academic advisor.
3. The academic advisor will inform students who fall behind in their studies of the opportunities to receive extra support or measures that may need to be taken to limit the delay as much as possible.

Article 6.3 Studying with a functional impairment
1. Students wishing to request an adjustment to their program or examinations, or the provision of special facilities because of a permanent or temporary functional impairment, should submit such a request to ESA in writing before they are scheduled to take part in the program or the exams. The request should be submitted twelve weeks in advance if possible, but in any event no later than five weeks in advance.
2. The request should be accompanied by any documents reasonably required to assess the request. These should include at least a recent statement from a physician or psychologist or from a remedial educationalist associated with an assessment agency registered with BIG (Individual Health Care Professions), NIP (Dutch professional association of psychologists) or NVO (Association of Educationalists in the Netherlands). If possible, the statement should provide an estimation of the extent and likely duration of the functional impairment.
3. ESA will send student requests accompanied by its recommendations to the Departmental Board in so far as the request relates to facilities. In the event that the request relates to granting adaptations to enable the student to take an examination, ESA will send the student's request and the related recommendations to the Examinations Committee.
4. The decision regarding adaptations or the granting of facilities shall be taken by the Departmental Board or the Examinations Committee, respectively, no later than twenty working days after the request has been received. The Examinations Committee or the Departmental Board shall safeguard the quality and level of the programs and examinations.
5. Wherever possible, adaptations shall be attuned to the individual’s functional impairment. Facilities may consist of adjustments to the individual situation of the form or duration of the program, examinations or practical exercises, or of the provision of practical aids.
CHAPTER 7 TRANSITIONAL ARRANGEMENTS AND FINAL PROVISIONS

Article 7.1 Transitional arrangements
1. If these Regulations, including the Annex, are amended, the Departmental Board shall, if necessary, make a transitional arrangement. The transitional arrangement shall be incorporated in the Appendix to these Regulations.
2. The transitional arrangement shall always include:
   a. regulations regarding exemptions that may be obtained based on examinations already passed, and
   b. the term of validity of the transitional arrangement.

Article 7.2 Amendments
1. Amendments made to these regulations shall not apply in the current academic year if they unduly harm the interests of students.
2. An amendment of these regulations may not backdate any decision already taken in regard to a student.

ANNEXES
Appendix 1A MSc IM & OML
Appendix 1B MSc HTI & IS
Appendix 2 Rules and procedures for pre-Master’s programs
Appendix 3 Contents of the pre-Master’s programs IM-OML-HTI-IS
Appendix 4 Honors Academy & Excellence Program IEdIS
Annex 1A to article 3.2, first paragraph, of the Education and Examination Regulations 2017 for the Innovation Management and Operations Management & Logistics Master’s Degree Programs according to the Graduate School

a. Content of the degree program and related final examination
The degree program contains the following courses with the corresponding course code and credits and is concluded with the Master of Science examination Innovation Management (IM), resp. Operations Management & Logistics (OML): notice annex table 1A, 1B.
Those who have passed the final examination are adjudged the degree of Master of Science. The adjudged degree is stated on the testimonial of the final examination, with reference to the field of study: Innovation Management, resp. Operations Management & Logistics.

b. Content of the specializations
The degree programs Innovation Management and Operations Management & Logistics contain the following specializations with the corresponding courses, course code and credits: notice annex table 1A, IB. A student follows one of these specializations.

c. Organization of practical exercises
The courses which include practical exercises in the sense of article 1.1, are mentioned under a or b, respectively, in the format indicated.

d. Study load of the degree program and of each of the courses it comprises:
The study load of the degree program is at least 120 credits. The study load of each course is indicated under a or b, respectively.

e. Number and frequency of the examinations and practical exercises
The number and order of the examinations and practical exercises of the degree program are administered under a or b, respectively.

f. Form of the degree program
The degree program is a full time program.

g. Format of examinations
The examinations of the (compulsory and selected set of elective) courses shall be administered in the form indicated under a or b, respectively.

h. Conditions for admission to the examinations
1. Students may only take part in the examinations listed below after they have passed the corresponding examinations listed under a or b, respectively: the Master Thesis cannot be taken until a minimum of 80 credits from the examinations for the degree program courses mentioned under a or b, respectively, have been passed; additionally, regarding the final examination of the OML Master’s degree program, students should have demonstrated that they have acquired sufficient knowledge in accounting and finance (e.g. obtained either from the courses 1CK40 + one of the courses 1CK80/1CK90, or from the course 1CM22, or from a similar course on financial and operational decision making at another university).
2. In special cases, the Examinations Committee may derogate from the provisions in paragraph 1.

i. Participation in practical exercises
The examinations of the following courses may not be taken until the corresponding practical exercises have been successfully completed:
- none -

j. The courses from which students must choose in order to fulfill the optional parts of their degree programs
To fulfill the optional parts of their degree programs, students need to choose from the following courses: notice annex table 1A, 1B. Notice that students do not need approval of the mentor/thesis advisor for 15 credits in the free electives part of the degree program.
Furthermore, it is possible to include a maximum of 15 credits of Bachelor’s courses of sufficient level to be determined by the Examination Committee; these possibly include homologation courses. In that case, students should motivate their choice and show that it is necessary to take one or more BSc course(s) as prior knowledge for one or more MSc course(s) in their study program.
k. Intake

Internal intake: students who have completed a TU/e Bachelor’s degree may join the Master’s program as from the first day of the month following successful completion of the Bachelor’s degree audit. The same applies to students who have completed a pre-master’s program that provides admission to the corresponding Master’s program.

External students, i.e. students with no TU/e Bachelor’s degree or who have not been enrolled at the TU/e for a continuous period, may enroll in the Master’s program on September 1st and February 1st of each academic year, provided they meet the requirements.

l. Admission requirements for issuing proof of admission

1. The admission requirements for the Master’s degree program correspond to qualities relating to the knowledge, insight and skills that students have acquired when they have finished their Industrial Engineering Bachelor’s degree program.

2. Intake students from abroad:
   a. Command of English:
      - TOEFL (Test of English as a Foreign Language), internet based test: overall band score of at least 90 points, and a minimum score of 21 for each section, or
      - IELTS (International English Language Testing System), academic version: overall band score of at least 6.5 and a minimum score of 6.0 for each section, or
      - Cambridge CAE (Certificate of Advanced English) or CPE (Certificate of Proficiency in English), minimum score C
   b. The level of education in the country in which the student has completed his/her pre-university education: this must be comparable to that in the Netherlands.
   c. Level of knowledge: the student must have acquired sufficient knowledge on the basis of the courses he/she has studied abroad, to be at a level comparable to that of Dutch students who are admitted to the Master’s program.

m. Bachelor’s certificates that provide direct access to the Master’s program

The certificate of the Bachelor’s final examinations from the institutions for higher education indicated below provides direct access to the Master’s program:

- Industrial Engineering and Industrial Engineering for Healthcare at the TU/e
- Industrial Engineering at the University of Twente
- Industrial Engineering at the University of Groningen

For other possibilities see [http://doorstroommatrix.nl/](http://doorstroommatrix.nl/).

n. Transitional arrangements: transfer from ‘old style’ to ‘new style’

- not applicable

o. Supplementary terms for exemptions

- not applicable

p. Relevant domainspecific disciplines

Graduates of the MSc Innovation Management program are engineers who:

- have state-of-the art scientific knowledge of the design, behavior, planning and enhancing performance of innovation processes in technology-intensive and knowledge-intensive organizations. For this purpose graduates have multidisciplinary knowledge and insights stemming from the following disciplines: Engineering Economics, Information Systems, Operations Research, Organization Sciences, and Work & Organizational Psychology;

- have research skills to independently conduct studies meeting academic standards, in the domain of Innovation Management;

- are well-capable of modeling and (re)designing a complex business process, based on the results of a study, including specifications and required information.
Graduates of the MSc Operations Management & Logistics program are engineers who:
- have state-of-the art scientific knowledge of the design, behavior, planning and enhancing performance of operational processes in industrial and service organizations. For this purpose graduates have multidisciplinary knowledge and insights stemming from the following disciplines: Engineering Economics, Information Systems, Operations Research, Organization Sciences, and Work & Organizational Psychology;
- have research skills to independently conduct studies meeting academic standards, in the domain of Operations Management & Logistics;
- are well-capable of modeling and (re)designing a complex business process, based on the results of a study, including specifications and required information, and are capable of applying this knowledge and insight into operational, consulting, and managerial jobs in industry.

General scientific learning outcomes

Graduates of the IE MSc Innovation Management program have an academic attitude, design skills, and a set of communicative and social skills. Because of this they are capable of:
- reflecting and creatively solving problems. They understand their own (and the organizational) learning process and have skills in this domain;
- communicating clearly and unambiguously both in industry and in academia, with non-specialists and specialists in the domain. Therefore, they have adequate social and communication skills;
- operating independently as well as in (multidisciplinary) teams;
- being aware of the social context they work in and social impact of their work.

Graduates of the IE MSc Operations Management & Logistics program are engineers who have academic skills, design skills, and communication and cooperation skills. They:
- are capable of applying their knowledge and insight into research & development jobs in academia;
- are capable of applying their knowledge and insight into operational, consulting, and managerial jobs in industry;
- are capable of operating independently and in teams, at an academic level;
- can critically reflect on their own thinking, decisions and actions and behave systematically;
- operate effectively and efficiently in a multidisciplinary context;
- communicate clearly and unambiguously, both in industry and in academia, with non-specialists and specialists in the domain;
- are aware of the relative importance of knowledge of scientific disciplines and the societal impact of scientific knowledge (and vice versa);
- possess the necessary learning skills to enable them to enter subsequent programs requiring substantial independence, such as PhD programs or postgraduate professional programs or courses;
- are capable of independently identifying and supplementing any lack of knowledge.

q. Education evaluation

The quality of education offered within the Department IE&IS is continuously monitored in order to improve education. At the departmental level, quality assurance focuses on the individual courses and curricula. The quality assurance cycle can therefore be best described in three phases: (1) preparatory activities; (2) processing evaluation results into reports; (3) provide teacher and learner support to identify examples of good practice and areas for improvement.
1. **Preparatory Activities for Course Evaluations**

For each new quartile of the academic year, a planning of courses is made to select the courses that have to be evaluated. The Department of IE&IS evaluates all courses that are held within each quartile. First, together with the responsible lecturer, the draft survey is revised for the concerning course. After this, the surveys are created in EvaSys. When all draft surveys are completed, they will be published on final course day or on the day of examination. Students will receive a maximum of two reminders; after 7 and 11 days.

2. **Processing Evaluation Results into Reports**

After two weeks of response time for students, the surveys are closed. The results are then collected from EvaSys and uploaded on the SharePoint page of the department. For the courses, a management report is made. Next to the surveys, the examination grades are requested via the Education Administration, both for the first- and re-examination of the course. The results of the survey are also sent to the responsible lecturers who are required to provide their findings on the survey results.

During the process of analyzing the survey results, the following documents are created by quality assurance:
- Management report per research group (sub department);
- Management report for the exam committee and program advisory committee;
- Lecturer’s response document per course;
- Student version of survey results (without open answers), published on a student SharePoint site [https://sites.ieis.tue.nl/kwazo/SitePages/Results%20of%20Course%20Evaluations.aspx](https://sites.ieis.tue.nl/kwazo/SitePages/Results%20of%20Course%20Evaluations.aspx)
- Grades distribution per course;
- Historical overview of survey results.

For each evaluation aspect, indices are used to signal whether evaluation results are good, moderate or insufficient. Moreover, for each course it is checked whether the number of respondents is sufficient to provide significant results.

All the documents are stored and archived on the quality assurance SharePoint according to a standard file name: `<EducationalYear>, <Quartile>, <CourseCode>, <DocumentType>`.

3. **Provide Teacher and Learner Support**

In preparation to the semester meetings the courses are discussed with the student councils of the study associations and subsequently with the program chairs, the education officers, the chairs of the education committees (OC) and the secretary of the examinations committees.

The results from all course evaluations are discussed per research group in the semester meetings with the chair of the group and the educational portfolio holder of the group. During these meetings, all courses are discussed that were taught during the past semester on the course outline, structure, assessment, lecturers involved, workload, and grades. When survey results indicate aspects that are insufficient, the responsible lecturer already needs to have an explanation for this and specify points for improvement. If necessary, the chair of the group is asked to discuss the conclusions of the semester-meeting with the responsible lecturer to ensure improvement measures.

Moreover, the documents generated by quality assurance are also shared with other departmental groups, as the research group board, program board, exam committee, and departmental board.

**Other Evaluations**

In addition to the course surveys, also first-year, curriculum, and alumni surveys are held to monitor student and alumni satisfaction with the quality of education. For these evaluations, similar processes apply, except for the preparatory activities, which are carried out by ESA. These evaluations are all held once a year and include the following:
- National Student Survey (NSE)
- Transfer survey VWO to Bachelor
- Transfer survey Bachelor to Master
- Curriculum survey first, second and third year Bachelor
- Curriculum survey end of Master
- Alumni monitor survey
Table 1A - Courses MSc IM degree program, generation first year intake 2017

Common compulsory courses (60 CP)

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Code</th>
<th>Name</th>
<th>CP</th>
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<tbody>
<tr>
<td>Q1</td>
<td>1JM06</td>
<td>Human Aspects of Innovation</td>
<td>5</td>
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<td>Q1</td>
<td>1ZM16</td>
<td>Management of Product Development</td>
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<tr>
<td>Q1</td>
<td>1ZM31</td>
<td>Multivariate Statistics</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Q3</td>
<td>1BM56</td>
<td>Business Intelligence</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
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</tr>
<tr>
<td>Q3</td>
<td>1ZM11</td>
<td>Marketing &amp; Innovation</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
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<tr>
<td>Q3</td>
<td>1ZM65</td>
<td>System Dynamics</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
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<tr>
<td><strong>1</strong></td>
<td>96</td>
<td>Master Thesis</td>
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IM Track 1: Business and Product Creation - 6 courses out of a set of electives (30 CP)

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<th>Quarter</th>
<th>Code</th>
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<th>CP</th>
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<td>1ZM130</td>
<td>Design Science Methodology for Business and Product Creation</td>
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<td></td>
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<td>a/ps/pr/r</td>
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<tr>
<td><strong>Recommended Specialization Electives: 5 out of 9 (one of the 5 recommended courses might be exchanged by a free elective)</strong></td>
<td></td>
<td></td>
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<tr>
<td>Q2</td>
<td>1BM70</td>
<td>Innovating Health Care through Business Networks</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>r/o</td>
</tr>
<tr>
<td>Q2</td>
<td>1JM100</td>
<td>Management of Organizational Change &amp; Innovation</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td>a/w</td>
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<tr>
<td>Q2</td>
<td>1ZM20</td>
<td>Technology Entrepreneurship</td>
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<td>Q2</td>
<td>0HM220</td>
<td>Network Society</td>
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<td>Q2</td>
<td>1ZM120</td>
<td>Entrepreneurial Marketing</td>
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<td>Q4</td>
<td>1BM20</td>
<td>Software Requirements Management: Quality and Functionality</td>
<td>5</td>
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<td></td>
<td></td>
<td>a/w</td>
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<td>Q4</td>
<td>1ZM60</td>
<td>Selling New Products</td>
<td>5</td>
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<td></td>
<td></td>
<td>a/w</td>
<td>w</td>
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<tr>
<td>Q4</td>
<td>1ZM70</td>
<td>Entrepreneurial Finance</td>
<td>5</td>
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<td>a/w</td>
<td>w</td>
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<td>Q4</td>
<td>1ZM90</td>
<td>Open Innovation</td>
<td>5</td>
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<td></td>
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IM Track 2: Managing Innovation Processes - 6 courses out of a set of electives (30 CP)

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<td><strong>Restricted Specialization Elective</strong></td>
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<td>Q4</td>
<td>1ZM140</td>
<td>Design Science Methodology for Managing Innovation Processes</td>
<td>5</td>
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<tr>
<td><strong>Recommended Specialization Electives: 5 out of 9 (one of the 5 recommended courses might be exchanged by a free elective)</strong></td>
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<tr>
<td>Q2</td>
<td>1BM05</td>
<td>Business Process Management</td>
<td>5</td>
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<td>Q2</td>
<td>1JM100</td>
<td>Management of Organizational Change &amp; Innovation</td>
<td>5</td>
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EER 2017, Annex 1A - IM & OML
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<td>Q2</td>
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<td>Q2</td>
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<td>Strategy &amp; Technology Management</td>
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<td>Service Engineering &amp; Marketing</td>
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<td>1BM65</td>
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<td>Q4</td>
<td>1ZM60</td>
<td>Selling New Products</td>
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<td>Q4</td>
<td>1JM21</td>
<td>Designing Effective Performance Management Systems</td>
<td>5</td>
<td>a/w</td>
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</table>

**IM Track 3: Special / Free Track (30 CP)** *(IE Honors programs in research and design; dual degree options. All specialization and free electives to be determined in close collaboration with the personal mentor and to be approved by the Research Director IE (in case of Honors program)/Program Managers (in case of dual degree))

Free electives, including International Experience (30 CP)

**Table 1B Courses MSc OML degree program, generation first year intake 2017**

**Common compulsory courses (45 CP) (with the exception of Track 7, OML-MSE)**

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Code</th>
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**OML Track 1: Healthcare**

**Compulsory specialization courses (= track core courses, 20 CP)**

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### Free electives, including International Experience (30 - 40 CP)

**OML Track 2: Capital Goods**

### Compulsory specialization courses (= track core courses, 20 CP)

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### Specialization electives (≥ 15CP, at least 3 out of 12 - in addition to compulsory specialization courses)

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EER 2017, Annex 1A - IM & OML
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### Electives

**Free electives, including International Experience (30 - 40 CP)**

**OML Track 3: Consumer Goods**

**Compulsory specialization courses (= track core courses, 20 CP)**

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**Specialization electives (≥ 15CP, at least 3 out of 13 - in addition to compulsory specialization courses)**

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*EER 2017, Annex 1A - IM & OML*
### Free electives, including International Experience (30 - 40 CP)

**OML Track 4: Service Operations**

**Compulsory specialization courses (= track core courses, 20 CP)**

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**Specialization electives (≥ 15CP, at least 3 out of 14 - in addition to compulsory specialization courses)**

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EER 2017, Annex 1A - IM & OML
Free electives, including International Experience (30 - 40 CP)

OML Track 5: Transportation

Compulsory specialization courses (= track core courses, 20 CP)

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Specialization electives (≥ 15CP, at least 3 out of 10 - in addition to compulsory specialization courses)

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Free electives, including International Experience (30 - 40 CP)

OML Track 6: Special / Free Track (35 CP) (IE Honors programs; dual degree options. All specialization and free electives to be determined in close collaboration with the personal mentor and to be approved by the Research Director IE (in case of Honors program)/Program Managers (in case of dual degree))

Free electives, including International Experience (30 - 40 CP)
# OML Track 7: Manufacturing Systems Engineering

## Compulsory courses (75 CP)

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*1 out of 3: Machine Design & Control*

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*1 out of 2: Supply Network Design & Control*

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**1 out of 2: Decision-making in Transport & Logistics**

**Master Thesis**

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## Specialization electives (≥ 15CP, at least 3 out of the courses listed below - in addition to compulsory specialization courses)

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EER 2017, Annex 1A - IM & OML
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**Free electives (15 CP)**

**International Internship (15 CP)**

- **a** = assignment(s)
- **cp** = class participation
- **mt** = master thesis
- **o** = oral examination
- **pr** = peer review
- **ps** = presentation
- **q** = quizzes
- **r** = report
- **t** = written test
- **w** = written examination

EER 2017, Annex 1A - IM & OML
Annex 1B to article 3.2, first paragraph, of the Education and Examination Regulations 2017 for the Human-Technology Interaction and the Innovation Sciences Master’s Degree Programs according to the Graduate School

a. **Content of the degree program and related final examination**
   The degree program contains the following courses with the corresponding course code and credits and is concluded with the Master of Science examination Human-Technology Interaction, resp. Innovation Sciences: notice annex table 1A, IB.
   Those who have passed the final examination are adjudged the degree of Master of Science. The adjudged degree is stated on the testimonial of the final examination, with reference to the field of study: Human-Technology Interaction, resp. Innovation Sciences.

b. **Content of the specializations**
   The degree programs Human-Technology Interaction and Innovation Sciences contain the following specializations with the corresponding courses, course code and credits: notice annex table 1A, IB.

c. **Organization of practical exercises**
   The courses which include practical exercises in the sense of article 1.1, are mentioned under (a) or (b), respectively, in the format indicated.

d. **Study load of the degree program and of each of the courses it comprises:**
   The study load of the degree program is 120 credits. The study load of each course is indicated under (a) or (b), respectively.

e. **Number and frequency of the examinations and practical exercises**
   The number and order of the examinations and practical exercises of the degree program are administered under (a) or (b), respectively.

f. **Form of the degree program**
   The degree program is a full time program.

g. **Format of examinations**
   The examinations of the (compulsory and selected set of elective) courses shall be administered in the form indicated under (a) or (b), respectively.

h. **Conditions for admission to the examinations**
   1. Students may only take part in the examinations listed below after they have passed the corresponding examinations listed under (a) or (b), respectively:
      - the course 0HM170 (HTI) resp. 0EM110 (IS) cannot be taken until the course 0HV50, if labelled as a premaster course or as a homologation course within the master program, has been passed;
      - the Master Thesis cannot be taken until a minimum of 80 credits from the examinations for the program courses mentioned under (a) or (b), respectively, have been passed.
   2. In special cases, the Examinations Committee may derogate from the previous provisions.

i. **Participation in practical exercises**
   The examinations of the following courses may not be taken until the corresponding practical exercises have been completed with passing grades or assessment:
   - none -

j. **The courses from which students must choose in order to fulfill the optional parts of their degree programs**
   To fulfill the optional parts of their degree programs, students at least need to choose courses with a total of (at least) 15 credits for ‘technical domain courses’ and 15 credits International Course for HTI resp. (at least) 10 credits for technical courses and 15 credits International Course for IS, with the approval of the Examinations Committee. Notice that students do not need approval of the mentor/thesis advisor for 15 credits in the free electives part of the degree program.
Furthermore, it is possible to include a maximum of 15 credits of Bachelor’s courses of sufficient level to be determined by the Examination Committee; these possibly include homologation courses. In that case, students should motivate their choice and show that it is necessary to take one or more BSc courses as prior knowledge for one or more MSc courses in their study program.

k. Intake
Internal intake: students who have completed a TU/e Bachelor’s degree may join the Master’s program as from the first day of the month following successful completion of the Bachelor’s degree audit. The same applies to students who have completed a pre-master’s program that provides admission to the corresponding Master’s program. Other intake: intake should be possible at least twice a year, September 1st and February 1st, in which the School offers a two-year studyable program. External students, i.e. students with no TU/e Bachelor’s degree or who have not been enrolled at the TU/e for a continuous period, may enroll in the Master’s program on September 1st and February 1st of each academic year, provided they meet the requirements.

l. Admission requirements for issuing proof of admission
1. The admission requirements for the Master’s degree program correspond to qualities relating to the knowledge, insight and skills that students have acquired when they have finished their Innovation Sciences Bachelor’s degree program.
2. Intake students from abroad:
   a. Command of English:
      - TOEFL (Test of English as a Foreign Language), internet based test: overall band score of at least 90 points, and a minimum score of 21 for each section, or
      - IELTS (International English Language Testing System), academic version: overall band score of at least 6.5 and a minimum score of 6.0 for each section, or
      - Cambridge CAE (Certificate of Advanced English) or CPE (Certificate of Proficiency in English), minimum score C.
   b. The level of education in the country in which the student has completed his/her pre-university education: this must be comparable to that in the Netherlands.
   c. Level of knowledge: the student must have acquired sufficient knowledge on the basis of the courses he/she has studied abroad, to be at a level comparable to that of Dutch students who are admitted to the Master’s program.

m. Bachelor’s certificates that provide direct access to the Master’s program
The certificate of the Bachelor’s final examinations from the institutions for higher education indicated below provides direct access to the Master’s program HTI:
   – Bachelor’s Innovation Sciences ‘old style’ and Bachelor’s Innovation Sciences, Major Psychology & Technology, at the TU/e
   – Industrial Engineering for Healthcare at the TU/e
The certificate of the Bachelor’s final examinations from the institutions for higher education indicated below provides direct access to the Master’s program IS:
   – Bachelor’s Innovation Sciences ‘old style’ and Bachelor’s Innovation Sciences, Major Sustainable Innovation, at the TU/e
   – Bachelor Science Programme (UM); Technische Bestuurskunde (TUD); Business & Information Technology (Twente); Technische Bedrijfskunde (Twente); Natuurwetenschappen en Innovatiemanagement (UU); Science Business & Innovation (VU)
For other possibilities see http://doorstroommatrix.nl/.

n. Transitional arrangements: transfer from ‘old style’ to ‘new style’
   - not applicable

o. Supplementary terms for exemptions
   - not applicable
p. Relevant domain-specific disciplines

Graduates of the MSc HTI program are engineers who
- have a sound background in an engineering discipline and detailed knowledge of a specialized area,
- have a sound knowledge of theories and applications of experimental, social and environmental psychology,
- have a sound knowledge of the study of environment and behaviour, consumer-behaviour and human factors, and
- know how to autonomously identify and analyze multi-disciplinary aspects of user problems and is able to translate the conclusions as requirements for the design,
- know how to analyze and solve design questions in the field of functionality and manageability of products, systems and environments by focussing on technological as well as human aspects.

Graduates of the MSc IS program are engineers who
- have a sound background in an engineering discipline, and in addition, have knowledge of a technological area that is relevant for the study of modern innovation processes,
- have a sound knowledge of the long-term economic and social processes that co-evolve with technological change and innovation, and of the way in which technological change and innovation can be influenced to stimulate competitiveness and social-economic development in a variety of social-economic and institutional settings, and in the context of a globalizing world economy,
- have the ability to autonomously develop policy instruments and to apply intervention strategies to regulate and influence innovation processes; the ability to assess and evaluate the functioning and effectiveness of these processes; the ability to understand that policy formulation frequently involves policy dilemmas and conflicting goals; the ability to contribute to the combining of the domains of engineering and social science disciplines in terms of theorizing and practical policy application.

Intended learning outcomes MSc Human-Technology Interaction

Following the defined competence areas, the intended learning outcomes of the MSc program are specified as follows in terms of knowledge and skills of the graduates:

1. Competent in scientific disciplines
   a. Knowledge of and insight into technological systems and their components in a specialized area of their background engineering domain
   b. Thorough knowledge and understanding of concepts, theoretical frameworks and methodologies of psychology and the complex human-technology interactions.
   c. Thorough knowledge of and advanced skills in the techniques of observation, data collection and analysis techniques in the human-technology domain, and an ability to critically reflect on the scope and limitations of these methods

2. Competent in doing research
   a. Ability to formulate research problems in terms of concepts and theories of psychology and human-technology interactions
   b. Ability to independently develop and execute a research plan.
   c. Ability to contribute independently to the development of scientific knowledge in the area of the human-technology interactions.
   d. Ability to identify and analyze problems typical for human technology interaction by integrating technological and psychological perspectives.
   e. Ability to appraise relevant scientific evidence on its usefulness in addressing research problems.
   f. Consolidate the understanding of the ethics of psychological / user research, and has both the ability and attitude to adhere to these rules.
3. Competent in designing
   a. Ability to formulate design problems in terms of concepts and theories of psychology and human-technology interaction.
   b. Ability to develop and execute a sound plan for formulating design requirements.
   c. Ability to integrate existing knowledge, or identify gaps therein, on technological requirements for human-technology interactions in the (re-)design of (requirements for) products or systems.
   d. Ability to integrate the technological and psychological domains, merging knowledge, methods and concepts.
   e. Ability to make decisions with respect to design requirements where they pertain to the interaction between the user and the system or product, and to justify these decisions in a systematic manner.

4. A scientific approach
   a. Ability to document the result of psychological or user requirement research for the development of knowledge within the field and beyond.
   b. Ability to apply and critically examine existing theories, concepts and models in the human-technology interaction domain in a systematic manner.
   c. Ability to look beyond the borders of a specific discipline, to be sensitive to the relative contributions of various disciplines and to understand the knowledge demands of a specific discipline.
   d. Understanding of the practices and principles of science, and knowledge of current debates about this.

5. Basic intellectual skills
   a. A reflective attitude, with an ability to critically and independently reflect on own thinking, decision making, and professional behavior.
   b. A critical mindset and the ability to ask constructive questions regarding complex problems in the field.
   c. Ability to read and write scientific texts and build a solid argumentation.
   d. Ability to think in abstract terms, including the ability to develop formal models of phenomena and processes in the domain.

6. Competent in co-operating and communicating
   a. Capability of reporting and communicating the results of one’s learning and decision making – including one’s research outcomes --, both verbally and in writing, with academics and engineers in various domain, users, and the general public.
   b. Ability to recognize and deal with differences in work practices between scientific disciplines and academics from other cultural backgrounds.
   c. Ability to take a leading role in multi- or interdisciplinary teams of engineers and academics.
   d. Ability to listen, read, talk and write in English on a professional level.

7. Takes account of the temporal, technological and social context:
   a. Ability to reflect on the relation between the use of scientific knowledge and technology, the implicated social, normative and ethical issues, and the way in which knowledge and technology development is influenced by its social and historical context, and the ability to integrate such relations and implications in their professional work.
   b. Understanding of the different roles of engineers and related professionals in society, and the ability to determine one’s own place as a professional in society.
Intended learning outcomes MSc Innovation Sciences
Following the defined competence areas, the intended learning outcomes of the MSc program are specified as follows in terms of knowledge and skills of the graduates:

1. Competent in scientific disciplines
   a. Advanced knowledge of and insight into technological systems and their components in a specific technology domain.
   b. Thorough understanding of concepts, theoretical frameworks and methodologies of innovation sciences extending to the forefront of knowledge.
   c. Thorough multidisciplinary knowledge integrating innovation sciences knowledge with technological knowledge in relevant domains, and the ability to critically reflect on the scope and limitations of this knowledge.
   d. Thorough knowledge of and advanced skills in the techniques of observation, data collection and analysis techniques in the innovation sciences domain, and an ability to critically reflect of the scope and limitations of these methods.

2. Competent in doing research
   a. Ability to formulate research problems in terms of concepts and theories of innovation sciences.
   b. Ability to independently develop and execute a research plan.
   c. Ability to contribute independently to the development of scientific knowledge in one of the areas of the innovation sciences.
   d. Ability to identify and analyze problems typical for the innovation sciences, by integrating technological and social sciences perspectives.
   e. Ability to appraise relevant scientific evidence on its usefulness in addressing research problems.

3. Competent in designing
   a. Ability to independently translate the outcomes of innovation sciences research into design, policy or strategy recommendations for innovation in existing and new socio-technical systems.
   b. Ability to independently identify both the social and the technical implications of innovation sciences in design recommendations.

4. A scientific approach
   a. Ability to apply and critically examine existing theories, concepts and models in the innovation sciences domain.
   b. Ability to look beyond the borders of a specific discipline, to be sensitive to the relative contributions of various disciplines and to understand the knowledge demands of a specific discipline.
   c. Ability to use a systematic approach characterized by the consistent application of existing theories, concepts and models in innovation sciences, and knowledge of current debates about this.

5. Basic intellectual skills
   a. A reflective attitude, with an ability to critically and independently reflect on own thinking, decision making, and professional behavior.
   b. A critical mindset and the ability to ask constructive questions regarding complex problems in the field.
   c. Ability to read and write scientific texts.
   d. Ability to think in abstract terms, including the ability to develop (formal) models of phenomena and processes in the domain.
6. **Competent in co-operating and communicating**
   a. Capability of reporting and communicating the results of one’s learning and decision making – including one’s research outcomes –, both verbally and in writing, with academics and engineers in various domain, users, and the general public.
   b. Ability to recognize and deal with differences in work practices between scientific disciplines, and academics from other cultural backgrounds.
   c. Ability to take a leading role in multi- or interdisciplinary teams of engineers and academics.
   d. Ability to listen, read, talk and write in English on a professional level.

7. **Takes account of the temporal, technological and social context**
   a. Ability to reflect on the relation between the use of scientific knowledge and technology, the implicated social, normative and ethical issues, and the way in which knowledge and technology development is influenced by its social and historical context, and the ability to integrate such relations and implications in their scientific work.
   b. Understanding of the different roles of engineers and related professionals in society, and the ability to determine one’s own place as a professional in society.

q. **Education evaluation**
   The quality of education offered within the Department IE&IS is continuously monitored in order to improve education. At the departmental level, quality assurance focuses on the individual courses and curricula. The quality assurance cycle can therefore be best described in three phases: (1) preparatory activities; (2) processing evaluation results into reports; (3) provide teacher and learner support to identify examples of good practice and areas for improvement.

1. **PREPARATORY ACTIVITIES FOR COURSE EVALUATIONS**
   For each new quartile of the academic year, a planning of courses is made to select the courses that have to be evaluated. The Department of IE&IS evaluates all courses that are held within each quartile. First, together with the responsible lecturer, the draft survey is revised for the concerning course. After this, the surveys are created in EvaSys. When all draft surveys are completed, they will be published on final course day or on the day of examination. Students will receive a maximum of two reminders; after 7 and 11 days.

2. **PROCESSING EVALUATION RESULTS INTO REPORTS**
   After two weeks of response time for students, the surveys are closed. The results are then collected from EvaSys and uploaded on the SharePoint page of the department. For the courses, a management report is made. Next to the surveys, the examination grades are requested via the Education Administration, both for the first- and re-examination of the course. The results of the survey are also sent to the responsible lecturers who are required to provide their findings on the survey results.
   During the process of analyzing the survey results, the following documents are created by quality assurance:
   - Management report per research group (sub department);
   - Management report for the exam committee and program advisory committee;
   - Lecturer’s response document per course;
   - Student version of survey results (without open answers), published on a student SharePoint site [https://sites.ieis.tue.nl/kwazo/SitePages/Results%20of%20Course%20Evaluations.aspx](https://sites.ieis.tue.nl/kwazo/SitePages/Results%20of%20Course%20Evaluations.aspx)
   - Grades distribution per course;
   - Historical overview of survey results.
   For each evaluation aspect, indices are used to signal whether evaluation results are good, moderate or insufficient. Moreover, for each course it is checked whether the number of respondents is sufficient to provide significant results.
All the documents are stored and archived on the quality assurance SharePoint according to a standard file name: <EducationalYear>, <Quartile>, <CourseCode>, <DocumentType>.

3. PROVIDE TEACHER AND LEARNER SUPPORT

In preparation to the semester meetings the courses are discussed with the student councils of the study associations and subsequently with the program chairs, the education officers, the chairs of the education committees (OC) and the secretary of the examinations committees.

The results from all course evaluations are discussed per research group in the semester meetings with the chair of the group and the educational portfolio holder of the group. During these meetings, all courses are discussed that were taught during the past semester on the course outline, structure, assessment, lecturers involved, workload, and grades. When survey results indicate aspects that are insufficient, the responsible lecturer already needs to have an explanation for this and specify points for improvement. If necessary, the chair of the group is asked to discuss the conclusions of the semester-meeting with the responsible lecturer to ensure improvement measures.

Moreover, the documents generated by quality assurance are also shared with other departmental groups, as the research group board, program board, exam committee, and departmental board.

Other evaluations

In addition to the course surveys, also first-year, curriculum, and alumni surveys are held to monitor student and alumni satisfaction with the quality of education. For these evaluations, similar processes apply, except for the preparatory activities, which are carried out by ESA. These evaluations are all held once a year and include the following:

- National Student Survey (NSE)
- Transfer survey VWO to Bachelor
- Transfer survey Bachelor to Master
- Curriculum survey first, second and third year Bachelor
- Curriculum survey end of Master
- Alumni monitor survey
### Table 1A - Courses MSc HTI degree program, generation first year intake 2017

#### Compulsory courses (55 CP)

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Code</th>
<th>Name</th>
<th>CP</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1/Q3</td>
<td>oHM100</td>
<td>Introduction to the HTI domain - Overview HTI</td>
<td>5</td>
<td>a/p</td>
<td></td>
<td></td>
<td></td>
<td>a/p</td>
</tr>
<tr>
<td>Q1</td>
<td>oHM110</td>
<td>U(ser) (e)X(perience) Design (Design Track A)</td>
<td>5</td>
<td></td>
<td>q/a/r</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q1</td>
<td>oHM120</td>
<td>Advanced Data Analysis</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q2</td>
<td>oHM170</td>
<td>HTI Research Project</td>
<td>10</td>
<td>r/pr/ps</td>
<td>a/pr/r</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q2</td>
<td>oPP06</td>
<td>Master Thesis</td>
<td>30</td>
<td>mt/ps</td>
<td>mt/ps</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Specialization Electives (≥ 25 CP)

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Code</th>
<th>Name</th>
<th>CP</th>
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<tbody>
<tr>
<td>Q2</td>
<td>oHM130</td>
<td>Advanced Cognition*</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
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<tr>
<td>Q2</td>
<td>oHM140</td>
<td>Advanced Perception*</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
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<tr>
<td>Q2</td>
<td>oHM200</td>
<td>Psychology of Light and Time</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q2</td>
<td>oHM220</td>
<td>Network Society</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Q2</td>
<td>oHM230</td>
<td>Sound Perception</td>
<td>5</td>
<td>w</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q3</td>
<td>oHM150</td>
<td>Advanced Cognitive Engineering*</td>
<td>5</td>
<td>w</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q3</td>
<td>oHM240</td>
<td>The Quantified Self in Health</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
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<tr>
<td>Q3</td>
<td>oHM250</td>
<td>Online Behavior</td>
<td>5</td>
<td>w/ps/cp</td>
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<td>Q3</td>
<td>oHM260</td>
<td>Environmental Psychology</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
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<tr>
<td>Q4</td>
<td>oHM160</td>
<td>Advanced Social Psychology and Consumer Behavior*</td>
<td>5</td>
<td>r/ps/t</td>
<td></td>
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<tr>
<td>Q4</td>
<td>oHM270</td>
<td>Super Crunchers</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
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<tr>
<td>Q4</td>
<td>oHM280</td>
<td>Human Robot Interaction</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4</td>
<td>oHM320</td>
<td>Psychophysiology &amp; Affective Computing</td>
<td>5</td>
<td>w/a/cp</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Q2/Q3/Q4</td>
<td>oHM390</td>
<td>Professional Experience: Research, Design, or Business</td>
<td>5</td>
<td>r/ps</td>
<td>r/ps</td>
<td>r/ps</td>
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</table>

### Free electives (≤ 40 CP), including International Experience (at least 15 CP), engineering courses (at least 15 CP of technology courses, esp. Built Environment, ICT, Robotics, Sustainable Energy) and (possible) homologation courses (≤ 15 CP)

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EER MSc GS 2017, Annex 1B - HTI and IS
### Table 1B - Courses MSc IS degree program, generation first year intake 2017

#### Compulsory courses (55 CP)

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Code</th>
<th>Name</th>
<th>CP</th>
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<tbody>
<tr>
<td>Q1</td>
<td>oEM100</td>
<td>Evolutionary Foundations</td>
<td>5</td>
<td>a</td>
<td></td>
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<tr>
<td>Q1</td>
<td>oEM110</td>
<td>Research Methodology</td>
<td>5</td>
<td>a</td>
<td></td>
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<tr>
<td>Q1</td>
<td>oEM120</td>
<td>Governing Innovations</td>
<td>5</td>
<td>a/w</td>
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<tr>
<td>Q3</td>
<td>oEM130</td>
<td>Modern Societies in Transition</td>
<td>5</td>
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<tr>
<td>Q3</td>
<td>oEM150</td>
<td>Responsible Innovation &amp; Sustainability</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
<td></td>
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<tr>
<td>**</td>
<td>oEM06</td>
<td>Master Thesis</td>
<td>30</td>
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#### Track 1: Global Sustainability

#### Compulsory specialization courses (≥ 20 CP)

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<tbody>
<tr>
<td></td>
<td></td>
<td><strong>A. Choose at least 2 out of 4:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Q2</td>
<td>oEM140</td>
<td>Energy, Economy and Society</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
<td></td>
<td></td>
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<tr>
<td>Q3</td>
<td>oEM170</td>
<td>Global Connections</td>
<td>5</td>
<td>a/p</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Q4</td>
<td>oEM200</td>
<td>International Sustainable Development</td>
<td>5</td>
<td>a/cp/w</td>
<td>w</td>
<td></td>
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</tr>
<tr>
<td>Q4</td>
<td>oEM310</td>
<td>From Industrial Ecology to Cradle-to-Cradle</td>
<td>5</td>
<td>a</td>
<td></td>
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</tbody>
</table>

|         |       | **B. Choose at least 2, in addition to A**:|     |    |    |    |    |    |
| Q2      | oEM140| Energy, Economy and Society*      | 5   | a/w| w  |    |    |    |
| Q3      | oEM170| Global Connections*               | 5   | a  |    |    |    |    |
| Q4      | oEM200| International Sustainable Development* | 5  | p/cp/w| w |    |    |    |
| Q4      | oEM310| From Industrial Ecology to Cradle-to-Cradle* | 5  | r/o |    |    |    |    |
| Q1      | 7LY3M0| Building Performance and Energy Systems Simulation | 5   | Model |    |    |    |    |
| Q2      | 7QW9M0| Urban Green Strategies            | 5   | Model/ps|    |    |    |    |
| Q2      | 7ZW5M0| Smart Urban Environments          | 5   | r   |    |    |    |    |
| Q2      | 4EM70 | Sustainable Energie Sources       | 5   | r/w| w  |    |    |    |
| Q3      | oHM260| Environmental Psychology          | 5   | w/a| w  |    |    |    |
| Q3-Q4   | 5LEDo | Smart Grid Operation through ICT  | 5   | w  | w  |    |    |    |

EER 2017, Annex 1B - HTI and IS
<table>
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<tr>
<th>Quarter</th>
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<tbody>
<tr>
<td>Q2</td>
<td>oHM220</td>
<td>Network Society</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
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</tr>
<tr>
<td>Q3</td>
<td>oEM160</td>
<td>Innovation and Intellectual Property Rights</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
<td></td>
<td></td>
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<tr>
<td>Q4</td>
<td>oEM190</td>
<td>Infonomics</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4</td>
<td>oHM270</td>
<td>Supercrunchers</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Track 2: Innovation Strategy and Policy**

**Compulsory specialization courses (≥ 20 CP)**

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Code</th>
<th>Name</th>
<th>CP</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q2</td>
<td>oHM220 Network Society</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q2</td>
<td>oEM160 Innovation and Intellectual Property Rights</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q4</td>
<td>oEM190 Infonomics</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q4</td>
<td>oHM270 Supercrunchers</td>
<td>5</td>
<td>a/w</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**B. Choose at least 2, in addition to A**:  
- Q2 oHM220 Network Society*  
- Q2 oEM160 Innovation and Intellectual Property Rights*  
- Q4 oEM190 Infonomics*  
- Q4 oHM270 Supercrunchers*  
- Q1 iJM06 Human Aspects of Innovation  
- Q2 iZM20 Technology Entrepreneurship  
- Q2 oHM300 Novel Technology  
- Q2 iZM40 Strategy and Technology Management  
- Q3 DCM130 Design for Social Innovation  
- Q3 iZM11 Marketing and Innovation  
- Q4 iZM90 Open Innovation  
- Q4 5LTA0 Advanced Network Protocols  

**Free electives (≤ 45 CP), including International Experience (at least 15 CP) engineering (technology) courses (at least 10 CP, esp. Built Environment, ICT, Sustainable Energy), and (possible) homologation courses (≤ 15 CP)**

- a = assignment(s)  
- pr = peer review  
- w = written examination  
- cp = class participation  
- ps = presentation  
- mt = master thesis  
- q = quizzes  
- o = oral examination  
- r = report  
- p = paper  
- t = written test
RULES AND PROCEDURES FOR THE PRE-MASTER’S PROGRAMS

Article 1 Enrollment and admission

1. The admission and registration for a pre-Master’s program relating to a Master’s program chosen by the student is open to those in possession of Higher Vocational Education (HBO) diploma or a university Bachelor’s degree certificate from a university as well as a maximum of a 30-credit deficiency to be able to follow the Master’s program. If the certificate has not yet been actually awarded, the prospective student may still enroll in the pre-Master’s program on condition that the student is in the possession of a statement by the Examination Committee of the institution in question declaring that he/she has fulfilled the conditions for obtaining the university or HBO degree.

2. Students will be admitted to their chosen Master’s programs only after they have successfully completed the courses of the pre-Master’s program.

3. The registration period as included in the ‘2017 Regulations for Registration, Program Choice Check, Enrollment, and Termination of Enrollment’ shall apply for re-registration in the pre-Master’s program.

Article 2 Conditions for the pre-Master’s program

1. A pre-Master’s program is a maximum of 30 credits. The study components belonging to a pre-Master’s program must be scheduled within either one or maximally two semesters from the moment of enrollment.

2. For a student who has a Higher Vocational Education (HBO) diploma of a study program
   a. listed in Appendix 3, the pre-Master’s program encompasses 30 credits;
   b. not listed in Appendix 3, the Departmental Admissions Committee shall determine if the deficiency is minimally 16 and maximally 30 credits. If this is the case, the Departmental Admissions Committee shall decide whether admission to and enrollment in the regular pre-Master’s program is permitted.

3. If the deficiency of a student with a university diploma is minimally 16 and maximally 30 credits, the Departmental Admissions Committee determines the size and content of the applicable pre-Master’s program by August 15 latest. If there is a second registration period for the pre-Master’s program as of February 1, the pre-Master’s program must be determined before January 15.

4. If a student cannot complete the pre-Master’s program within six months of the start of the program and therefore is placed at a demonstrable disadvantage, but has in principle obtained a minimum of 15 credits at that time, the student may submit a request to expand the program with a maximum of 15 credits worth of Master’s study components. The credits obtained for Master’s study components during the pre-Master’s program shall be recorded on the student’s Master’s transcript as exemptions.
Article 3  Curriculum for pre-Master’s students

1. A curriculum is a set of courses that constitute a student’s degree program (in this case, the pre-Master’s program).
2. Before the start of the pre-Master’s program, the departmental administration office shall give each pre-Master’s student a curriculum, which includes all the courses in each respective pre-Master’s program.
3. The composition of the pre-Master’s program for students of an adjoining Higher Vocational Education (HBO) program is included in Appendix 3.
4. Individual pre-Master’s programs may be composed only for pre-Master’s students with a university background.

Article 4  Study progress requirement for pre-Master’s students

1. All pre-Master’s students must complete the pre-Master’s program within the term set for the program (maximally two semesters). If a student does not meet this requirement, he/she shall not be admitted to the same or another pre-Master’s program that belongs to the same Bachelor’s program for a period of three years. In special cases the Examination Committee may deviate from this.
2. The study progress requirement does not apply to students who have submitted a request to the ESA to withdraw at the mid-point of the set term (maximally two semesters) and who have not re-registered for another pre-Master’s program at TU/e.
3. Pre-Master’s students shall receive a written pre-recommendation on their study progress at the mid-point of the set term. This pre-recommendation serves as a warning in the event that the student is making insufficient study progress.
4. Within the set term (maximally two semesters), students shall receive a binding written study progress decision relating to their continuation of the pre-Master’s program. The study progress decision is:
   a. positive if the pre-Master’s student has passed the complete pre-Master’s program within the set term;
   b. negative if the pre-Master’s student has failed to meet the provisions stated under (a). Any credits obtained from Master’s study components do not count in this regard. The pre-Master’s student shall not be allowed to continue the pre-Master’s program.
5. In the event of extenuating personal circumstances, as referred to in Article 5, the Examination Committee determines when the standard must be satisfied.
6. A student who still has to successfully complete maximally one study component may request one additional opportunity to complete the study component from the Examination Committee, if the study component has not been passed.

Article 5  Personal circumstances

1. When a study progress recommendation is issued, any recognized extenuating personal circumstances are taken into account.
2. Extenuating personal circumstances include the following:
   – illness, physical, sensory or other forms of functional impairment, or pregnancy;
   – exceptional family circumstances;
   – membership or presidency of the University Council, the Departmental Council, a program board or committee, or membership of the board of a foundation whose
statutes allow for the exploitation of facilities or services intended for students, or a body that, in the opinion of the Executive Board, has equivalent status considering its tasks;

- membership of the board of a student organization of a reasonable size and with full legal status, or of a comparable organization of reasonable size, where priority is given to promoting the general common interest and activities are genuinely performed to that end.

3. The extenuating personal circumstances referred to in the previous paragraph will only be taken into account if they are reported to the academic advisor as soon as possible and no later than twenty working days after they arise, by or on behalf of the student. In the case of pregnancy, the student must give notification within twenty days after learning that she is expecting a child.

4. Students who wish extenuating personal circumstances to be taken into account must submit documentary proof that these circumstances exist or existed. The documentary proof must be submitted to ESA.

5. The academic advisor shall report extenuating personal circumstances in writing as soon as possible to the relevant Examination Committee.

6. The Examination Committee shall ask the Central Committee on Extenuating Personal Circumstances for advice on the extenuating personal circumstances submitted by students.

7. In its letter of intent to issue a negative study progress advice, the Examination Committee must specify, giving reasons, whether extenuating personal circumstances can be recognized and what consequences this has for the student concerned.

Article 6  Application of the Program and Examination Regulations for the Bachelor’s program within the Bachelor College

1. These Program and Examination Regulations apply to Master’s study components (with exception to pre-Master’s study components) that are included in the curriculum of a pre-Master’s student.

2. The pre-Master’s program contains study components belonging to a Bachelor’s program within the Bachelor College, as well as pre-Master’s study components belonging to the Graduate school. The following articles from the Program and Examination Regulations of the Bachelor’s Program shall apply mutatis mutandis for these study components:

   - Article 3.8 Registering for and withdrawing from courses
   - Article 3.9 Registering for courses after the registration period has passed
   - Chapter 5 Tests (with the exception of article 5.2)
   - Chapter 7 Study counseling and study progress (with the exception of article 7.3 up to and including article 7.7)
Annex 3 to article 3.2, paragraph 3, of the Education and Examination Regulations 2017, for the Master’s Degree Programs Human-Technology Interaction, Innovation Management, Innovation Sciences and Operations Management & Logistics according to Graduate School

A. Regulations for the pre-master’s programs for HBO and University bachelor graduates for transition to the subsequent Master’s programs Innovation Management and Operations Management & Logistics according to Graduate School

The requirements of the Education and Examination Regulations 2017-2018 for the bachelor programs Industrial Engineering and Innovation Sciences according to Bachelor College Model, and for the Master’s programs Human-Technology Interaction, Innovation Management, Innovation Sciences and Operations Management & Logistics according to Graduate School, also apply to the HBO and University bachelor graduates who have been admitted to the pre-master program, as long as these regulations do not conflict with the regulations of the pre-master program.

Article 1 – Pre-master program for HBO and University bachelor graduates

1. Students who have completed an HBO or University bachelor program in a technology subject are eligible to follow a pre-master program, which after completion entitles the student to a certificate granting admission to the subsequent Master’s program Innovation Management (hereafter referred to as MSc IM) or Operations Management & Logistics (hereafter referred to as MSc OML) according to Graduate School.

2. University bachelor graduates and HBO bachelor graduates from another HBO institution, listed in article 5, are individually assessed by the Departmental Admission Board. This assessment will lead to an individual decision by the Departmental Admission Board of whether the student can be admitted to the pre-master program as referred to in article 3 of these regulations, or if this pre-master program needs to be adjusted, or if the student is required to follow an individual pre-master program, or if the student is considered to be not eligible to follow the pre-master program.

3. The student must complete the pre-master program within 12 months of the starting date. If the student does not meet the requirements as stated in the preceding sentence, the student will not be allowed to continue the pre-master program, nor shall he/she be admitted to the same or another pre-master program that belongs to the same Bachelor’s program for a period of three years. In special cases the Examinations Committee may at the request of the student deviate from this.

Article 2 – Language

The pre-master program and the examinations are held in English.

Article 3 – The pre-master program

The (regular) pre-master program as referred to it article 1, which the student has to follow consists of the following courses:

a. pre-master program IM:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFC601</td>
<td>English Test</td>
</tr>
<tr>
<td></td>
<td>Mathematics Test</td>
</tr>
<tr>
<td></td>
<td>StudyChoiceCheck Premaster</td>
</tr>
<tr>
<td>1BK40</td>
<td>Business Analytics &amp; Decision Support</td>
</tr>
<tr>
<td>1JV00</td>
<td>Work &amp; Organizational Psychology: Basic (IE)</td>
</tr>
<tr>
<td>1ZEU00</td>
<td>New Product Marketing</td>
</tr>
<tr>
<td>2DL30</td>
<td>Statistics</td>
</tr>
<tr>
<td>1JZK40</td>
<td>Designing Business Processes</td>
</tr>
<tr>
<td>1ZV00</td>
<td>Research Methods</td>
</tr>
</tbody>
</table>
b. **pre-master program OML:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>IM</th>
<th>OML</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFC601</td>
<td>English Test</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mathematics Test</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>StudyChoiceCheck Premaster</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2DL10</td>
<td>Premaster Calculus &amp; Probability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1CV10</td>
<td>Introduction to financial and management accounting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1JV00</td>
<td>Work &amp; Organizational Psychology: Basic (IE)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2DL20</td>
<td>Statistiek</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2DD50</td>
<td>Wiskunde 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1CK50</td>
<td>Production and Inventory Control</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Article 4 – Direct admission to the pre-master program**

HBO bachelor graduates from HBO institutions listed below, are directly eligible to follow the (regular) pre-master program, referred to in article 3:

```
<table>
<thead>
<tr>
<th>Course Name</th>
<th>IM</th>
<th>OML</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Business Creations</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Autotechniek</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Aviation (HV)</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>ICT &amp; Business</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Bouwkunde</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Bouwtechnische Bedrijfskunde</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Business Engineering (InHolland)</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Business Logistics (HV)</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Chemie</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Chemische Technologie</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Civiele Techniek</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Elektrotechniek</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Engineering, Design &amp; Innovation (Commerciële Wib)</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Industrieel Product Ontwerpen</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Industriele Automatisering (HU)</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>(Hogere) Informatica (Computertechniek)</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Koninklijk Instituut voor de Marine</td>
<td>x'</td>
<td>x'</td>
</tr>
<tr>
<td>Logistiek &amp; Economie (NHTV)</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Logistiek &amp; Technische Vervoerskunde</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Luchtvaarttechnologie (Aviation) (InHolland)</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Mechatronica (Avans)</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Mediatechnologie (HU)</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Scheepsbouwkunde</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Technische Bedrijfskunde</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Technische Natuurkunde</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Werktuigbouwkunde</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>
```

\(x'\) regular pre-master program - (Calculus, Statistiek)
B. Regulations of the TU/e Honors Program for HBO 2017 for transition to the subsequent Master’s programs
Innovation Management and Operations Management & Logistics
according to Graduate School

Article 5 – TU/e Honors Program for HBO students

Students following an HBO program in a technology subject may, with the approval of the HBO Educational Management, be eligible to follow the TU/e Honors Program for HBO students as referred to in article 6. The admission requirements for this minor are the gaining of the courses 2DL03 or 2DL00 Basiswiskunde.

Article 6 – TU/e Honors Program in IM and OML for HBO students

The TU/e Honors Program for HBO students of an HBO program as referred to in article 5 consists of 30 study points.

A. Compulsory courses for the TU/e Honors Program in IM for HBO students

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFC601</td>
<td>English test</td>
</tr>
<tr>
<td>1BK40</td>
<td>Business Analytics &amp; Decision Support</td>
</tr>
<tr>
<td>1JV00</td>
<td>Work &amp; Organizational Psychology: Basic</td>
</tr>
<tr>
<td>1ZEUA0</td>
<td>New Product Marketing</td>
</tr>
<tr>
<td>2DL30</td>
<td>Statistics</td>
</tr>
<tr>
<td>1JZK40</td>
<td>Designing Business Processes</td>
</tr>
</tbody>
</table>

B. Compulsory courses for the TU/e Honors Program in OML for HBO students

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFC601</td>
<td>English test</td>
</tr>
<tr>
<td>2DL10</td>
<td>Premaster Calculus &amp; Probability</td>
</tr>
<tr>
<td>1C1V00</td>
<td>Introduction to Financial &amp; Management Accounting</td>
</tr>
<tr>
<td>1JV00</td>
<td>Work &amp; Organizational Psychology: Basic (IE)</td>
</tr>
<tr>
<td>2DL20</td>
<td>Statistiek</td>
</tr>
<tr>
<td>2DD50</td>
<td>Wiskunde 2</td>
</tr>
<tr>
<td>1CK50</td>
<td>Production and Inventory Control</td>
</tr>
</tbody>
</table>

Article 7 – Continuation of the HBO pre-master program

1. If an HBO Honors student, when assessed 12 months after the starting date, has not gained the 2DL30 course resp. the 2DL10 and 2DL20 courses of the Honors Program in IM, resp. OML, then he/she will not be allowed to follow (or continue) the pre-master program as referred to in article 3, nor to follow any other courses of the pre-master program that applies to him/her.

2. If an HBO Honors student, when assessed 12 months after the starting date, has at least gained the 2DL10 and 2DL20 courses of the Honors Program, he/she will also be allowed to follow (or continue) the remaining courses of the pre-master program that applies to him/her as referred to in article 3.

In that case the student will be allowed a maximum of another 24 months in which to complete the remaining part of the pre-master program. If this is not achieved, the student will only be allowed to follow the pre-master program that applies to him/her after gaining the HBO diploma.
Annex 3 to article 3.2, paragraph 3, of the Education and Examination Regulations 2017, for the Master’s Degree Programs Human-Technology Interaction, Innovation Management, Innovation Sciences and Operations Management & Logistics according to Graduate School

C. Regulations for the pre-master’s programs for HBO and University bachelor graduates for transition to the subsequent Master’s programs Human-Technology Interaction and Innovation Sciences according to Graduate School

The requirements of the Education and Examination Regulations 2017-2018 for the bachelor programs Industrial Engineering and Innovation Sciences according to Bachelor College Model, and for the Master’s programs Human-Technology Interaction, Innovation Management, Innovation Sciences and Operations Management & Logistics according to Graduate School, also apply to the HBO and University bachelor graduates who have been admitted to the pre-master program, as long as these regulations do not conflict with the regulations of the pre-master program.

Article 1 – Pre-master program for HBO and University bachelor graduates

1. Students who have completed an HBO or University bachelor program in a technology subject are eligible to follow a pre-master program, which after completion entitles the student to a certificate granting admission to the subsequent Master’s program Human-Technology Interaction (hereafter referred to as MSc HTI) or Innovation Sciences (hereafter referred to as MSc IS) according to Graduate School.

2. University bachelor graduates and HBO bachelor graduates from another HBO institution, listed in article 5, are individually assessed by the Departmental Admission Board. This assessment will lead to an individual decision by the Departmental Admission Board of whether the student can be admitted to the pre-master program as referred to in article 3 of these regulations, or if this pre-master program needs to be adjusted, or if the student is required to follow an individual pre-master program, or if the student is considered to be not eligible to follow the pre-master program.

3. The student must complete the pre-master program within 12 months of the starting date. If the student does not meet the requirements as stated in the preceding sentence, the student will not be allowed to continue the pre-master program, nor shall he/she be admitted to the same or another pre-master program that belongs to the same Bachelor’s program for a period of three years. In special cases the Examinations Committee may at the request of the student deviate from this.

Article 2 – Language

1. The pre-master program and the examinations are held in Dutch or English.

2. If a course and/or examination is held in Dutch, a student who does not have sufficient command of Dutch can request that he/she be allowed to take the examination in English. If Dutch study material is used for the course concerned, the student can ask for replacement English study material to be provided. In this case, a request to this effect must be submitted to the Examinations Committee at the start of the course concerned.
Article 3 – The pre-master program

The (regular) pre-master program as referred to in article 1, which the student has to follow consists of the following courses:

a. **pre-master program HTI, with starting date from 1 September:**
   - SFC601 English test
   - 2WAB0 Calculus A
   - oHP00 Behavioral Research Methods I
   - oHV10 Introduction Psychology & Technology
   - oHV30 Social Psychology & Consumer Behavior
   - oHV100 Human Factors
   - oHV50 Behavioral Research Methods II

b. **pre-master program IS, starting date 1 September:**
   - SFC601 English test
   - 2DL03 Basiswiskunde
   - 2DD20 Pre-master Statistics
   - oHV50 Behavioral Research Methods II
   - oSV30 Economics of Innovation - Introduction
   - oSV100 Economics of Innovation - Advanced
   - oPMP10 Pre-master Final project IS

Article 4 – Direct admission to the pre-master program

HBO bachelor graduates from HBO institutions listed below, are directly eligible to follow the (regular) pre-master program, referred to in article 3:

<table>
<thead>
<tr>
<th>HTI</th>
<th>IS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive Bouwkunde</td>
<td>Chemische Technologie</td>
</tr>
<tr>
<td>Civiele Techniek</td>
<td>Electrical and Electronic Engineering</td>
</tr>
<tr>
<td>Elektrotechniek</td>
<td>Elektrotechniek</td>
</tr>
<tr>
<td>Mechatronica</td>
<td>Technische Informatica</td>
</tr>
<tr>
<td>Technische Informatica</td>
<td>Technische Natuurkunde</td>
</tr>
<tr>
<td>Technische Natuurkunde</td>
<td>Werktuigbouwkunde</td>
</tr>
<tr>
<td>Werktuigbouwkunde</td>
<td></td>
</tr>
</tbody>
</table>

OER MSc Graduate School HTI-IM-IS-OML 2017, Annex 2 C/D – Pre-master programs HTI & IS
D. Regulations of the TU/e Honors Program for HBO 2017 for transition to the subsequent Master’s programs Human-Technology Interaction according to Graduate School

Article 5 – TU/e Honors Program for HBO students

Students following an HBO program in a technology subject may, with the approval of the HBO Educational Management, be eligible to follow the TU/e Honors Program for HBO students as referred to in article 6. The admission requirement for this minor is the gaining of course 2DL03 Basiswiskunde.

Article 6 – TU/e Honors Program for HBO students

The TU/e Honors Program for HBO students of an HBO program as referred to in article 5 consists of at least 30 study points.

Compulsory courses for the TU/e Honors Program in HTI for HBO students

- SFC601 English test
- 2WAB0 Calculus A
- oHP00 Behavioral Research Methods I
- oHV10 Introduction Psychology & Technology
- oHV30 Social Psychology & Consumer Behavior
- oHV100 Human Factors
- oHV50 Behavioral Research Methods II

Article 7 – Continuation of the HBO pre-master program

1. If an HBO Honors student, when assessed 12 months after the starting date, has not gained the 2WAB0 course of the Honors Program, then he/she will not be allowed to follow (or continue) the pre-master program as referred to in article 3, nor to follow any other courses of the pre-master program that applies to him/her.

2. If an HBO Honors student, when assessed 12 months after the starting date, has at least gained the 2WAB0 course of the Honors Program, he/she will also be allowed to follow (or continue) the remaining courses of the pre-master program that applies to him/her as referred to in article 3. In that case the student will be allowed a maximum of 12 months in which to complete the remaining part of the pre-master program. If this is not achieved, the student will only be allowed to follow the pre-master program that applies to him/her after gaining the HBO diploma.
Annex 4 to article 3.2, fourth paragraph, of the Education and Examination Regulations 2017 for the Innovation Management, Innovation Sciences, Human-Technology Interaction and Operations Management & Logistics and Master’s Degree Programs according to the Graduate School

A. HONORS ACADEMY

Objective
The Graduate School wants to enable all students to challenge themselves, develop their own talents and distinguish themselves as such. In order to develop their personal excellence some students require a learning environment that goes beyond what the master’s programs offer. The Graduate School offers these students the opportunity to participate in an honors program of the TU/e Honors Academy. The overall objective of the Honors Academy is “to prepare students for personal as well as scientific, societal and/or industrial leadership in a knowledge-intensive economy and society”.

Program and completion
Master students can start with an honors track from the second quarter of their first master year onwards. The size of an honors track is at least 20 credits, which come on top of the regular master program of 120 credits.
In their ‘Personal Development Plan’ students determine
- what they want to achieve in terms of personal leadership (5 credits; offered by the Honors Academy);
- what they want to focus on (excellence for science, for industry or for society);
- what they want to achieve in terms of professional development, which includes putting their personal leadership skills into practice (at least 15 credits; facilitated by the graduate programs).

For their chosen focus and professional development they can choose from various routes:
- an individual route designed by themselves;
- an existing, departmental master honors program;
- a special program that has been designed to provide a smooth transition from a master program to a technology designer program (PDEng) or a promotion program (PhD).
At successful completion the 20 (or more) credits will be assigned and the student will obtain the ‘TU/e graduate honors student’ label. Successful completion means that the student has achieved the goals he/she has defined with respect to personal leadership and has achieved excellent results within their chosen focus and academic discipline(s).

Selection and admission
In the first quarter of their first master year, honors candidates apply by writing an application letter, which includes evidence of past performance and excellence obtained either within or outside previous education, a motivation for their potential to excel in leadership and to combine their honors program with their regular master program without causing a study delay, and a tentative plan for how to achieve this. Candidates submit this to the research director of their own Graduate School, after which they are invited for an application interview. Selection is based on the application letter, the added materials and the interview. Graduate programs may define additional, specific criteria for admission to a particular honors program.
A. MSC EXCELLENCE PROGRAM IE

1. Introduction

The Master programs Innovation Management (IM) and Operations Management & Logistics (OML) offer a special excellence program for excellent students.

The MSc Excellence Program IE contains the following tracks.

- MSc Excellence Track in Design
- MSc Excellence Track in Research

The MSc Excellence Program IE is an additional program to the Master program (20 ects extra) and starts in the second semester of the master program.

The purpose of the program is multifold:

- to provide possibilities to excellent students to follow an extensive and even more challenging master program;
- to improve the relation between the MSc and the PDEng program by means of the MSc Excellence Track in Design, and the MSc and PhD program by means of the MSc Excellence Track in Research;
- to motivate more students in following a career in research or design.

Students that have successfully followed the design track of the MSc Excellence Program IE can be admitted to the PDEng IE program (not guaranteed).

Students that have successfully followed the research track of the MSc Excellence Program IE can be admitted to the PhD program (not guaranteed).

2. Admittance

From the second semester of the master program, the MSc Excellence Program IE will start. The Research Director IE (for the MSc Excellence Track in Design in consultation with the PDEng IE Program Director) assesses the applications for the MSc Excellence program IE.

(Minimal) start qualifications MSc Excellence Program IE:

a. student is strongly motivated and
b. student achieves excellent results:
   - excellent G.P.A of bachelor’s degree;
   - excellent communicative capacities;
   - excellent research or design capacities;
   - excellent quality BSc Project

These conditions (assessed by the Research Director IE) are considered as minimum conditions to be able to keep up with the MSc Excellence program IE.

To assess these conditions, students:

- make a Letter of Motivation
- give a Curriculum Vitae;
- will be interviewed;
- (possible) write a research proposal (with regard to the MSc Excellence Track in Research)

After the first year of the MSc Excellence Program IE, the Research Director IE will decide if a student in the excellence program can or cannot continue the excellence program.
3. Regulations MSc Excellence Program IE

The MSc Excellence Program IE is an addition to the Master program OML or IM (20 ects extra). This means that the program objectives for the MSc Excellence Program IE and the MSc program are equal. The excellence program provides excellent students extra possibilities.

Participating students conclude a contract with the program management of the MSc program in order to attend the excellence program. In this contract, the following issues, among others, are agreed:
- Content of the program
- Supervision
- Assessment
- Duration of the program

3.1 Content of the MSc Excellence Program IE¹

**MSc Excellence Track in Research**

The MSc Excellence Track in Research consists of the following units:

- Two mini-research projects (each 5 ects) to explore two different research fields, in the 1st year;
- PhD courses, in the 2nd year (10 ects in total) of the master, as part of the electives. Students can select PhD courses that are offered to the regular PhD students, including courses offered by LNMB, SIKS, KLI, EIASM;
- Master thesis project:
  - Is preceded by the writing of a PhD research proposal (instead of literature study and formulation thesis assignment) of 15 ects;
  - Proposal can be used to compete for grants (at e.g. NWO);
  - Master thesis is on first part of the PhD research proposal;
- Additional PhD courses can be followed in 2nd year of master, as part of the electives

On the website [http://beta.ieis.tue.nl/phd/](http://beta.ieis.tue.nl/phd/) a description of the PhD Program and courses can be found.

**MSc Excellence Track in Design**

The MSc Excellence Track in Design consists of 20 ects of core courses of the PDEng IE Program, or design assignments, in which knowledge from master courses is used for solving real-life problems in industry. Design assignments include company visits, company presentations and grading based on value for company, innovativeness.


Students that successfully undertake the MSc Excellence Program IE are exempted for specific parts of the PhD program (as student Excellence Research Track) or PDEng program (as student Excellence Design Track). It is strived for that a student of the Excellence Design Track can do the PDEng IE Program after the MSc Excellence Program IE in 16 months instead of 20 months. Their PDEng IE course program will then contain a maximum of 30 ects of core courses and design assignments.

¹ Integration of the MSc Excellence Tracks in the TU/e Honors Academy is possible in consultation with the Research Director IE, by incorporating Personal Leadership Development (5 ects) in the MSc Excellence Track
3.2 Supervision

The thesis mentor of the MSc programs will guide the students in the MSc Excellence Program IE as a Design or Research mentor and will have a significant role in the development of the student.

The Design/Research mentor will:

- assist in the admittance of a student in the excellence program;
- specify, supervise and approve the student’s master program and Design Track Program/Research Track Program;
- coach the student in his/her Design Assignments or PhD research proposal and the mini-research projects;
- interview the student after one semester following the start of the excellence program. In this interview student and mentor discuss the study progress of the student and consider the continuation of the excellence program.

3.3 Assessment

Regulations regarding the start and assessment of the excellence program:

- before starting the excellence program a student has to enroll in the MSc program;
- the excellence program certificate is awarded at the presentation of the MSc diplomas.

After the second semester the students in the excellence program are evaluated. In case of unsatisfactory results, students can be required to stop with the excellence program. At least, the program the student followed will not be official recognized as an excellence program. Students that stop (any reason at all) with the program are allowed to include the achieved results in their MSc program to the extent that the followed courses fit into the end qualifications of the regular MSc program. The credit points that not match with the regular MSc program are stated expressly on the diploma supplement (“Extra”).

3.4 Duration of the program

An excellence program should be attractive for students. This seems to contradict the strict demand that students have to pass their MSc program within two years. Therefore it is of great importance that the student and mentor discuss and appoint a timetable for the duration of the excellence program.