

Study programme section of the Students' Charter with the 2022-2023 Teaching and Examination Regulations of the Bachelor's programme

Study programme: B Automotive
Study programme code: 30018
Type of study programme: full-time
Location of the classes: year 1 & 2 in Eindhoven, year 3 & 4 in Helmond
Starting in September

Study programme: B Electrical & Electronic Engineering
Study programme code: 34267
Type of study programme: full-time
Location of the classes: Eindhoven
Starting in September and February

Study programme: B Mechatronics
Study programme code: 30026
Type of study programme: full-time
Location of the classes: Eindhoven
Starting in September

Study programme: B Mechanical Engineering
Study programme code: 34280
Type of study programme: full-time
Location of the classes: Eindhoven
Starting in September and February

Study programme: B Applied Mathematics¹
Study programme code: 35168
Type of study programme: full-time
Location of the classes: Eindhoven
Starting in September

The study programme's section of the Students' Charter was adopted by the institute's director on the 31th of May 2022, after obtaining the IPC's consent on the 30th of May 2022 and the PC consent on the 30th of May 2022.

The teaching and examination regulations of the study programme expand on the general section of the teaching and examination regulations of Fontys Bachelor's programmes.

This general section for the 2022-2023 academic year was established by the Executive Board on 14 December 2021, following the consent of the students' section of the CPC, which was given on 7 February 2022.

¹ Until the 1st of September 2022, the study programme is called Mathematical Engineering, after this date the study programme will be called Applied Mathematics.

Addendum for the teaching and examination regulations 2022-2023 of the bachelor programs

Course: B Mechatronics
Training code: 30026
Course type: full-time
Location: Eindhoven
Start in September

Course: B Electrical Engineering
Programme code: 34267
Course types: full-time, part-time
Location: Eindhoven
Starts in September and February

The addendum was adopted after approval by the OC Electrical Engineering on 24th of May 2022, the OC Mechatronics on the 9th of September 2022 and the IMR on June 20, 2022.

In the OER Bachelor 2022-2023 appendix: OER table Mechatronics and OER table Electrical Engineering has been adjusted.

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A – Teaching and Examination Regulations

Section 1 General

Article 1 Definitions

Academic year	The period from 1 September up to and including 31 August of the following year.
Advice regarding the continuation of studies	Advice given to students at the end of the first year of the foundation phase of a Bachelor's programme regarding the continuation of their studies either with the programme or elsewhere. This advice may entail a binding rejection (binding negative study advice).
Assessment	Generic term for tests aimed at assessing a student's competencies in a professional situation that is as authentic and realistic as possible.
Assessor	An examiner that grades the student's progress in acquiring the required competencies.
CAA	Centre for Administrative Activities. The CAA is the internal partner within Fontys of the representative and participatory bodies and their discussion partners with respect to optimising how these bodies function.
Certificate	The certificate as referred to in Section 7.11 of the Dutch Higher Education and Research Act (<i>Wet op het Hoger Onderwijs en Wetenschappelijk Onderwijs</i> , WHW).
CPC	Central Participation Council
Cohort	The group of students who are enrolled for the first time in the foundation year of a study programme on the same reference date to which the prevailing Teaching and Examination Regulations (TER) apply. For students who enrol in a higher year, cohort membership is determined on an individual basis.
Competency	A cluster of related knowledge, skills and attitudes that influences a substantial part of a person's job, is related to the performance of the job, can be measured and tested against accepted standards and can be improved through training and development.
Component test	If an interim examination consists of several tests, each of those tests is referred to as a component test.
Coordinating institute	The coordinating institute is the Fontys Institute which bears final responsibility for the development, implementation, assessment and improvement of a minor programme.
Credit	One credit equals 28 standard study-load hours. Students are awarded credits on passing the interim examination of a unit of study. The international term for credits is ECTS credits (EC's).
Education components CROHO	The courses offered to students to help their learning process. Central Register of Higher Education Study Programmes, which is a register of all study programmes. Students that pass the interim examinations of a study programme registered in CROHO are entitled to an official higher professional education certificate with the associated degree (Associate degree, Bachelor or Master). The CROHO will be replaced by the RIO in 2022.
Deficiency	Any required prior qualification(s) a student lacks.
Diploma supplement	Document drawn up in accordance with a European format that is added to the certificate and states the nature, level, context, content and status of the study programme.
Dual-study programme	A dual-study programme is organised in such a way that education is alternated with one or more periods of professional practice related to the study programme. The study programme therefore consists of an educational segment and a practical segment, both of which are integral parts of the study programme.
DUO	Short for Dienst Uitvoering Onderwijs, a government agency charged with implementing education legislation and regulations.
Diploma with subject combination	Former senior general secondary education (<i>HAVO</i>) or pre-university education (<i>VWO</i>) diploma based on subject combinations. These diplomas were issued before the <i>HAVO</i> and <i>VWO</i> profiles were introduced (from 1998).
ECTS	

Elite athletes scheme	European Credit Transfer System. The system that is used to express credits in order to facilitate international comparison. See also: credits.
EVC (RPL)	Scheme for elite athletes that specifies which students are eligible to benefit from it and the facilities that they may use under it.
Examination	<i>Erkenning van eerder Verworven Competenties</i> (Recognition of Prior Learning).
Examination Appeals Board	Assessment administered by the Examination Board to determine whether students have successfully completed the educational components of a study programme or the foundation-year phase. The final examination may also include a supplementary assessment conducted by the Examination Board.
Examination Board Examiner	The Board as referred to in Sections 7.60 up to and including 7.63 of the WHW and Articles 45 and 46 of the Students' Charter. The organisation, duties and powers of the Board are laid down in the Rules of Procedure adopted by the Examination Appeals Board and approved by the Executive Board.
Executive Board	The board of persons referred to in Section 7.12 of the WHW.
Executive institute	Member of staff or external expert not employed by the institution who has been designated by the Examination Board to administer examinations and assess the results thereof.
Exemption	The administrative body of Fontys University of Applied Sciences, as described in the articles of association and the WHW.
Exit qualifications	A Fontys institute responsible for the execution of a minor.
Fontys minor	Full or partial exemption from meeting enrolment and/or admission conditions and/or sitting interim examinations.
Foundation year	Qualifications students must have on completing the study programme.
Fraud	A minor open to all Fontys students, so long as they meet any admission criteria for the minor, with a focus on overarching and distinctive themes.
Full-time study programme	First phase in a Bachelor's programme.
Hardship clause	Any act (including plagiarism) or omission that either partially or fully impairs the correct assessment of a person's knowledge, understanding, skills, competencies, professional attitude, powers of reflection etc.
He/him	A full-time study programme is a study programme whose structure is such that students are assumed not to participate in any activities other than academic activities.
IELTS	A provision in a law or regulation that makes it possible to deviate from regulatory provisions in favour of the student or external student.
Institute	He/him is taken here to refer to men, women and individuals who do not identify as either of these options.
Institute Director	International English Language Teaching System, a tool used to determine a student's command of the English language.
Institution	The operational unit at Fontys that is, in particular, responsible for organising Fontys's core competencies and that executes the primary processes, i.e. the statutory tasks as referred to in Section 1.3, paragraphs 3 and 1.9(1) of the WHW.
Intake assessment	The staff member charged with running a Fontys institute.
Intake interview	The Fontys Universities of Applied Sciences.
Interim examination	Portfolio assessment conducted at the student's request to validate previous learning experiences prior to enrolment in the study programme. A fee covering the costs is charged for an intake assessment.
IPC	Interview conducted at the student's request prior to the start of the study programme if the student believes that he has competencies acquired previously. An intake interview comprises a general assessment from which no rights can be derived by a student.
	An examination of the knowledge, understanding, skills and/or competencies of a student required to conclude a unit of study, including an assessment of the results of such an examination (<i>Section 7.10(1) of the WHW</i>). An interim examination may consist of one or more component tests.
	Institute Participation Council

Main subject	A specific definition of the curriculum within a programme, which begins immediately from year 1 or following the foundation year. (
Major	That part of the Bachelor's programme with a study load of 210 credits that contributes to the competencies associated with the programme and that is directly related to the study programme(s)'s registration in the RIO.
Minor	Programme of optional subjects within a Bachelor's programme with a study load of 30 credits that contributes to generic or specific competencies.
Minor regulations	Regulations that describe the content, the education components, the testing and the completion of a minor. The regulations of all minors offered by Fontys can be found on the Fontys website (www.fontys.nl/minors). The regulations of the minors associated with a particular study programme have been included as an appendix of the study programme's TER.
Nt2 diploma	Diploma of the Nt2 official state examination in Dutch as a second language, of which programme II is considered to be the guideline for admittance to higher education.
Occupational requirements	The legal requirements to which the practice of a particular profession is subject. A study programme aimed at such an occupation will prepare students to meet the relevant requirements. (<i>Section 7.6 of the WHW</i>).
Part-time study programme	A part-time study programme is a study programme whose structure is such that the student is able to participate in supplementary activities, either work-related or educational, alongside the study programme.
Portfolio	A collection of evidence, digital or otherwise, with which students can demonstrate that they master the competencies of a particular study programme.
Post-foundation year phase	Second phase of a Bachelor's programme.
Principle	All study programmes offered are based on one of the following principles: non-denominational private education (NPE), Roman Catholic (RC), Protestant Christian (PC) or a combination of non-denominational private education, Roman Catholic and Protestant Christian (NPE, RC, PC).
Profiling Fund Board	Board charged by the Executive Board with implementing the Profiling Fund scheme, formerly known as the FSS Board.
Profiling Fund Scheme	Scheme for the granting of support to students in the form of graduate funding, committee member grants or attendance fee from the profiling fund, now known as the Profiling Fund Scheme
PC	Opleidingscommissie (Programme Committee, PC), a committee established for a particular study programme of an institute referred to in Section 10.3c of the Act (see the Regulations on the Participation Councils and Degree PC's).
RIO	The register (<i>Registratie Instellingen en Opleidingen</i>) that will replace existing registers such as the CROHO and the BRIN.
Tailored programme	Special programme which differs from the standard programme.
Teaching period	Period in the academic year during which education components are organised. A teaching period is referred to as a study quarter in the Fontys annual calendar.
TER	Teaching and examination regulations. The TER consists of a general section for all study programmes offered by the Fontys Universities of Applied Sciences as well as information specific to individual study programmes. The TER forms a part of the study programme section of the Students' Charter.
Test	Activity used to assess whether a student has certain knowledge, insight, skills and/or competencies.
Student	A person who is enrolled in the institution, as referred to in Sections 7.32 up to and including 7.34 of the WHW.
Student counsellor	Staff member appointed by the Executive Board who is responsible for looking after the students' interests, providing assistance when problems occur and providing information and advice. The student counsellor is part of the Student Facilities Service (<i>Dienst Studentenvoorzieningen</i>).

Study Career Centre	Service provided by the Student Facilities Service (<i>Dienst Studentenvoorzieningen</i>) to help students with issues involving admission, transfer to another study programme/institute or the termination of their studies.
Students' Charter	The charter containing the rights and obligations of students, divided into an institution-specific section and a study programme-specific section.
Student entrepreneur scheme	Scheme which is intended to help Fontys students who are deemed student entrepreneurs to combine entrepreneurship and study.
Student coach	Coach who provides guidance on issues relating to student progress, including those that stimulate a student to develop a personal and professional identity, focusing on a student's talents and personal leadership qualities.
Student coaching	System of guidance that focuses on the development of the individual student. It stimulates students to reflect on their own development as future practitioners of the profession and to take responsibility for their own development.
Study check advice	Advice provided to a prospective student who has participated in the study check with regard to his choice of Bachelor's.
Study check	The activity offered by Fontys whereby the prospective student is given advice with respect to his choice of study programme. The study check consists of at least two components: a digital questionnaire and a consultation to discuss the results of the questionnaire.
Study load	The standardised time investment expressed in units of 28 study load hours related to a study programme.
Study programme	A coherent totality of education components aimed at achieving the well-defined objectives in the area of knowledge, understanding and skills which the person completing the study programme should possess. Every study programme is recorded in the RIO.
Study programme minor	A minor which can only be taken by students from a specific domain or study programme and which highlights one particular theme.
Study programme profile	The entire set of final qualifications for which the study programme provides training or, in other words, the professional competencies expected of a beginning professional.
Unit of study	Part of a study programme that is concluded with an interim examination as referred to in Section 7.3(2) of the WHW or an additional assessment carried out by the Examination Board, as referred to in Section 7.10(2) of the WHW. Units of study may relate to the assessment of one or more competencies, a component of competencies (knowledge, understanding, skills, attitude) or a combination of competencies or of a minor. Students are awarded the relevant credits on passing the interim examination for the unit of study.
WEB	Adult and Vocational Education Act (<i>Wet Educatie en Beroepsonderwijs</i> , WEB; Bulletin of Acts and Decrees 507, 1995, and later supplements and amendments).
WHW	The Dutch Higher Education and Research Act (<i>Wet op het Hoger Onderwijs en Wetenschappelijk Onderzoek</i> , WHW; Bulletin of Acts and Decrees 593, 1992, and later supplements and amendments).

Section 2 Admission to a Bachelor's programme

Article 2 Required prior qualifications

- 1 Only prospective students with diplomas awarded on completing pre-university education (VWO) or senior general secondary education (HAVO), with profiles, or senior vocational education (MBO) in middle management as well as prospective students that have completed specialist training or a vocational training programme designated by a ministerial regulation may be admitted to a Bachelor's programme (*Section 7.24 of the WHW*). Additional conditions for admission apply if a shortened programme is offered. Those conditions are set out in Article 7.
- 2 Prospective students with a certificate awarded on completing a foundation year or passing the final examination of a higher professional education (HBO) or academic higher education (WO) study programme are also entitled to be admitted to a Bachelor's programme at a university of applied sciences. Prospective students must, however, also meet any applicable requirements regarding their previous qualifications (paragraph 4) and any other additional requirements imposed (paragraph 5). (*Section 7.28 of the WHW*).
- 3 All citizens that have access to education offered by research universities or universities of applied sciences in a country that has ratified the Convention on the Recognition of Qualifications concerning Higher Education in the European Region may also be admitted to a Bachelor's programme, without prejudice to the provisions in paragraphs 4 and 5 of this article and the provisions of Article 3.
- 4 *The previous qualifications of prospective students seeking enrolment in a Bachelor's programme are subject to the following additional requirements in respect of HAVO and/or VWO diplomas, MBO diplomas and the teacher training programme for primary education.*

The following additional educational entry requirements apply to prospective students seeking admission on the basis of a HAVO or VWO diploma (Section 7.25(1) of the WHW). The requirements to be met by the prospective student are as follows:

	HAVO-profile			
	Nature and Engineering	Nature and Health	Economy and Society	Culture and Society
B Automotive	permissible	Physics or Nature, life and Technology or Research and Design	not permissible	not permissible
B Electrical & Electronic Engineering				
B Mechatronics				
B Mechanical Engineering				
B Applied Mathematics for the VO profiles as offered until August 1, 2007	permissible	permissible	Mathematics B1	Mathematics B1
for the VO profiles as offered from August 1, 2007			Mathematics B	Mathematics B

	VWO-profile			
	Nature and Engineering	Nature and Health	Economy and Society	Culture and Society
B Automotive	permissible	Physics or Nature, life and Technology or Research and Design	Physics	not permissible
B Electrical & Electronic Engineering				
B Mechatronics				
B Mechanical Engineering				

B Applied Mathematics for the VO profiles as offered until August 1, 2007 for the VO profiles as offered from August 1, 2007				
		permissible	Mathematics B1 permissible	Mathematics B1 Mathematics A or Mathematics B

Prospective students who do not have the required subject cluster or did not take the right subject may be admitted provided an assessment conducted before the commencement of the study programme demonstrates that, in terms of the subject matter, the prospective student concerned meets similar requirements. (Section 7.25(5) of the WHW.)

If the further prior education requirements are not met, it is still possible to meet this by passing the deficiency tests. At the time of writing, these tests are only available in the Dutch language. Further information is available via [this link](#).

5. Prospective students who are 21 or older at the start of the study programme and do not meet the requirements regarding their previous qualifications and have not been exempted from the requirements may still be eligible for exemption after taking an entrance examination. (Also see Article 3(5).) (Section 7.29 of the WHW.)
The aim of this examination is to determine the prospective student's suitability to take part in the Bachelor's programme as well as the student's command of the Dutch language or the English language, if the prospective student opts for an English-taught study programme.

The entrance examination consists of two parts:

- An intellectual abilities test to assess if the prospective student has the required working skills and intellectual abilities at higher professional education (HBO) level. A stanine total score of 4 or higher is required to pass this part of the test.
- A language test to assess the prospective student's command of Dutch or English compared to the required 3F (B2) level.
Prospective students taking the entrance examination for students aged 21 or over (hereinafter the '21+ entrance examination') for a Dutch-taught study programme may request an exemption for the Dutch language test if they have already obtained a recognised Nt2 certificate or a certificate for Dutch language proficiency at the MBO 4, HAVO or VWO level granted by a prior degree programme.
Prospective students who register for the 21+ entrance examination for an English-taught programme must provide a TOEFL, IELTS or other accepted² certificate.

Prospective students will be notified of the results of the entrance examination within two weeks.

For the Applied Mathematics and Mechanical Engineering programme, an interview is held with a representative of the program and the candidate's admissibility is determined. If the result is positive, the candidate will be admitted to the programme. The supporting documents (result of 21+ entrance examination, recording of the admission interview, certificates / diplomas obtained, lists of marks for courses not completed, certificates, etc.) on the basis of which the student is admitted must be included in the student's file.

If a prospective student fails the 21+ entrance examination, they can retake it after one year. The result of a passed 21+ entrance examination will remain valid for five years. Prospective students will not be exempted from taking the 21+ entrance examination on the basis of any 21+ entrance examinations or intellectual abilities tests administered elsewhere.

² IELTS 6.0
TOEFL Paper 550
TOEFL Internet 80
TOEIC 670

(Indien zowel het onderdeel 'Speaking and writing' als 'Listening and Reading' is behaald.)
Cambridge ESOL FCE-C (scale 169 – 172), FCE-B (scale 173-175)

6. The Executive Board has declared that 'old' HAVO and VWO diplomas with subject combinations chosen by the pupil are at least equivalent to the 'new' diplomas with subject cluster requirements. Consequently, prospective students holding these types of diploma may be admitted. Prospective students must, however, meet any requirements regarding previous qualifications (paragraph 4) and any further additional requirements (paragraph 5). (*Section 7.28 of the WHW.*)
7. Where a prospective student applies for admission to a study programme based on a diploma other than one of the diplomas referred to above, the institute director will decide whether that diploma is equivalent and if it grants access to the study programme. Prospective students must, however, meet any requirements regarding previous qualifications (paragraph 4) and any further additional requirements (paragraph 5). (*Section 7.28 of the WHW.*)
8. Admission to the study programme *is not subject to* an admission quota in accordance with Sections 7.53, 7.54, 7.56a and 7.57a of the WHW.

Article 2a Study choice check and study choice advice

1. The study choice check consists of at least the completion of a digital questionnaire and a contact moment with the study programme.
2. Within 4 weeks following registration, the prospective student will receive a link to the digital questionnaire. Within 4 weeks following completion of the questionnaire, the prospective student will receive an invitation to the contact moment with the study programme.
International prospective students as referred to in the Study Choice Check Rules will receive further information on the study choice check within 4 weeks following registration.
3. The digital questionnaire can be completed in the period between 1 October and 1 September.
The study choice activities for international students will take place in the period between 1 October and 15 September.
4. The contact moments with the study programmes are planned in the period between 1 October and 1 September.
5. The contact moment will consist of an individual conversation with an employee of the education, for international students contact will take place per e-mail or by phone.
6. The study choice advice will be sent to the prospective student by e-mail within ten working days of the contact moment.
7. The study choice advice is non-binding for prospective students who apply by no later than 1 May. Prospective students who apply after 1 May will not be permitted to enrol, except in the case of a situation as referred to in Article 2(2) or in the event of exceptional circumstances as set out in Article 3(3), under a through d of the Study Choice Check Rules.
8. The Study Choice Check Rules determine the categories of prospective students for whom the study choice advice is not obligatory. *The study choice advice is likewise not binding for those groups of prospective students.*

Article 3 Requirements regarding foreign diplomas/prospective international students

1. Holders of a foreign diploma may not sit tests in the foundation year of a Dutch-taught study programme before having demonstrated to the Examination Board to have an adequate command of the Dutch language. (*Section 7.28 of the WHW.*) *N/A*
2. The institute director may also decide that a prospective student with a foreign diploma may be admitted after the prospective student has demonstrated that he has an adequate command of the Dutch language. (*Section 7.28 of the WHW.*)
3. Prospective students with a foreign diploma seeking admittance by virtue of an entrance examination as referred to in Article 2, paragraph 6, must be at least 21 years of age.
4. Foreign prospective students from outside the EU who are 18 years of age or older on the date of their first enrolment must have a valid residence permit. (*Section 7.32 of the WHW.*)
5. Foreign students with a residence permit are required to earn at least 50% of the available credits each year. The IND will be informed if the student fails to meet this requirement, unless there are special circumstances due to which the student was unable to meet this requirement. Such a notification based on the same special circumstances may be withheld once during the course of each study programme.

6. For international³ students, the following language requirement applies for admission to an English-language programme.
- an average IELTS score of 6.0, for which the student must have a score of 6.0 for at least three components and may have a score below 6.0 for no more than one of the four components, provided this score is at least a 5.5.

A previously completed language test, with the exception of Cambridge, may be no more than two years old at the time the study commences, which can be either on 1 September or on 1 February.

Exemption may be granted for this requirement if the international student can submit a diploma from prior education that was obtained in a country in which English is the official language of instruction. If the diploma was granted more than two years ago, the student will be asked to demonstrate their language skills again, unless English is the only language of instruction in the country where the student obtained the diploma.

Test	Overall Score	Component	No more than 1 deviating component
IELTS	$\geq 6,0$		
• IELTS reading		$\geq 6,0$	$\geq 5,5$
• IELTS listening		$\geq 6,0$	$\geq 5,5$
• IELTS speaking		$\geq 6,0$	$\geq 5,5$
• IELTS writing		$\geq 6,0$	$\geq 5,5$
Cambridge	≥ 169		
• Cambridge reading		≥ 169	160 t/m 168
• Cambridge listening		≥ 169	160 t/m 168
• Cambridge speaking		≥ 169	160 t/m 168
• Cambridge writing		≥ 169	160 t/m 168
TOEFL	$\geq 72^4$		
• TOEFL reading		≥ 18	
• TOEFL listening		≥ 17	
• TOEFL speaking		≥ 20	
• TOEFL writing		≥ 17	
TOEIC speaking and writing	≥ 310		
• TOEIC speaking		≥ 160	-
• TOEIC writing		≥ 150	-
TOEIC reading and listening	≥ 785		
• TOEIC reading		≥ 385	-
• TOEIC listening		≥ 400	-

Please note: the TOEFL and TOEIC programmes do not have a deviating component, as the lower limit applied in the 'Test Component' table is already the B2 lower limit as well.

³ According to the Code of Conduct International Student, the term 'international student' refers to a 'student with a foreign nationality who, in case of a third-country national on the basis of a residence permit granted to this effect, desires to continue, continues or has continued his/her full time education at a higher education institution in the Netherlands'.

⁴ A minimum score of 60 applies in the draft code of conduct that will come into effect on 1-9-2022.

Article 4 Professional activity requirements

1. There is no dual-study programme.
2. There is no part-time study programme for the English stream.

Section 3 Intake interview, exemptions, short track and tailored study programmes

Article 5 Intake interview

1. Students entering a study programme may be offered an intake interview if they have competencies previously acquired elsewhere. Students *can include the evidence of the competencies previously acquired elsewhere in their portfolios* which are to be evaluated in an assessment *or* may use this evidence to substantiate a request for exemption before the Examination Board.
2. Students who re-enrol after an interruption in a study programme in which they were previously enrolled will be required to take an intake interview to determine which part of the study programme still has to be completed. No intake interview is needed if agreements regarding re-enrolment in the study programme were already made with the Executive Board at the time that the student interrupted his study. If a student enters a study programme during the foundation year, agreements will be made on the period of time the student will be granted before the advice regarding the continuation of studies will be issued.
3. A study programme will be drawn up based on the assessment of the competencies previously acquired and will be submitted to the Examination Board for approval.

Article 6 Exemptions

1. The institute director can exempt a student from the foundation year examination if the student holds a diploma, Dutch or foreign, which is at least equivalent. (*Section 7.30 of the WHW.*)
2. Students who believe they are eligible for an exemption must submit an application to that end to the Examination Board. The Examination Board may grant an exemption from one or more interim examinations on the grounds of a review of an assessment or the holding of a diploma, certificate, accreditation of prior learning or similar document, such as proof of results achieved in a study programme taken at a research university or university of applied sciences and/or proof of administrative activities, with which students can show that they have already met the requirements of the test in question. Exemptions are recorded in the study progress system. The period of validity of the exemption is stated in the exemption decision. The validity period is 10 years. If knowledge, insight and skills are demonstrably outdated, this period can be shortened. see article 29.
3. The Examination Board can grant an exemption from a minor based on the certificate of an accredited Associate degree, Bachelor's or Master's programme or on a document proving that the student completed a minor in an accredited Bachelor's or Master's programme, so long as this minor does not overlap substantially with the student's current Bachelor's programme. Exemptions based on study results from an accredited Associate degree, Bachelor's or Master's programme can only be granted if the student has documented proof of obtaining at least 30 credits in this study programme (for a Bachelor's programme, this requirement refers to the second and third year, or second year if it concerns an Associate Degree programme) and if these results do not overlap substantially with the student's current Bachelor's programme.
A student who has taken part in the Fontys Empower programme and has successfully completed all components of that programme may, on that basis, may be granted an exemption for a minor provided the student submits a request to that effect and this possibility has been set out in Article 16(5).

Article 7 Short-track/tailored study programmes

1. Students who believe they are able to proceed with and/or complete their study programmes at an accelerated pace may submit an application requesting such to the Examination Board. The student coach's advice must be enclosed with the application. The organisation of the study programme must be able to accommodate the short-track option.

Section 4 Facilities with reference to student coaching, language, functional

disability, administrative activities, Elite athletes scheme, student entrepreneurship

Article 8 Student coaching

1. Every student is coached by a student coach.
2. In consultation with the student coach, the student decides how best to develop and how to shape the learning process.
3. The student consults with the student coach on the progress of the learning process.
4. The student coach conducts support and orientation interviews with the student in the foundation year. A report is drawn up of these conversations. A copy of the report is provided to the student. The student signs the report as seen or approved, possibly with the annotation 'seen, but not agreed'.
5. Students may submit a request to the institute director to be assigned a different student coach if they can give arguments for this.

Article 9 Facilities with reference for language

1. Students enrolled in their foundation year whose main language is not English can apply to the Examination Board to be allowed extra time when they sit tests in the first year of the foundation phase. Extra time to sit tests will only be granted to students who can prove that they use facilities to improve their command of the English language.
2. For Dutch students, extra support will be arranged with regard to promoting Dutch language proficiency for those students who are in need of such support.
The following facilities will be provided. Information can be found via [this link](#).

Article 10 Special facilities for students with a functional disability

1. Students with a functional disability are legally entitled to effective adjustments, unless such adjustments would burden the institution disproportionately. (Section 7.13 of the WHW, Section 2a of the Equal Treatment of Disabled and Chronically Ill People Act.) See also <https://fontys.edu/Subsites/Fontys-Helps-1.htm>
2. These adjusted facilities must be aimed at the removal or restriction of any obstacles and encourage the independence and full participation of the student as much as possible. The adjusted facilities may relate to the study programme (including internships), the timetables, and type of study programme, the tests and educational tools.
3. A student who seeks to have adjusted facilities must submit a written and substantiated application in good time to the Examination Board. If necessary, the Examination Board will seek an expert's advice (such as a student counsellor) before taking a decision. If the Examination Board deems it necessary before taking a decision, it may confidentially inspect the medical certificate that may be available with the student counsellor, unless the student objects.
The Examination Board must decide within four working weeks after receipt of the application, unless it requires further inquiry, in which case the student will be informed as to when more clarity can be given with respect to his application.
4. In the case of a protracted or chronic disability, such an application will only have to be made once for the entire study programme; in all other cases once per testing period or academic year. In its decision to grant the facilities, the Examination Board may also rule that these will apply for the entire duration of the student's study or that the student is to consult with his student coach annually to discuss whether the facilities are still adequate.
5. At the beginning of the academic year the institute will inform students regarding the possibilities for special facilities. Students will be informed of their right to consult a student counsellor.

Article 11 Students with board memberships

1. Students can include any board memberships as part of their portfolios. In order to do so, they must describe, in consultation with their student coach, how the board membership can contribute to the acquisition of one or more competencies of their study programme.
2. Board memberships for the DPC, IPC, CPC, or for study associations, student associations and as members of committees at Fontys can be listed on the diploma supplement. The student must request the listing at least 3 working weeks prior to the graduation ceremony via the Student Administration Office, via engineeringeindhoven@fontys.nl.

At the request of the student's study programme, the Centre for Administrative Activities (CAA) can confirm that the student has been an active board member of a CPC. In the case of board memberships of a PC or IPC, the study programme can request confirmation from the relevant IPC or PC.

3. Students who believe that their board memberships demonstrate that they have the knowledge, understanding and/or skills etc. that are assessed in particular tests may apply for an exemption from such tests from the Examination Board.
4. Facilitation for board memberships is laid down in the Fontys Regulations on the Participation councils and degree programme committees, the Regulations on board membership grants and the Remuneration scheme for committees and steering groups.

Article 12 Elite Athletes scheme - Student entrepreneurship

1. Students who have been granted an Elite Athletes or Talent status are entitled to facilities from the Elite Athletes Scheme. Facilities regarding the adjustment of tests or test timetables, an adjusted arrangement regarding compulsory attendance, working in groups and an adjusted internship must be sought from the examination board of the study program. Advice regarding the continuation of studies may be deferred for students with an Elite Athlete status (see Article 32).
2. Students who are eligible for the Student Entrepreneurship Scheme may apply to the Examination Board, among others, for facilities regarding the adjustment of tests or test timetables, an adjusted arrangement regarding compulsory attendance for education components, working in groups and an adjusted internship. These facilities should be sought from the examination board of the study program. Advice regarding the continuation of studies may be deferred for students with entrepreneur status (see Article 32).

Section 5 Study programme content

Article 13 Study programme profile – main subjects/differentiations – occupational requirements

1. The study programme is based on a study programme profile. The exit qualifications of the study programme are described in the study programme profile. The study programme profile can be found via this link.
At the end of the study programme, the student will be expected to command the competencies expected of a newly qualified professional in the field. During the course of the study programme, the student will be taught the required competencies and the student's command of them will be assessed.
2. The study programme Applied Mathematics offers the following specialization: Data Science.
3. The principle of the study programme is mentioned in the Register of Study Programmes.
4. The study programme does not impose any specific occupational requirements, laid down in the following laws and regulations.

Article 14 Study programme layout

1. Each Bachelor's programme has a foundation year phase with a study load of 60 credits, which is concluded with the foundation year examination. The function of the foundation year is to orientate the student, allowing him or her to make suitable choices.
2. A Bachelor's programme has a study load of 240 credits with a nominal study load of 60 credits per academic year and consists of a major and a minor. The major has a study load of 210 credits. The minor has a study load of 30 credits.

Article 15 Overview of units of study and credits

1. Every study programme consists of a coherent set of units of study, which are components of a study programme concluded with an interim examination. Units of study cannot exceed 30 credits.
2. Only whole credits are awarded for units of study. In the overview included in Appendix TER Table you will find a distribution of the credits.

3. For the Electrical and Electronic Engineering as of cohort February 2021 applies: At the scheduled end of an educational module (that consists of one or more learning outcome), the student presents a collection of evidence that meets or exceeds the minimum standard for each learning outcome. If the evidence is assessed as insufficient for any of the learning outcomes in the module, the student will not be awarded credits for the module and must resit it. The student only gets one chance to improve; so they cannot improve until it is sufficient. If the retake is not sufficient; they need to bring in new evidence (next study year).
4. For the Electrical and Electronic Engineering as of cohort February 2021 applies: During the period, the student will receive feedback and feedforward from a mentor and a project coach (this may be the same person) on regular basis. Feedback and feedforward are used as a form of indicative assessment that the student can use to evaluate his / her progress with regard to the learning outcome.
5. For the Electrical and Electronic Engineering as of cohort February 2021 applies: A completed learning outcome will be assessed at the end of an academic period based on a portfolio. The assessment is based on the relevant learning outcomes and their indicators
6. For the Electrical and Electronic Engineering as of cohort February 2021 applies: The TER table, learning outcomes, indicators and guidelines for evidence are available in the Appendix Overview Electrical Engineering full-time.
7. For the Electrical and Electronic Engineering as of cohort February 2021 applies: The new program is still being developed and will be supplemented every year.

Article 16 Content of minors and other special programmes

1. Students are not restricted in their choice of a minor, whether the minor is a minor specific to a study programme or one offered across Fontys, or an external minor, provided there is no overlap with the major programme (see also paragraph 2).
2. Students who want to take a minor abroad or an external minor must seek the Examination Board's permission regarding their personal choices with respect to the minor prior to its start. Participation in a minor requires students to have passed the foundation year examination, unless the Examination Board grants them permission to take the minor without fulfilling this requirement at the moment of application. The minor must be taken in the third year of study.
3. Enrolment in a minor must be done before the start date as stated on the [Fontys minor portal](#) or in the minor regulations. The minors can be offered both in English and Dutch.
4. Students can take a minor on top of the regular study programme of 240 credits. The student must request permission from the Examination Board in advance. The Applied Mathematics, Automotive, Electrical Engineering, Mechatronics and Mechanical Engineering programmes offer the opportunity to participate in the special excellence program PROUD. Criteria for participation can be found in the Appendix PROUD description. The appendix is an integral part of the OER 2022-2023. To participate in PROUD, permission is required from the Examination Board of the study program. A minor that has been passed will be mentioned on the diploma supplement.
The Fontys Empower reorientation programme is open to students who have hit a roadblock in their studies. The programme has a study load of 30 ECTS credits. The regulations for this reorientation programme can be found on the [Pulsed](#) portal.
A student who has taken part in the Fontys Empower programme and has successfully completed all components of that programme may, on that basis, be granted an exemption for a minor, provided the student requests an exemption from the Examination Board of the programme in which they are enrolled, unless that programme does not offer a minor.
6. Students who go through the program at an accelerated pace or have serious delays make a tailor-made study program together with their student coach. This program must be submitted to the examination committee for approval. The program has no alternative pathways for long-term students.

Article 17 Education components - learning environment

1. Below is an overview of the education components that are part of the study programme. See Digital Learning Environment.

2. The education components of the minors are described in the minor regulations. The regulations governing the minors offered across Fontys can be found at www.fontys.nl/minors. The regulations governing minors specific to study programmes are included as an appendix to this TER.
3. Any entry requirements a student must meet before participating in an education component are stated in the overview as referred to in paragraph 1.
4. Participation in education components in the post-foundation year phase is allowed after passing the foundation year examination. The Examination Board may grant permission to a student who has not passed the foundation year examination to participate in education components in the post-foundation year phase. (Section 7.30 of the WHW.)
5. Enrolment in the educational activities is required. The procedure can be found in appendix Application procedure for educational activities.
6. The timetable is announced by way of Digital Learning Environment no later than 3 weeks prior to the start of classes.
7. Students who have registered for an education component must ensure that they meet the entry requirements of that component. The overview in Article 17, paragraph 1, indicates the education components to which requirements apply for participation as well as the nature of these requirements. If the requirements concern compulsory attendance, students who are eligible for the Elite athletes scheme or the Student entrepreneur scheme can apply to meet this requirement in a parallel group or for exemption from this obligation (see also Article 12).
8. Compulsory attendance may be required for practicals and components that use peer assessment or other components where attendance is necessary (eg for projects and workshops). This is clearly stated in the study guide or semester guide of the program on the portal.
9. The following applies to the Applied Mathematics degree programme: In years 3 and 4, it is possible to take additional courses in the other specializations in addition to the compulsory and elective units of study within the chosen specialisation. Completed extra units of study are stated on the diploma supplement.
10. The following applies to the Applied Mathematics programme: Students are only admissible to the Data Science specialization if they have completed their propaedeutic year and have obtained at least half of the EC for the preparation for the specialization in year 2. The student registers for the specialization at the end of year 2. The procedure for applying for the specialization can be found on the training page of the portal. The chosen specialization is stated on the diploma.

Article 18 - Evaluation of teaching

The teaching provided during the study programme is evaluated in the following way. The education is evaluated as described in the quality manual of the institute Engineering. The quality manual is available [this link](#).

The Applied Mathematics program periodically evaluates education among students, lecturers, field representatives and alumni. This according to the schedule below:

Instrument	Frequency	Target group
NSE	yearly	students
consultation in professional field committees	yearly	field representatives, alumni, students, teachers
Curriculum committee	Periodically	student representatives and teacher representatives
Programme meetings	Periodically	teachers

Section 6 Tests, *evidence*, assessment and study progress

Article 19 Types of tests - evidence

1. A test consists of/may consist of:
 - a. *one or more mandatory tests or mandatory partial tests;*
 - b. *freely-chosen evidence evaluated as an assessment, such as a portfolio;*
 - c. *a combination of a) and b).*
2. Tests are conducted in writing or orally or in a fashion that combines both writing and oral delivery (e.g. product and presentation/interview).

3. An oral examination, including an assessment, is conducted by at least two examiners. A report must always be drawn up of an oral test *on a specially designed evaluation form* an assessment of the quality of the evaluation afterwards. A test may be conducted by a single examiner only following the approval of the Examination Board and provided the student does not object.
An oral test is held in public. Interested parties who wish to attend an oral test must submit a request to that effect to the examiner(s) at least two weeks before the test is held. The examiner must inform the student who is taking the test. If the student objects, the request to attend the oral test will in any event be rejected. Any rejection by the examiner will be substantiated.
When the Examination Board offers students the possibility to sit an additional oral test by way of replacement of a regular test, it will always be conducted and assessed by two examiners.
4. *If a test consists of an assessment of freely-chosen evidence, the programme should allow the student to collect such evidence and receive feedback from the examiners, external experts and/or peers. The requirements that the evidence must meet are given in the Digital Learning Environment.*

Article 20 Tests and assessments

1. The Examination Board will designate one or more examiners for each test. An examiner can also be an external expert.
2. The assessment of minors is described in the minor regulations. The examiner of the minor determines whether a student has passed the tests. The Examination Board of the coordinating institute that offers the minor must determine whether the student has passed the minor and ensure that the student receives a certificate. The result achieved for the minor is forwarded to the programme administration of the study programme in which the student concerned is enrolled.

Article 21 Content of tests, duration of the test, test aids and test timetables

1. The content of the test, including the learning objectives, is described in *the Digital Learning Environment* and is made available to students at least *3 working weeks* before the test.
2. The examiner determines the period of time allowed to students to take the test as well as any aids that students may use during the test, subject to the guidelines and instructions provided by the Examination Board. This information must be stated on the examination paper.
3. The test timetable will be published through *the Digital Learning Environment* no later than *3 working weeks* before the start of the test period in question.

Article 22 Registration for tests

1. Students must register for every test in accordance with the procedure as described in Appendix Registration procedure examination. Electrical and Electronic Engineering students as of the February 2021 cohort must register that they are going to submit their portfolio. The deadlines for registration for each module are found on the engineering portal (study results).
2. Students who have failed to act in accordance with the registration procedure cannot sit the test.
3. Students may cancel a registration for a test in accordance with the following procedure described in the appendix registration examination. Electrical and Electronic Engineering students as of the February 2021 cohort must register for a retake if they cancel their regular test.

Article 23 Proof of identity during tests

Students must prove their identity at every test by showing a legally valid form of ID other than a student ID card.

Article 24 Test marking system

1. The assignments, questions, assessment norms and criteria are determined by the examiners with due regard for the guidelines and instructions provided by the Examination Board. The examiner conducts the test and determines the result on the basis of the determined assessment standards and assessment criteria.
2. If one and the same test is conducted and assessed by more than one examiner, the Examination Board will ensure that the examiners adhere to the same standards and criteria.

Article 25 Test results

1. The test results must be announced in writing to the student within ten working days of the date of the test apart from the exceptions laid down in the Teaching and Examination Regulations. The study programme administration is responsible for announcing the test results. The privacy of students will be respected when test results are announced.
2. Students are entitled to inspect all assessed tests and the accompanying assessment criteria and to be given feedback on the results.
3. Inspection is subject to the procedure described below.
A student can contact the examiner (lecturer) within 2 working weeks or at scheduled times after the announcement of the result of the test to inspect the work done.
4. Feedback is given according to the following procedure.
A student can contact the examiner (lecturer) within 2 working weeks or at scheduled times after the announcement of the test result for feedback on the work done.
5. Students can request a proof from the Education Office of the state of affairs regarding their results. The student can derive rights from this overview if the list of marks has a valid stamp and is signed by examination board.

Article 26 Inability to sit tests

1. Students who have acted in accordance with the registration procedure described in Article 22 but who are unable to sit the test for reasons beyond their control, the legitimacy of which reasons is subject to assessment by the Examination Board, may apply to the Examination Board to sit the test within a period of time to be set by the Board.
2. The application referred to in the previous paragraph must be submitted in writing to the chairman of the Examination Board and include the necessary evidence (see Article 38(3)). The Examination Board will then take a decision and inform the student concerned. If the request is granted, the Examination Board will set a date, time and place for the test. Any rejection of the request will be substantiated and the student will be informed of his right to appeal. In assessing the request, the Examination Board's primary criteria are the obstruction of the study progress and the student's personal circumstances.
3. If such a request relates to a test of a minor offered across Fontys, the student must direct the request to the coordinating institute responsible for the minor, as described in regulations governing the minor

Article 27 Request for a review

1. Students who do not agree with an assessment can submit a request for a review of the assessment to the Examination Board within 4 working weeks after the date of the assessment (see Article 38(3) of these Teaching and Examination Regulations and Article 44 of the Students' Charter). The Examination Board must take a decision within 4 working weeks at a maximum.
2. Students may also appeal directly to the Examination Appeals Board within 6 calendar weeks after the date of the assessment via www.fontys.nl/studentenloket. (see Article 45 and Article 46 of the Students' Charter).

Article 28 Resits

1. Tests are conducted at least twice an academic year.
Students can resit components marked with a pass no more than once, and at least once, in which case the highest mark will count.

A resit may consist of repairing or redoing a test:

Repair: when a test result can be improved to a satisfactory level by means of an adjustment or addition, then there is a repair. This includes, for example, submitting work after the deadline, adjusting or supplementing submitted work based on feedback. Conditions for repair are that it can be performed independently by the student and it is not necessary to take the module again. The repair is handed in to the teacher within a pre-agreed time. The repair is passed on to the education office as a resit.

Redo: when a test result cannot be improved to a satisfactory level by means of a repair, then a resit is only possible the next time the test is offered again. The new test result is passed on to the Student Administration Office as a resit.

2. At least two opportunities to take tests that assess the material they have learned will be offered. Following these two test opportunities, the material to be studied for the test may be adapted to the material offered in the teaching block prior to the test. An up-to-date description of the material to be tested can be found via The Digital Learning Environment.

Article 29 Period of validity of results - evidence

1. The period of validity of successfully completed component tests is 10 years, provided registration in Progress.
The retention period of evidence for partial assignments (such as practicals) is minimal 0,5 year. For other evidence (such as summative tests) a period of validity of 2 years applies. For graduation the validity is 7 years.
Results achieved for interim examinations can only lapse if the understanding/knowledge/skills to which these interim examinations relate can be shown to be obsolete. Understanding, knowledge and skills that were assessed more than 10 years ago can evidently be shown to be obsolete.
The period of validity of successfully completed interim examinations is: 10 years.
The Examination Board may extend this term.
2. In the event of special circumstances as referred to in the [Profiling Fund Scheme](#), the period of validity of interim examinations will as a minimum be extended by the duration of the support granted on the basis of that scheme.
3. If the study programme has been substantially altered, details on how this term will be restricted can be stated below, whether in the form of a written decision issued to a student or incorporation in the Teaching and Examination Regulations, if it applies to the entire cohort.
After the last regular offer of the 'old' education and the associated test, the relevant test will be offered as a resit twice in the following academic year. After these resits, it is determined which exam from the "new" education a student must take to replace the "old" part.

Article 30 Graduation product - Knowledge bank

If the study programme provides for the submission of a graduation product that can be included in a knowledge bank, students must submit the product digitally, as one document, to enable its inclusion in one or more digital knowledge bank(s). On submission of the product, students must also attach the signed 'Permission form for the filing and making available of a graduation product in a digital knowledge bank'. With this form, students give their permission for the graduation product to be entered in the knowledge bank and for it to be made available to potential users at the university of applied sciences and elsewhere.

On submission of the digital graduation product, the student and/or client and/or organisation offering the internship may indicate their objection to the graduation product being entered in the databank.

Article 31 Study progress

The study programme is responsible for recording the test results in the programme administration.

Article 32 Advice regarding the continuation of studies

1. During the first year of enrolment in the foundation phase of a bachelor study programme and, where possible, prior to the start of the second semester, the student is given advice on his study progress. If the study progress is unsatisfactory, the student will receive a written warning and be told that if the study progress continues to be unsatisfactory, he will receive a binding negative advice regarding the continuation of his studies. A reasonable period within which the student must have improved his grade point average and the opportunities a study programme offers in that regard are stated in the warning. (*Section 7.8b of the Act.*)
A student who has not received a warning at that stage may yet receive one at a later point in the first year if he has fallen behind, and will be given a period within which to improve his grade point average.
The student will be given a warning in the following cases:
less than 19 credits, except for B Applied Mathematics, where a student will receive a warning if less than 24 credits and/or if the resit of period 1 is not passed.
2. The study programme must give students advice regarding the continuation of studies in writing before the end of their first year of enrolment (12 months) in the foundation phase. Advice may be related not only to the continuation of the study programme, but also to the main subject the student may take. Advice regarding the continuation of studies can be negative (binding

negative study advice), meaning that the student's enrolment in that particular study programme will be terminated and that he will not be allowed to re-enrol in the same study programme.

First-year students of Mechanical Engineering and Electrical Engineering have the option of submitting an application before the end of the first semester for enrolment in a refresher program of the first semester, if the study progress gives reason to do so. This is possible once and only applies to regular students in the propaedeutic year. Whether a student is eligible for this is determined by a study adviser from the study program. In that case, a separate learning agreement will be concluded with these students. The aim of this repair semester is that eligible students obtain 100% of all study points in the first semester. If this is achieved, the study advice for the student will be postponed.

3. Advice regarding the continuation of studies is based on the student's results in the foundation year. The Examination Board advises the institute director on advice regarding the continuation of studies to be given. This advice must take into account the student's personal circumstances. Students must report any personal circumstances to their student coach or student counsellor the moment they occur.

If the student misses the deadline for reporting special circumstances, the Examination Board will examine whether it was excusable for the student to miss the deadline for reporting those circumstances.

Engaging in top-class sports activities by students who have been granted a Top-Class Sport or Talent status are entitled is regarded as a special circumstance, on the basis of which the delivery of advice regarding the continuation of studies *can* be deferred. *A minimum number of credits these students must earn in order to be eligible for such postponement has been established.*

The practice of running a business of his own by student entrepreneurs who have been awarded student entrepreneur status, as defined in the Fontys Student entrepreneur scheme, is also regarded as a special circumstance, on the basis of which the delivery of advice regarding the continuation of studies is deferred. However, a minimum number of credits which must be achieved to qualify for that deferral may be specified for student entrepreneurs (see also paragraph 4 of this article).

4. The student will be given a positive study advice regarding the continuation of studies in the following cases:

A part-time bachelor student must have obtained at least 38 credits.

A full-time bachelor students, except Applied Mathematics, must have obtained at least 45 credits.

A bachelor student of Applied Mathematics must have obtained at least 60 credits.

The student will be given a binding negative study advice regarding the continuation of studies in the following cases:

For a student of the part-time bachelor: if he has obtained less than 38 credits.

For a student of the full-time bachelor, except Applied Mathematics: if he has obtained less than 45 credits.

For a student of the bachelor Applied Mathematics: if he has obtained less than 60 credits.

The minimum number of credits which that must be achieved to qualify for that deferral for student entrepreneurs is 30.

5. Where there are special circumstances as defined in paragraph 3 of this article which may have had an influence on the credits the student obtained, the delivery of advice regarding the continuation of studies may be deferred until the end of the second year of enrolment or until the end of a shorter period. At the end of the second year or the shorter period, there will be a further review of whether the student has met the criteria for a positive study advice as defined in paragraph 4.
6. Students who seek the termination of their enrolment during the first year of enrolment will be given a warning from the director stating his expectation that they may not be suitable for the study programme. The director must seek the advice from the Examination Board before doing so. The number of months of enrolment students have left before being given advice regarding the continuation of studies must also be determined in the event the student should decide to enrol in the same study programme at a later date (see also Article 35).

Article 33 Additional provisions concerning binding negative advice regarding the continuation of studies

1. An institute wishing to issue binding negative advice regarding the continuation of studies must make provisions that allow for, among other things, a student's personal circumstances and which are aimed at guaranteeing a student's good progress.
2. Binding negative advice regarding the continuation of studies is valid for a *period of 2 years*.
3. At the student's request, the institute director change the period or give permission for a student to re-enrol in spite of the binding negative advice as referred to in Section 7.8b(3) of the WHW.
4. A binding negative advice regarding the continuation of studies refers to the full-time, part-time and dual forms of the study programme, unless otherwise stated.
5. Each binding negative advice regarding the continuation of studies must expressly state that the binding negative advice only refers to the study programme mentioned. Every binding negative study advice regarding the continuation of studies must include a referral, to either another study programme, the student counsellor or the study choice adviser.

Section 7 Graduation

Article 34 Examinations - certificates - diploma supplement

1. Students have passed the examination of the foundation year or the study programme if they have passed all units of study which form part of the foundation year or the study programme, as referred to in Article 15. (*Section 7.10 of the Act.*)
2. Certificates are given at the following occasions:
 - on passing the foundation year examination;
 - on passing the study programme's final examination.
3. The certificate will only be given after it has been established that the student is enrolled and has paid his tuition fees for all the enrolment years. (*Section 7.11 of the WHW.*)
4. After successful completion of the examination, the Examination Board awards the certificate. The certificate is dated on the date of the student's final academic activity (test or assessment). The certificate of a study programme comes with a diploma supplement. This diploma supplement may include mention of a student's board activities (see Article 11). Students who have served as members of the Examination Appeals Board may also request that activity to be included on their diploma supplement.

The Examination Board will determine whether a student has passed within a maximum of eight calendar weeks after the student's final academic activity (test or assessment). If the student wishes for the certificate to be dated later, the student must postpone the completion of his final academic activity (test or assessment).
5. The certificate is signed on behalf of the Examination Board by the (deputy) chairman, the (deputy) secretary, the candidate and, if applicable, an external expert. (*Section 7.11 of the WHW.*) On behalf of the institute, the Examination Board also confers on the student the degree if the student has taken the study programme examination.

For the study programme's examination the Bachelor of Science degree is awarded.
6. The award ceremony takes place at a time decided by the institute.

Students who passed the study programme examination and have requested the postponement of the award of the certificate may be issued a statement that the study programme degree has been conferred on them. (*Section 7.11 of the WHW.*)
7. Students starting from September 2022 will receive the distinction 'cum laude' if they have met the criteria:
 - The study duration is no longer than the nominal.
 - A maximum of 30 credits may be granted for exemptions.
 - There are no proven fraud incidents in the post-propaedeutic phase.

When determining the classification, the following results are not taken into account:

 - The result of the minor,
 - Units of study that have been assessed with 'P/V/G', 'Passed/Not passed', 'VR'.

The following must be apparent from the obtained study results:

 - The lowest applicable result obtained in the post-propaedeutic phase is at least a 7.0.
 - The weighted average based on EC of the units of study in the post-propaedeutic phase is at least 8.0, unrounded.
 - The unrounded result of the graduation internship is at least a 7.5.

Students who started before September 2022 will receive the cum laude qualification if he has met the following requirements: If all unrounded grades for the exam subjects (these are all educational activities from the 7th semester of the degree program) are equal to or greater than 7, the average grade of all unrounded marks for all exam subjects is at least an unrounded 8 and at least a rounded 8 for it graduation work has been achieved and the student has passed or completed all the practicals from semester 7. All the results mentioned above must be obtained without a resit to be. If the student has an exemption for one of the educational activities from the 7th semester this is considered a mark of 6 and therefore the student cannot pass "cum laude".

- 8 The Executive Board reports to DUO the students that have passed the final examination of the study programme.

Article 35 Statement on departure

1. Every student who seeks to terminate his enrolment without having passed the study programme's final examination will be invited for an interview.
2. At the student's request, the student may be issued a statement listing any results achieved.
3. The statement must specify that the interim examination test results will in principle be valid for 10 years. The statement can include a reservation in the event of a substantial overhaul of the study programme. (See Article 29.)

Article 36 Transfer

1. Specific agreements have been made with one or more universities for the bachelor's program to ensure a smooth transition to a university master's program. The contact person can be found via this [link](#).

Section 8 Irregularities and fraud

Article 37 Irregularities and fraud

1. If irregularities are discovered in connection with a test, as a result of which the Examination Board cannot guarantee the test's quality and any of its results, the Examination Board may forgo having the test checked, or declare a test result void. In such cases, the Examination Board must ensure that an opportunity to resit the test in the near future is offered to the affected students.
2. If a student is guilty of an irregularity committed with respect to (a component of) an examination or fraud, the Examination Board may exclude the student from sitting one or more tests of the study programme for a period to be determined by the Examination Board but which will not exceed one year. Any act that contravenes the regulations that have been established regarding testing and assessment shall be considered fraud in the sense of this article. If the test has already been assessed, the result will be declared void.
3. In the case of serious fraud, the Examination Board can propose to the Executive Board that the enrolment of the student involved be prematurely terminated (*Section 7.12b of the WHW.*)
4. If the irregularity or fraud is only discovered after the examination, the Examination Board may withhold or claim back the certificate of the study programme or decide that the certificate will not be issued unless the student sits a new test or examination in the components to be determined by the Examination Board and in a fashion to be determined by the Examination Board.
5. Before taking a decision, the Examination Board will hear the student and any other interested parties. A report will be drawn up of this hearing, of which a copy is forwarded to the student. The Examination Board must notify the student of its decision without delay, which notification can be given orally if required but must in any event also be issued in writing. Furthermore, the student is informed of his right of appeal.
6. The Examination Board makes up a report of its decision and the facts it is based on.

Section 9 Examination Board, appeal

Article 38 Examination Board

1. The institute director establishes an Examination Board for each study programme or group of study programmes.
2. The Examination Board's duties and responsibilities are laid down in the WHW. (*Sections 7.12, 7.12b and 7.12c of the WHW*). These include the following duties and responsibilities:
 - responsibility for guaranteeing the quality of testing;
 - responsibility for guaranteeing the quality of the organisation of and the procedures surrounding tests and examinations;
 - to determine objectively and professionally whether a student has passed an examination;
 - to award certificates and the diploma supplement;
 - to determine alternative tracks;
 - to assess applications for exemptions and reviews and to award applications for special facilities;
 - to determine whether an examination has been conducted in a way other than that prescribed in the TER;
 - approval of the details of a foreign minor or external minor;
 - to give advice to the institute director on advice regarding the continuation of studies to be issued;The composition of the Examination Board can be found in the Appendix 'Composition of the Examination Board'.
3. An application to the Examination Board can be submitted to the Examination Board via examencommissie-engineering@fontys.nl (see also Article 26(2) and Article 27).

Article 39 Appeals

Students who do not agree with a decision of the Examination Board can lodge an appeal against this decision within six calendar weeks after the date of the decision with the Examination Appeals Board via www.studentenloket.nl (see Articles 45 and 46 of the [Students' Charter](#)). (*Section 7.61 of the WHW.*)

Students can contact the Student Counselling Office (iStudent@fontys.nl) for help on lodging an appeal.

Section 10 Retention and hardship clause

Article 40 Retention of documentation

1. The Examination Board is responsible for retaining the minutes of its meetings and its decisions for a period of seven years.
2. The Examination Board is responsible for retaining its issued statements, among others, the statement on departure of a student who terminates his enrolment without having passed the study programme's final examination, for a period of ten years.
3. The Examination Board will ensure that the following information on each student will remain in the institute's archives for 50 years:
 - information on whether each student has obtained a foundation year certificate and/or a certificate of higher professional education including the list of marks.
4. The institute director is responsible for retaining test papers/assignments, assessment criteria, marking standardisation, pass marks, test matrices and test analyses for a period of seven years.
5. The institute director is responsible for retaining the lists drawn up and signed by the examiners containing the results achieved for a period of ten years.
6. The institute director is responsible for ensuring that all final papers and other kinds of tests in which students demonstrate their command of all aspects of the final attainment level, including assessments, will be kept for a period of seven years.
7. For the purpose of the external assessment of the programme in connection with accreditation, the institute director will ensure retention of a representative set of tests, including assessments, for a period of two years after the assessment.
8. The institute director is responsible for ensuring that the work completed by the student (written and non-written, including digital work) including assessments, with the exception of the work

forming part of the representative set of final papers, is either destroyed or returned to the student after the expiry of a term of at least six months following the publication of the result. This term may be extended if necessary in connection with an appeal procedure.

Article 41 Hardship clause

1. The Examination Board can make provisions for serious injustices that occur as a result of the application of these rules; it can also make decisions in cases not provided for by these rules. In order to decide whether the hardship clause must be applied, the Examination Board must weigh the interests of the student concerned and those of the study programme. Cases requiring immediate action may be heard by the chairperson of the Examination Board or his deputy after which the other members must be notified as soon as possible.
2. Students must apply in writing, stating reasons, to the Examination Board for the application of the hardship clause in accordance with Article 44 of the Students' Charter. The Examination Board decides on the student's application and communicates this decision in writing, stating reasons, to the student concerned, who is also informed of his right of appeal.

Section 11 Final provisions and implementation

Article 42 Entry into force, amendments, publication and official title

1. The TER applies to all students enrolled in the study programme in question during the 2022-2023 academic year, unless otherwise stated below.
2. The general section of these regulations and any amendments thereto will be established by the Executive Board, after having obtained the consent of the students' section of the Central Participation Council. PC's will be given an opportunity to issue advice to the CPC. That general section of the TER constitutes the basis on which the study programme-specific TER for each study programme will be drawn up before being submitted to the Examination Board for their advice and the (joint) PC and IPC for their advice/consent. The (joint) PC advises the institute director and sends its advice to the IPC for informational purposes. The IPC advises the institute director and sends its advice to the (joint) PC. The establishment of and amendments to the study programme-specific TER are effected following a proposal from the institute and require the consent of the students' section of the competent IPC and the (joint) PC. (see Sections 10.3c, 10.20 and 7.13 of the WHW.)
3. The text of the TER can be amended if warranted by changes to the organisation or organisational components with due observance of the provisions of paragraph 4. In the event of an interim change, the procedure as described in paragraph 2 applies.
4. If the interests of an individual student are prejudiced as a result of interim amendments of the regulations, the student may submit a written application to the Examination Board to protest against the amendment of the rules. The Examination Board examines the student's application and bases its decision on a weighing-up of the interest of the individual student on the one hand and the interest of the quality of the study programme on the other.
5. The institute director adopts the study programme-specific TER before 1 June of the academic year preceding the academic year that starts on 1 September. He ensures the publication of the study programme-specific component of these regulations and any amendments thereto by making them available for inspection with the secretariat of the study programme and placing them on the website.
6. *The official title of these rules is 'General Section of the Teaching and Examination Regulations of Fontys'.*
The official title of the TER of the Bachelor's programme is "Engineering Bachelor TER 2022 – 2023".

Article 43 Transitional provisions

When a study programme is subject to a substantial overhaul, the following transitional provisions will apply.

After the last regular activities of the 'old' programme and the related test or examination have been completed, this test or examination will be held two more times by way of resits. After that, it will be

decided which test or examination that is part of the 'new' programme the student must sit to replace the 'old' one.

Article 44 Unforeseen cases

The Examination Board decides in all cases not provided for by the study programme-specific part of the TER, unless the issue is covered by the institute director's competency.

B - Set-up of the study programme and support facilities

1. Set-up, organisation and execution of the study programmes

Information on the set-up, organisation and execution of the study programmes can be found in:

- the Teaching and Examination Regulations (see under A).
- *the Digital Learning Environment*

2. Facilities for students

Information on facilities for students can be found at:

- the institution-specific section of the Fontys Students' Charter (www.fontys.edu/rules)
- the website of Fontys, among others, Fontys helps
- the website of [Fontys Study Abroad](#)
- *the Digital Learning Environment*

3. Study support

Information on study support can be found in:

- the Teaching and Examination Regulations (see under A)
- *the Digital Learning Environment*

C - Internal complaints procedure

Students whose interests are directly affected by acts carried out by a staff member or a student against them, or who have a grievance regarding organisational matters, may lodge a [complaint](#) with the Executive Board, as described in Article 47 of the Students' Charter.

Attachments

Overview of attachments

TER tables B Applied Mathematics
TER tables B Automotive
TER tables B Electrical Engineering
TER tables B Mechanical Engineering
TER tables B Mechatronics

Registration procedure examination
Registration procedure for educational activities
Composition of the Examination Board of Fontys Engineering
HBO Top program
Proud Program

TER tables B Applied Mathematics

semester	study module	module title	EC	assessment name	assessment type	rating type	rating scale	entry requirements	norms/compensation
T1-S1	AMADS1	Data Science 1 - Introduction to Data Science	3	AMADS1-A	Written test	N/A	1,0-10,0	N/A	A: Written test (25%)
				AMADS1-B	Written test	N/A	1,0-10,0	N/A	B: Written test (75%)
				AMADS1-C	Written test (resit)	N/A	1,0-10,0	N/A	C: Written test (resit) (100%) *General remark regarding first-year math modules Credit is assigned either for a passing grade (5.5) for the weighted average of tests A and B (named AB in the grade registration system), or for a passing grade (5.5) for resit C.
	AMADS2	Data Science 2 - Probability Theory and Applications	3	AMADS2-A	Written test	N/A	1,0-10,0	N/A	A: Written test (25%)
				AMADS2-B	Written test	N/A	1,0-10,0	N/A	B: Written test (75%)
				AMADS2-C	Written test (resit)	N/A	1,0-10,0	N/A	C: Written test (resit) (100%) *General remark regarding first-year math modules Credit is assigned either for a passing grade (5.5) for the weighted average of tests A and B (named AB in the grade registration system), or for a passing grade (5.5) for resit C.
	AMAEN1	Engineering 1 - Introduction to Trigonometry and Complex Numbers	3	AMAEN1-A	Written test	N/A	1,0-10,0	N/A	A: Written test (25%)
				AMAEN1-B	Written test	N/A	1,0-10,0	N/A	B: Written test (75%)
				AMAEN1-C	Written test (resit)	N/A	1,0-10,0	N/A	C: Written test (resit) (100%) *General remark regarding first-year math modules Credit is assigned either for a passing grade (5.5) for the weighted average of tests A and B (named AB in the grade registration system), or for a passing grade (5.5) for resit C.
	AMAEN2	Engineering 2 - Introduction to Calculus	3	AMAEN2-A	Written test	N/A	1,0-10,0	N/A	A: Written test (25%)
				AMAEN2-B	Written test	N/A	1,0-10,0	N/A	B: Written test (75%)
				AMAEN2-C	Written test (resit)	N/A	1,0-10,0	N/A	C: Written test (resit) (100%) *General remark regarding first-year math modules Credit is assigned either for a passing grade (5.5) for the weighted average of tests A and B (named AB in the grade registration system), or for a passing grade (5.5) for resit C.

	AMAOR1	Operations Research 1 - Introduction to Logistics	3	AMAOR1-A	Written test	N/A	1,0-10,0	N/A	A: Written test (25%)
				AMAOR1-B	Written test	N/A	1,0-10,0	N/A	B: Written test (75%)
				AMAOR1-C	Written test (resit)	N/A	1,0-10,0	N/A	C: Written test (resit) (100%) *General remark regarding first-year math modules Credit is assigned either for a passing grade (5.5) for the weighted average of tests A and B (named AB in the grade registration system), or for a passing grade (5.5) for resit C.
	AMAOR2	Operations Research 2 - Introduction to Mathematical Programming	3	AMAOR2-A	Written test	N/A	1,0-10,0	N/A	A: Written test (25%)
				AMAOR2-B	Written test	N/A	1,0-10,0	N/A	B: Written test (75%)
				AMAOR2-C	Written test (resit)	N/A	1,0-10,0	N/A	C: Written test (resit) (100%) *General remark regarding first-year math modules Credit is assigned either for a passing grade (5.5) for the weighted average of tests A and B (named AB in the grade registration system), or for a passing grade (5.5) for resit C.
	AMAPS1	Professional Skills 1	3	AMAPF1-A	Portfolio	N/A	1,0-10,0	N/A	A: Portfolio (1/2)
				AMAPF1-B	Report	N/A	1,0-10,0	N/A	B: Report (1/2) Each part (A+B) must be a minimum grade of 5.5, otherwise the final grade is a maximum of 5.
	AMAR1	Research 1	3	AMAR1-A	Portfolio	N/A	1,0-10,0	N/A	A: Portfolio (1/2)
				AMAR1-B	Written assignment	N/A	1,0-10,0	N/A	B: Written Assignment (1/2) Each part (A+B) must be a minimum grade of 5.5, otherwise the final grade is a maximum of 5.
	AMAPJ1	Project 1	3	AMAPJ1-A	Dossier	N/A	1,0-10,0	N/A	A: report 65%
				AMAPJ1-B	Peer assessment	N/A	1,0-10,0	N/A	B: peer assessment 25%
				AMAPJ1-C	Professional writing	N/A	1,0-10,0	N/A	C: professional writing 10% Course result is determined by a weighted average of partial results if and only if each partial result is above the passing grade of 5.5.
	AMAPJ2	Project 2	3	AMAPJ2-A	Dossier	N/A	1,0-10,0	N/A	A: report 65%
				AMAPJ2-B	Peer assessment	N/A	1,0-10,0	N/A	B: peer assessment 25%

				AMAPJ2-C	Professional writing	N/A	1,0-10,0	N/A	C: professional writing 10% Course result is determined by a weighted average of partial results if and only if each partial result is above the passing grade of 5.5.
T1-S2	AMADS3	Data Science 3 - Probability Distributions and Relational Databases	3	AMADS3-A	Written test	N/A	1,0-10,0	N/A	A: Written test (25%)
				AMADS3-B	Written test	N/A	1,0-10,0	N/A	B: Written test (75%)
				AMADS3-C	Written test (resit)	N/A	1,0-10,0	N/A	C: Written test (resit) (100%) *General remark regarding first-year math modules Credit is assigned either for a passing grade (5.5) for the weighted average of tests A and B (named AB in the grade registration system), or for a passing grade (5.5) for resit C.
	AMADS4	Data Science 4 - Introduction to Hypothesis Testing	3	AMADS4	Written test	N/A	1,0-10,0	N/A	Passing grade 5.5
	AMAEN3	Engineering 3 - Linear Algebra	3	AMAEN3-A	Written test	N/A	1,0-10,0	N/A	A: Written test (25%)
				AMAEN3-B	Written test	N/A	1,0-10,0	N/A	B: Written test (75%)
				AMAEN3-C	Written test (resit)	N/A	1,0-10,0	N/A	C: Written test (resit) (100%) *General remark regarding first-year math modules Credit is assigned either for a passing grade (5.5) for the weighted average of tests A and B (named AB in the grade registration system), or for a passing grade (5.5) for resit C.
	AMAEN4	Engineering 4 - Capita Selecta	3	AMAEN4	Written test	N/A	1,0-10,0	N/A	Passing grade 5.5
	AMAOR3	Operations Research 3 - Linear Programming	3	AMAOR3-A	Written test	N/A	1,0-10,0	N/A	A: Written test (25%)
				AMAOR3-B	Written test	N/A	1,0-10,0	N/A	B: Written test (75%)
				AMAOR3-C	Written test (resit)	N/A	1,0-10,0	N/A	C: Written test (resit) (100%) *General remark regarding first-year math modules Credit is assigned either for a passing grade (5.5) for the weighted average of tests A and B (named AB in the grade registration system), or for a passing grade (5.5) for resit C.

	AMAOR4	Operations Research 4 - Discrete Optimization	3	AMAOR4	Written test	N/A	1,0-10,0	N/A	Passing grade 5.5
	AMAPJ3	Project 3	3	AMAPJ3-A	Dossier	N/A	1,0-10,0	N/A	A: report 65%
				AMAPJ3-B	Peer assessment	N/A	1,0-10,0	N/A	B: peer assessment 25%
				AMAPJ3-C	Professional writing	N/A	1,0-10,0	N/A	C: professional writing 10%
									Course result is determined by a weighted average of partial results if and only if each partial result is above the passing grade of 5.5.
	AMAPJ4	Project 4	3	AMAPJ4-A	Dossier	N/A	1,0-10,0	N/A	A: report 65%
				AMAPJ4-B	Peer assessment	N/A	1,0-10,0	N/A	B: peer assessment 25%
				AMAPJ4-C	Professional writing	N/A	1,0-10,0	N/A	C: professional writing 10%
									Course result is determined by a weighted average of partial results if and only if each partial result is above the passing grade of 5.5.
	AMAPF2	Professional Skills 2	3	AMAPF2-A	Presentation	N/A	1,0-10,0	N/A	A: Presentation (1/2)
				AMAPF2-B	Report	N/A	1,0-10,0	N/A	B: Report (1/2)
				AMAPF2-C	Extracurricular study hours	N/A	Accomplished / Not Accomplished	N/A	C: Extracurricular study hours
									For the first two parts (A+B) a minimum grade of 5.5 is required + part C must be accomplished, otherwise the final grade is a maximum of 5.
	AMAR2	Research 2	3	AMAR2-A	Practicum	N/A	Pass/No Pass	N/A	A: Practicum (Pass/No Pass))
				AMAR2-B	Report	N/A	1,0-10,0	N/A	B: Report (1,0-10,0)
									A Pass is a must for the first part and a minimum grade of 5.5 for the second part, otherwise the final grade is a maximum of 5.

Aanvullende eis (doorstroomnorm)	P-fase
naar S34 (hoofdfase)	≥ 60 EC

TER tables B Automotive

cohort: 2022-2023	fulltime	Bachelor Automotive Engineering										
studyphase	Name	EC	Bibliotheek WP4M	Name exam	Testform	Assessm ent Individua l or group	Rating scale	Weighting	Standardiza tion / compensati on	entry requirements		English
progress name 4322PAE												
Propaedeutic phase	AE22APJ1	3	Automotive Project 1 (A)	AE22APJ1	project assessment	individual	1-10	1/1	5,5	n/a	AE22APJ1 = AE22APJ1(assessment) and (AE22APS1 ≥ S) ≥ 5,5	yes
				AE22APS1	Skills exam	individual	I-S-G	0/1	V	n/a	AE22APJ1 credits awarded = AE22APJ1(assessment) ≥ 5,5 and AE22APS1 ≥ S	yes
Propaedeutic phase	AE22APJ2	3	Automotive Project 2 (A)	AE22APJ2	project assessment	individual	1-10	1/1	5,5	n/a	AE22APJ2 = AE22APJ2(assessment) and (AE22APS2 ≥ S) ≥ 5,5	yes
				AE22APS2	Skills exam	individual	I-S-G	0/1	V	n/a		yes
Propaedeutic phase	AE22APJ3	3	Automotive Project 3 (A)	AE22APJ3	project assessment	individual	1-10	1/1	5,5	n/a	AE22APJ3 = AE22APJ3(assessment) and (AE22APS3 ≥ S) ≥ 5,5	yes
				AE22APS3	Skills exam	individual	I-S-G	0/1	V	n/a		yes
Propaedeutic phase	AE22APJ4	3	Automotive Project 4 (A)	AE22APJ4	project assessment	individual	1-10	1/1	5,5	n/a	AE22APJ4 = AE22APJ4(assessment) and (AE22APS4 ≥ S) ≥ 5,5	yes
				AE22APS4	Skills exam	individual	I-S-G	0/1	V	n/a		yes
Propaedeutic phase	AE22APU1	2	Automotive Power Units	AE22APU1	written exam	individual	1-10	1/1	5,5	n/a	≥ 5,5	yes
Propaedeutic phase	AE22APU2	2	Automotive Power Units	AE22APU2	written exam	individual	1-10	1/1	5,5	n/a	≥ 5,5	yes
Propaedeutic phase	AE22APU3	2	Automotive Power Units	AE22APU3	written exam	individual	1-10	1/1	5,5	n/a	≥ 5,5	yes
Propaedeutic phase	AE22APU4	2	Automotive Power Units	AE22APU4	written exam	individual	1-10	1/1	5,5	n/a	≥ 5,5	yes
Propaedeutic phase	AE22ADT1	2	Automotive Drive Train	AE22ADT1	written exam	individual	1-10	1/1	5,5	n/a	≥ 5,5	yes
Propaedeutic phase	AE22ADT2	2	Automotive Drive Train	AE22ADT2	written exam	individual	1-10	1/1	5,5	n/a	≥ 5,5	yes
Propaedeutic phase	AE22ADT3	2	Automotive Drive Train	AE22ADT3	written exam	individual	1-10	1/1	5,5	n/a	≥ 5,5	yes
Propaedeutic phase	AE22ADT4	2	Automotive Drive Train	AE22ADT4	written exam	individual	1-10	1/1	5,5	n/a	≥ 5,5	yes
Propaedeutic phase	AE22APR1	1	Automotive Practice	AE22APR1	Skills exam	individual	I-S-G	1/1	V	n/a	≥ S	yes

Propaedeutic phase	AE22APR2	1	Automotive Practice	AE22APR2	Skills exam	individual	I-S-G	1/1	V	n/a	$\geq S$	yes
Propaedeutic phase	AE22APR3	1	Automotive Practice	AE22APR3	Skills exam	individual	I-S-G	1/1	V	n/a	$\geq S$	yes
Propaedeutic phase	AE22APR4	1	Automotive Practice	AE22APR4	Skills exam	individual	I-S-G	1/1	V	n/a	$\geq S$	yes
Propaedeutic phase	AE22AMD1	2	Automotive Mechanics & Design	AE22AMD1T	written exam	individual	1-10	1/1	5,5	n/a	AE22AMD1 = AE22AMD1T and (AE22AMD1P $\geq S$) $\geq 5,5$	yes
				AE22AMD1P	Skills exam	individual	I-S-G	0/1	V	n/a		yes
Propaedeutic phase	AE22AMD2	1	Automotive Mechanics & Design	AE22AMD2T	written exam	individual	1-10	1/1	5,5	n/a	AE22AMD2 = AE22AMD2T and (AE22AMD2P $\geq S$) $\geq 5,5$	yes
				AE22AMD2P	Skills exam	individual	I-S-G	0/1	V	n/a		yes
Propaedeutic phase	AE22AMD3	2	Automotive Mechanics & Design	AE22AMD3	written exam	individual	1-10	1/1	5,5	n/a	$\geq 5,5$	yes
Propaedeutic phase	AE22AMD4	2	Automotive Mechanics & Design	AE22AMD4	written exam	individual	1-10	1/1	5,5	n/a	$\geq 5,5$	yes
Propaedeutic phase	AE22AMM1	1	Automotive Materials & Manufacturing	AE22AMM1	written exam	individual	1-10	1/1	5,5	n/a	$\geq 5,5$	yes
Propaedeutic phase	AE22AMM2	2	Automotive Materials & Manufacturing	AE22AMM2	written exam	individual	1-10	1/1	5,5	n/a	$\geq 5,5$	yes
Propaedeutic phase	AE22AHF3	2	Automotive Heat & Fluid	AE22AHF3	written exam	individual	1-10	1/1	5,5	n/a	$\geq 5,5$	yes
Propaedeutic phase	AE22AHF4	1	Automotive Heat & Fluid	AE22AHF4	written exam	individual	1-10	1/1	5,5	n/a	$\geq 5,5$	yes
Propaedeutic phase	AE22ACE1	2	Automotive Control Engineering	AE22ACE1	written exam	individual	1-10	1/1	5,5	n/a	$\geq 5,5$	yes
Propaedeutic phase	AE22ACE2	2	Automotive Control Engineering	AE22ACE2T	written exam	individual	1-10	1/1	5,5	n/a	AE22ACE2 = AE22ACE2T and (AE22ACE2P $\geq S$) $\geq 5,5$	yes
				AE22ACE2P	Skills exam	individual	I-S-G	0/1	V	n/a		yes
Propaedeutic phase	AE22ACE3	1	Automotive Control Engineering	AE22ACE3T	written exam	individual	1-10	1/1	5,5	n/a	AE22ACE3 = AE22ACE3T and (AE22ACE3P $\geq S$) $\geq 5,5$	yes
				AE22ACE3P	Skills exam	individual	I-S-G	0/1	V	n/a		yes
Propaedeutic phase	AE22ACE4	2	Automotive Control Engineering	AE22ACE4	written exam	individual	1-10	1/1	5,5	n/a	$\geq 5,5$	yes

Propaedeutic phase	AE22MAT1	2	Automotive Mathematics	AE22MAT1	written exam	individual	1-10	1/1	5,5	n/a	$\geq 5,5$	yes
Propaedeutic phase	AE22MAT2	2	Automotive Mathematics	AE22MAT2	written exam	individual	1-10	1/1	5,5	n/a	$\geq 5,5$	yes
Propaedeutic phase	AE22MAT3	2	Automotive Mathematics	AE22MAT3	written exam	individual	1-10	1/1	5,5	n/a	$\geq 5,5$	yes
Propaedeutic phase	AE22MAT4	2	Automotive Mathematics	AE22MAT4	written exam	individual	1-10	1/1	5,5	n/a	$\geq 5,5$	yes

studyphase	Name	EC		Name exam	Testform	Assessment Individual or group	Rating scale	Weigh- ting	Standardi- zation / compensa- tion	entry requirements		English
Progress name 4321HAE												
post- propaedeutic phase	AE21APJ5	4	Automotive Project									
				AE21APJ5	project assessment	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	AE21APJ5 = AE21APJ5(assessment) and (AE21APS5 ≥ S) ≥ 5,5	yes
				AE21APS5	Skills exam	individual	I-S-G	0/1	V	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board		yes
				AE21APJ6	project assessment	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	AE21APJ6 = AE21APJ6(assessment) and (AE21APS6 ≥ S) ≥ 5,5	yes
				AE21APS6	Skills exam	individual	I-S-G	0/1	V	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board		yes
				AE21APJ7	project assessment	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	AE21APJ7 = AE21APJ7(assessment) and (AE21APS7 ≥ S) ≥ 5,5	yes
				AE21APS7	Skills exam	individual	I-S-G	0/1	V	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board		yes
				AE21APJ8	project assessment	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	AE21APJ8 = AE21APJ8(assessment) and (AE21APS8 ≥ S) ≥ 5,5	yes
				AE21APS8	Skills exam	individual	I-S-G	0/1	V	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board		yes
				AE21APR5	Skills exam	individual	I-S-G	1/1	V	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	≥ S	yes
post- propaedeutic phase	AE21APR6	1	Automotive Practice	AE21APR6	Skills exam	individual	I-S-G	1/1	V	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	≥ S	yes
post- propaedeutic phase	AE21AAT5	3	Automotive Applied Technology	AE21AAT5	written exam	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	≥ 5,5	yes

post-propaedeutic phase	AE21AAT6	3	Automotive Applied Technology	AE21AAT6T	written exam	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	AE21AAT6 = AE21AAT6T and (AE21AAT6P ≥ S) ≥ 5,5	yes
				AE21AAT6P	Skills exam	individual	I-S-G	0/1	V	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board		yes
post-propaedeutic phase	AE21AVD7	3	Automotive Vehicle Dynamics	AE21AVD7T	written exam	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	AE21AVD7 = AE21AVD7T and (AE21AVD7P ≥ S) ≥ 5,5	yes
				AE21AVD7P	Skills exam	individual	I-S-G	0/1	V	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board		yes
post-propaedeutic phase	AE21AAT8	2	Automotive Applied Technology	AE21AAT8	Assignement	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	≥ 5,5	yes
post-propaedeutic phase	AE21AMD5	2	Automotive Mechanics and Design	AE21AMD5	written exam	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	≥ 5,5	yes
post-propaedeutic phase	AE21AMD6	1	Automotive Mechanics and Design	AE21AMD6	written exam	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	≥ 5,5	yes
post-propaedeutic phase	AE21AMD7	2	Automotive Mechanics and Design	AE21AMD7	Skills exam	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	≥ 5,5	yes
post-propaedeutic phase	AE21AMD8	2	Automotive Mechanics and Design	AE21AMD8	Skills exam	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	≥ 5,5	yes
post-propaedeutic phase	AE21AES5	2	Automotive Electronic Systems	AE21AES5	written exam	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	≥ 5,5	yes
post-propaedeutic phase	AE21AES6	2	Automotive Electronic Systems	AE21AES6T	written exam	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	AE21AES6 = AE21AES6T and (AE21AES6P ≥ S) ≥ 5,5	yes
				AE21AES6P	Skills exam	individual	I-S-G	0/1	V	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board		yes
post-propaedeutic phase	AE21AES7	2	Automotive Electronic Systems	AE21AES7T	written exam	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	AE21AES7 = AE21AES7T and (AE21AES7P ≥ S) ≥ 5,5	yes
				AE21AES7P	Skills exam	individual	I-S-G	0/1	V	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board		yes

post-propaedeutic phase	AE21AES8	2	Automotive Electronic Systems	AE21AES8T	written exam	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	AE21AES8 = AE21AES8T and (AE21AES8P ≥ S) ≥ 5,5	yes
				AE21AES8P	Skills exam	individual	1-S-G	0/1	V	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board		yes
post-propaedeutic phase	AE21ACE5	1	Automotive Control Engineering	AE21ACE5	written exam	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	≥ 5,5	yes
post-propaedeutic phase	AE21ACE6	2	Automotive Control Engineering	AE21ACE6	written exam	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	≥ 5,5	yes
post-propaedeutic phase	AE21ACE7	2	Automotive Control Engineering	AE21ACE7T	written exam	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	AE21ACE7 = AE21ACE7T and (AE21ACE7P ≥ S) ≥ 5,5	yes
				AE21ACE7P	Skills exam	individual	1-S-G	0/1	V	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board		yes
post-propaedeutic phase	AE21ABP8	2	Automotive Basic Programming	AE21ABP8T	written exam	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	AE21ABP8 = AE21ABP8T and (AE21ABP8P ≥ S) ≥ 5,5	yes
				AE21ABP8P	Skills exam	individual	1-S-G	0/1	V	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board		yes
post-propaedeutic phase	AE21MAT5	2	Automotive Mathematics	AE21MAT5	written exam	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	≥ 5,5	yes
post-propaedeutic phase	AE21MAT6	2	Automotive Mathematics	AE21MAT6T	written exam?	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	AE21MAT6 = AE21MAT6T and (AE21MAT6P ≥ S) ≥ 5,5	yes
				AE21MAT6P	Skills exam	individual	1-S-G	0/1	V	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board		yes
post-propaedeutic phase	AE21AVE7	2	Automotive Virtual Engineering	AE21AVE7	written exam	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	≥ 5,5	yes
post-propaedeutic phase	AE21AVE8	3	Automotive Virtual Engineering	AE21AVE8	written exam	individual	1-10	1/1	5,5	minimum 45 credits from propaedeutic phase Fontys Automotive or permission from the Examination Board	≥ 5,5	yes
post-propaedeutic phase	AEINTERN	30	Automotive Intern	AEINTERN	Skills exam	individual	1-10	1/1	5,5	114 credits including completed propaedeutic phase	AEINTERN = AEINTERN (skills)	yes

										exam) and (AEINTREF ≥ S) ≥ 5,5	
				AEINTREF	Skills exam	individual	I-S-G	0/1	V	114 credits including completed propaedeutic phase	yes
post- propaedeutic phase	Minor	30	Minor (AE)		Minor assesments	individual	1-10/I-S- G	1/1	5,5/ V	propedeuse achieved	yes
				Minor						≥ 5,5/ S	

In the context of pedagogical developments/improvements, certain parts of the programme of study can be offered in a different way. The study load can change. Changes, which are made known before the start of the programme, are indicated in the semesters study guides, on the Engineering/Automotive portal, and on Canvas

TER tables B Electrical Engineering

Electrical Engineering year 1
2022-2023
5 November 2021

semester	unit of study	name of educational module	EC	Learning outcomes	Educational activities	name of test	type of test	assessment type	assessment scale	prerequisites	norm/compensation
EE1	EEAMO1	Electrical engineering: introduction	15	ANMA1 SW1 PROF1	practical lessons, theory lessons, project activities, and self study	EEAMO1	Portfolio assessment	Individual	1,0-10,0	n/a	EEAMO1 ≥ 5,5
EE1	EEAMO2	Electrical engineering: group project	15	ANMA2 SW2 PROF2 MBD1 MEAS1	practical lessons, theory lessons, project activities, and self study	EEAMO2	Portfolio assessment	Individual	1,0-10,0	n/a	EEAMO2 ≥ 5,5
EE2	EEAMO3	Electrical Engineering in your theme (part 1)	15	ANMA3 DCCD PROF3 RM	practical lessons, theory lessons, project activities, and self study	EEAMO3	Portfolio assessment	Individual	1,0-10,0	n/a	EEAMO3 ≥ 5,5
EE2	EEAMO4	Electrical Engineering in your theme (part 2)	15	ANMA4 DSCD PROF4 MBD2	practical lessons, theory lessons, project activities, and self study	EEAMO4	Portfolio assessment	Individual	1,0-10,0	n/a	EEAMO4 ≥ 5,5

Electrical Engineering year 1
2022-2023
8 March 2021

semester	unit of study	name of educational module	EC	Learning outcomes	Educational activities	name of test	type of test	assessment type	assessment scale	prerequisites	norm/compensation
EE3	EEAMO5	Command and Control	15	Electronic systems engineering 1	practical lessons, theory lessons, project activities, and self study	EEAMO5	Portfolio assessment	Individual	1,0-10,0	EEAMO1 and 2 of EEAMO2, EEAMO3, EEAMO4	EEAMO5 ≥ 5,5
EE3	EEAMO6	Advanced System Engineering 1	15	Advanced electronic systems engineering 1	practical lessons, theory lessons, project activities, and self study	EEAMO6	Portfolio assessment	Individual	1,0-10,0	EEAMO1 and 2 of EEAMO2, EEAMO3, EEAMO4	EEAMO6 ≥ 5,5
EE4	EEAMO7	Signal and Data Processing	15	Electronic systems engineering 2	practical lessons, theory lessons, project activities, and self study	EEAMO7	Portfolio assessment	Individual	1,0-10,0	EEAMO1 and 2 of EEAMO2, EEAMO3, EEAMO4	EEAMO7 ≥ 5,5
EE4	EEAMO8	Advanced System Engineering 2	15	Advanced electronic systems engineering 2	practical lessons, theory lessons, project activities, and self study	EEAMO8	Portfolio assessment	Individual	1,0-10,0	EEAMO1 and 2 of EEAMO2, EEAMO3, EEAMO4	EEAMO8 ≥ 5,5

semester	unit of study	name unit of study	credits	name of test	type of test	assessment type	assessment scale	prerequisites	norm/compensation
EE7	EAAPE	Advanced Power Electronics	4.00	EAAPE	Written Exam	Individual	1,0-10,0	n/a	EAAPE ≥ 5.5
	EACSA7	Career Supporting Activity	2.00	EACSA7	Assignment	Individual	1,0-10,0	Select EAGC7B, EACS7 or MAEMC7	EACSA7 ≥ 5.5
	EBDSD	Digital System Design	4.00	EBDSD	Assignment	Group	1,0-10,0	n/a	EBDSD ≥ 5,5
	EAGC7A	GLOW completion A	2.00	EAGC7A	Assignment	Group	1,0-10,0	Be Creative minor (GLOW project) and select EMBSE or EAGC7A	EAGC7A ≥ 5.5
	EAGC7B	GLOW completion B	2.00	EAGC7B	Assignment	Group	1,0-10,0	Be Creative minor (GLOW project) and select EAGC7B, EACS7 or MAEMC7	EAGC7B ≥ 5.5
	EAPRS7	Project S7	10.00	EAPRS7	Project	Individual	1,0-10,0	n/a	EAPRS7 ≥ 5.5
	ECACS	Advanced Control Systems	4.00	ECACS	Assignment and Oral exam	Individual and group	1,0-10,0	n/a	ECACS = ECACS (assignment) with ECACS (oral exam) ≥ 5.5
	EBAES	Advanced Embedded Systems	4.00	EBAESP	Assignment	Individual and Group	1,0-10,0	n/a	EBAES ≥ 5.5
	EBATEL/IoT	Advanced Telecom / IoT	4.00	EBATEL/IoT	Assignment and Oral exam	Individual and group	1,0-10,0	n/a	EBATEL/IoT = EBATEL/IoT (assignment) with EBATEL/IoT (oral exam) ≥ 5.5
	EBMBSE	Model Based System Engineering	2.00	EBMBSE	Assignment	Individual and Group	1,0-10,0	Select EBMSE or EAGC7A	EBMBSE ≥ 5.5
	EBST	Sensor Technology	4.00	EBST	Assignment	Individual and Duo	1,0-10,0	n/a	EBST ≥ 5.5
	MAEMC7	Electromagnetic Compatibility 7	2.00	MAEMC7P1	Practical Assignment	Individual and Duo	1,0-10,0	Select EAGC7B, EACS7 or MAEMC7	MAEMC7 = (MAEMC7P1 + MAEMC7P2+)

[illegible]

The S7 program offers the student freedom of choice to study the program according to his / her preference. The student chooses one of the three differentiations Electronic Systems, Embedded Systems or Innovation Engineering. For each differentiation, a number of compulsory courses and electives are available.

The following choices apply within the three differentiations:

- Electronic Systems:

- o Compulsory courses: Project S7 (EAPRS7), Sensor Technology (EAST), Advanced Power Electronics (EAAPE) and Model-Based System Engineering (EBMBSE)
- o Electives:
 - * 1x choice from the courses Advanced Embedded Systems (EBAES) or Advanced Control Systems (EBACS),
 - * 1x choice from the courses Advanced Telecommunications (EBATEL) or Digital System Design (EADSD) and
 - * 1x choice of Curriculum Supporting Activity 7 (EACSA7) or Electromagnetic Compatibility 7 (MAEMC7)

- Embedded Systems:

- o Compulsory courses: Project S7 (EAPRS7), Advanced Embedded Systems (AES), Advanced Telecommunications (ATEL) and Model-Based System Engineering (MBSE)
- o Electives:
 - * 1x choice from the courses Sensor Technology (EAST) or Advanced Control Systems (EBACS),
 - * 1x choice of the courses Advanced Power Electronics (EAAPE) or Digital System Design (EADSD) and
 - * 1x choice of Curriculum Supporting Activity 7 (EACSA7) or Electromagnetic Compatibility 7 (MAEMC7)

- Innovation Engineering:

- o Compulsory courses: Project S7 (EAPRS7), Product Innovation (WAPI), Business Innovation (WABI) and Model-Based System Engineering (EBMBSE)
- o Electives:
 - * 1x choice from the courses Advanced Embedded Systems (EBAES), Sensor Technology (EAST) or Advanced Control Systems (EBACS),
 - * 1x choice from the courses Advanced Telecommunications (EBATEL), Advanced Power Electronics (EAAPE) and Digital System Design (EADSD) and
 - * 1x choice of Curriculum Supporting Activity 7 (EACSA7) or Electromagnetic Compatibility 7 (MAEMC7)

If you participated in the BeCreative minor, you can also take GLOW completion A and B as electives. This option must always be agreed upon by your BeCreative minor coordinator.

TER tables B Mechanical Engineering



TER

Mechanical Engineering year 1
2022-2023
30 September 2022

semester	unit of study	name unit of study	credits	name of test	type of test	assessment type	assessment scale	prerequisites	norm/compensation
ME1-S1	MEAPERSD	Personal Development	1.00	MEAPERSD	Assignment	Individual	I-S-G	n/a	MEAPERSD = S or G
	MEBCAD	CAD & Drawings	3.00	MEBCADP1	Practical Assignment	Individual	Passed / Failed	n/a	MEBCAD = Passed when MEBCADP1 = Passed and MEBCADP2 = Passed
				MEBCADP2	Practical Assignment	Individual	Passed / Failed	n/a	
	MEBPM1	Fundamentals of engineering materials and manufacturing	5.00	MEBPM1P	Practical Assignment	Group	Passed / Failed	n/a	MEBPM1 = (MEBPM1T1 + MEBPM1T2) / 2 \geq 5,5 provided that MEBPM1T1 \geq 5,5 and MEBPM1T2 \geq 5,5 and MEBPM1P = Passed*
				MEBPM1T1	Written Exam	Individual	1,0-10,0	n/a	
				MEBPM1T2	Written Exam	Individual	1,0-10,0	n/a	
	MEBRGT	RGT support	1.00	MEBRGT	Assignment	Individual and Group	Passed / Failed	n/a	MEBRGT = Passed
	MEBW1	Introduction Mathematics	5.00	MEBW1T1	Written Exam	Individual	1,0-10,0	n/a	MEBW1 = (MEBW1T1 + MEBW1T2) / 2 \geq 5,5 provided that MEBW1T1 \geq 5,5 and MEBW1T2 \geq 5,5
				MEBW1T2	Written Exam	Individual	1,0-10,0	n/a	
	MECCM1	Statics	3.00	MECCM1T1	Written Exam	Individual	1,0-10,0	n/a	MECCM1 = (MECCM1T1 + MECCM1T2) / 2 \geq 5,5 provided that MECCM1T1 \geq 4,5 and MECCM1T2 \geq 4,5
				MECCM1T2	Written Exam	Individual	1,0-10,0	n/a	
	MECEP1	Introduction Energy Theory	3.00	MECEP1P	Practical Assignment	Group	Passed / Failed	n/a	MECEP1 = (MECEP1T1 + MECEP1T2) / 2 \geq 5,5 provided that MECEP1T1 \geq 4,5 and MECEP1T2 \geq 4,5 and MECEP1P = Passed
				MECEP1T1	Written Exam	Individual	1,0-10,0	n/a	
				MECEP1T2	Written Exam	Individual	1,0-10,0	n/a	
	MECPPR	Manufacturing Practical	2.00	MECPPR1	Practical Assignment	Individual	Passed / Failed	n/a	MECPPR = Passed when MECPPR1 = Passed and MECPPR2 = Passed
				MECPPR2	Practical Assignment	Individual	Passed / Failed	n/a	
	MEDPP1	Intro project Mechanical Eng	2.00	MEDPP1P	Project	Group	I-S-G	n/a	MEDPP1 = S or G
	MEDPP2	Project & Professionalization 2	5.00	MEDPP2P	Project	Individual and Group	1,0-10,0	n/a	MEDPP2 = MEDPP2P \geq 5,5 provided that MEDPP2T1 = Passed and MEDPP2T2 = Passed
				MEDPP2T1	Assignment	Individual	Passed / Failed	n/a	
				MEDPP2T2	Practical Assignment	Individual	Passed / Failed	n/a	
ME1-S2	MEACM2	Mechanics of Materials	5.00	MEACM2T1	Written Exam	Individual	1,0-10,0	n/a	MEACM2 = (MEACM2T1 + MEACM2T2) / 2 \geq 5,5 provided that MEACM2T1 and MEACM2T2 \geq 4,5
				MEACM2T2	Written Exam	Individual	1,0-10,0	n/a	

	MEAMS	Modelling and Simulation	4.00	MEAMS	MEAMS	Duo	1,0-10,0	n/a	MEAMS \geq 5,5
	MEBEP21	Fluid Mechanics	3.00	MEBEP21P	Practical Assignment	Group	Passed / Failed	n/a	MEBEP21 = MEBEP21T \geq 5,5 provided that MEBEP21P = Passed
				MEBEP21T	Written Exam	Individual	1,0-10,0	n/a	
	MEBW12	Advanced Mathematics	5.00	MEBW12T1	Written Exam	Individual	1,0-10,0	n/a	MEBW12 = (MEBW12T1 + MEBW12T2) / 2 \geq 5,5 provided that MEBW12T1 \geq 5,5 and MEBW12T2 \geq 5,5
				MEBW12T2	Written Exam	Individual	1,0-10,0	n/a	
	MECMR1	Electronics, Logic & Measurement	5.00	MECMR1P1	Practical Assignment	Duo	Passed / Failed	n/a	MECMR1 = (MECMR1T1 + MECMR1T2) / 2 \geq 5,5 provided that MECMR1T1 \geq 5,5 and MECMR1T2 \geq 5,5 and MECMR1P1 = Passed and MECMR1P2 = Passed
				MECMR1P2	Practical Assignment	Duo	Passed / Failed	n/a	
				MECMR1T1	Assignment	Individual	1,0-10,0	n/a	
				MECMR1T2	Assignment	Individual	1,0-10,0	n/a	
	MECPP3	Project & Professionalization 3	8.00	MECPP3P1	Project	Individual and Group	1,0-10,0	n/a	MECPP3 = (MECPP3P1 + MECPP3P2) / 2 \geq 5,5 provided that MECPP3T1 = Passed and MECPP3T2 = Passed and MECPP3P1 \geq 5,5 and MECPP3P2 \geq 5,5
				MECPP3P2	Project	Individual and Group	1,0-10,0	n/a	
				MECPP3T1	Assignment	Individual	Passed / Failed	n/a	
				MECPP3T2	Assignment	Individual	Passed / Failed	n/a	

semester	unit of study	name unit of study	credits	name of test	type of test	assessment type	assessment scale	prerequisites	norm/compensation
ME2-S3	EXPO1	Expo 1	3.00	EXPO1	Project	Individual	1,0-10,0	n/a	EXPO1 \geq 5,5
	EXPO2	Expo 2	3.00	EXPO2	Project	Individual	1,0-10,0	n/a	EXPO2 \geq 5,5
	MEAWI4	Spatial Functions	1.00	MEAWI4	Written Exam	Individual	1,0-10,0	MEBWI1, MEBWI2	MEAWI4 \geq 5,5
	MEBCM3	Dynamics	3.00	MEBCM3P1	Practical Assignment	Individual	Passed / Failed	n/a	MEBCM3 = MEBBCM3T1 \geq 5,5 provided that MEBBCM3P1 = Passed
				MEBCM3T1	Written Exam	Individual	1,0-10,0	n/a	
	MEBDG1	Dynamic System Behaviour	4.00	MEBDG1	Assignment	Duo	1,0-10,0	MEAMS	MEDDG1 \geq 5,5
	MEBEP22	Heat transfer	3.00	MEBEP22P	Practical Assignment	Group	Passed / Failed	MEBEP1	MEBEP22 = MEBEP22T \geq 5,5 provided that MEBEP22P = Passed
				MEBEP22T	Written Exam	Individual	1,0-10,0	MEBEP1	
	MEBPM2	Selection of engineering materials and heat treatment	5.00	MEBPM2P1	Practical Assignment	Group	Passed / Failed	n/a	MEBPM2 = (MEBPM2T1 + MEBPM2T2) / 2 \geq 5,5 provided that MEBPM2T1 \geq 4,5 and MEBPM2T2 \geq 4,5 and MEBPM2P1 = Passed and MEBPM2P2 = Passed
				MEBPM2P2	Practical Assignment	Group	Passed / Failed	n/a	
				MEBPM2T1	Written Exam	Individual	1,0-10,0	MEAPM1, MEACM1/MEBCM1/MECCM1	
				MEBPM2T2	Written Exam	Individual	1,0-10,0	n/a	
	MEBWI5	Linear Algebra	1.00	MEBWI5	Written Exam	Individual	1,0-10,0	MEBWI1, MEBWI2	MEBWI5 \geq 5,5
	MEDMR2	Measurement & Control	5.00	MEDMR2P1	Practical Assignment	Duo	Passed / Failed	MEAMR1/MEBMR1, MEAWI2, MEAMS	MEDMR2 = (MEDMR2T1 + MEDMR2T2) / 2 \geq 5,5 provided that MEDMR2T1 \geq 5,5 and MEDMR2T2 \geq 5,5 and MEDMR2P1 = Passed and MEDMR2P2 = Passed
				MEDMR2P2	Practical Assignment	Duo	Passed / Failed	MEAMR1/MEBMR1, MEAWI2, MEAMS	
				MEDMR2T1	Written Exam	Individual	1,0-10,0	MEAMR1/MEBMR1, MEAWI2, MEAMS	
				MEDMR2T2	Assignment	Individual	1,0-10,0	n/a	
	MEDPP4	Project & professionalization 4	2.00	MEDPP4T1	Assignment	Individual	Passed / Failed	n/a	MEDPP4 = Passed when MEDPP4T1 = Passed and MEDPP4T2 = Passed
				MEDPP4T2	Assignment	Individual	Passed / Failed	n/a	
ME2-S4	EXPO3	Expo 3	3.00	EXPO3	Project	Individual	1,0-10,0	n/a	EXPO3 \geq 5,5
	EXPO4	Expo 4	3.00	EXPO4	Project	Individual	1,0-10,0	n/a	EXPO4 \geq 5,5

	MEAWI3	Probability Theory & Statistics	1.00	MEAWI3	Written Exam	Individual	1,0-10,0	n/a	MEAWI3 $\geq 5,5$
	MEBCM4	Machine Elements	5.00	MEBCM4P1	Assessment	Individual	I-S-G	MEACM2	MEBCM4 = (MEBCM4T1 + MEBCM4T2) / 2 $\geq 5,5$ provided that MEBCM4T1 $\geq 4,5$ and MEBCM4T2 $\geq 4,5$ and MEBCM4P1 = S or G and MEBCM4P2 = S or G and MEBCM4P3 = S or G
				MEBCM4P2	Practical Assignment	Individual	I-S-G	MEACM2	
				MEBCM4P3	Practical Assignment	Duo	I-S-G	MEACM2	
				MEBCM4T1	Written Exam	Individual	1,0-10,0	MEACM2	
				MEBCM4T2	Written Exam	Individual	1,0-10,0	MEACM2	
	MEBEP3	Applied Thermodynamics	5.00	MEBEP3P	Practical Assignment	Individual	Passed / Failed	MEBEP1	MEBEP3 = (MEBEP3T1 + MEBEP3T2) / 2 $\geq 5,5$ provided that MEBEP3T1 $\geq 4,5$ and MEBEP3T2 $\geq 4,5$ and MEBEP3P = Passed
				MEBEP3T1	Written Exam	Individual	1,0-10,0	MEBEP1	
				MEBEP3T2	Written Exam	Individual	1,0-10,0	MEBEP1	
	MEBHE1	Research Methodologies	5.00	MEBHE1P	Assignment	Individual	I-S-G	n/a	MEBHE1 = MEBHE1T $\geq 5,5$ provided that MEBHE1P = S or G
				MEBHE1T	Assignment	Individual and Duo	1,0-10,0	n/a	
	MEBPM3	Forming, DoE and AM	5.00	MEBPM3P1	Practical Assignment	Duo	I-S-G	MEAPM1, MEAPM2, MEACM1/MEBCM1/MECCM1	MEBPM3 = (MEBPM3T1 + MEBPM3T2) / 2 $\geq 5,5$ provided that MEBPM3T1 $\geq 5,5$ and MEBPM3T2 $\geq 5,5$ and MEBPM3P1 = S or G and MEBPM3P2 = S or G and MEBPM3P3 = S or G
				MEBPM3P2	Practical Assignment	Duo	I-S-G	MEAPM1, MEAPM2, MEACM1/MEBCM1/MECCM1	
				MEBPM3P3	Practical Assignment	Duo	I-S-G	MEAWI3	
				MEBPM3T1	Written Exam	Individual	1,0-10,0	MEAPM1, MEAPM2, MEACM1/MEBCM1/MECCM1	
				MEBPM3T2	Written Exam	Individual	1,0-10,0	MEAPM1, MEAPM2, MEACM1/MEBCM1/MECCM1	
	MEDPP5	Project & professionalization 5	3.00	MEDPP5T1	Assignment	Individual	1,0-10,0	n/a	MEDPP5 = MEDPP5T1 $\geq 5,5$ provided that MEDPP5T1 $\geq 5,5$ and MEDPP5T2 = Passed
				MEDPP5T2	Assignment	Individual	Passed / Failed	n/a	

semester	unit of study	name unit of study	credits	name of test	type of test	assessment type	assessment scale	prerequisites	norm/compensation
ME3-S5	MEAINTERN	Internship	30.00	MEAINTERN	Execution and report	Individual	1,0-10,0	See criteria table	All partial grades $\geq 5,5$
ME4-S7_ET	MDSYE7	System Engineering 7	2.00	MDSYE7	Assignment	Group (6p)	I-S-G	n/a	MDSYE7 ≥ 5
	WADFX	Design for Excellence	2.00	WADFX	Assignment	Group	1,0-10,0	n/a	WADFX $\geq 5,5$
	WAPM13 / WADG2 / WABI / WACM5 / WACM10 / (EAGC7A+E AGC7B)	Selective module (period 2)	4.00	See module	See module				
	WAPRS7	Project S7	10.00	WAPRS7	Project	Individual and Group	1,0-10,0	n/a	WAPRS7 $\geq 5,5$
	WBEP12	Thermal Design	4.00	WBEP12	Written Exam	Individual	1,0-10,0	WAEP22 or MEAEP22, WAEP3 or MEAEP3	WBEP12 $\geq 5,5$
	WBEP13	Applied Energy Technology	4.00	WBEP13P	Assignment	Group	Passed / Failed	n/a	WBEP13 = WBEP13T $\geq 5,5$ provided that WBEP13P = Passed
				WBEP13T	Written Exam	Individual	1,0-10,0	n/a	
	WBEP14	Sustainable Energy Systems	4.00	WBEP14	Written Exam and Assignment	Individual and Group	1,0-10,0	WAEP22 or MEAEP22, WAEP3 or MEAEP3	WBEP14 $\geq 5,5$
ME4-S7_IE	MDSYE7	System Engineering 7	2.00	MDSYE7	Assignment	Group (6p)	I-S-G	n/a	MDSYE7 ≥ 5
	WABI	Business Innovation	4.00	WABIP	Assignment	Group	I-S-G	n/a	WABI = WABIT ≥ 5.5 provided that WABIP = S or G
				WABIT	Written Exam	Individual	1,0-10,0	n/a	
	WACM5 / WACM10 / WBEP13 / WBEP14 / WADG2 / WAPM13 / WBEP12 / (EAGC7A+E AGC7B)	Selective module 1 (period 1)	4.00	See module	See module	See module	See module	See module requirements	See module. Selective module 1 should be different from selective module 2.

	WACM5 / WACM10 / WBEP13 / WBEP14 / WADG2 / WAPM13 / WBEP12 / (EAGC7A+EAGC7B)	Selective module 2 (period 2)	4.00	See module	See module	See module	See module	See module requirements	See module. Selective module 1 should be different from selective module 2.
	WADFX	Design for Excellence	2.00	WADFX	Assignment	Group	1,0-10,0	n/a	WADFX \geq 5,5
	WAPI	Product Innovation	4.00	WAPI	Written Exam	Individual	1,0-10,0	n/a	WAPI \geq 5,5
	WAPRS7	Project S7	10.00	WAPRS7	Project	Individual and Group	1,0-10,0	n/a	WAPRS7 \geq 5,5
ME4-S7_PE	MDSYE7	System Engineering 7	2.00	MDSYE7	Assignment	Group (6p)	I-S-G	n/a	MDSYE7 \geq 5
	WACM10	FEM	4.00	WACM10	Assignment	Individual and Group	1,0-10,0	WACM2 or MEACM2	WACM10 \geq 5,5
	WACM5	Design Principles for precision	4.00	WACM5	Written Exam	Individual	1,0-10,0	WACM2 or MEACM2	WACM5 \geq 5,5
	WADFX	Design for Excellence	2.00	WADFX	Assignment	Group	1,0-10,0	n/a	WADFX \geq 5,5
	WADG2	Dynamic Behaviour of High-tech Systems	4.00	WADG2T1	Assignment	Group	1,0-10,0	WAMR2/WBMR2/WCMR2 or MEAMR2/MEBMR2/MECMR2, WADG1/WBDG1/WCDG1 or MEADG1/MEBDG1/MECDG1	WADG2 = (WADG2T1 + WADG2T2) / 2 \geq 5,5 provided that WADG2T1 \geq 5,5 and WADG2T2 \geq 5,5
				WADG2T2	Written Exam	Individual	1,0-10,0	WAMR2/WBMR2/WCMR2 or MEAMR2/MEBMR2/MECMR2, WADG1/WBDG1/WCDG1 or MEADG1/MEBDG1/MECDG1	
	WAPM13	Production & Materials for Precision	4.00	WAPM13	Written Exam	Individual	1,0-10,0	n/a	WAPM13 \geq 5,5
	WAPRS7	Project S7	10.00	WAPRS7	Project	Individual and Group	1,0-10,0	n/a	WAPRS7 \geq 5,5
ME4-S8	MEAGRAD	Graduation	30.00	MEAGRADA	Executed work	Individual	1,0-10,0	See criteria table	MEAGRAD = (0,3*MEAGRADA + 0,3*MEAGRADB + 0,2*MEAGRADC + 0,2*MEAGRADD) \geq 5,5, mits MEAGRADA \geq 5,5 & MEAGRADB \geq 5,5 & MEAGRADC \geq 5,5 & MEAGRADD \geq 5,5
				MEAGRADB	Report, content	Individual	1,0-10,0	See criteria table	
				MEAGRADC	Report, structure & form	Individual	1,0-10,0	See criteria table	
				MEAGRADD	Presentation and defense	Individual	1,0-10,0	See criteria table	

TER tables B Mechatronics

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Mechatronics year 1, Mechatronics year 2, Mechatronics year 3, Mechatronics year 4
2022-2023
29 September 2022

semester	unit of study	name unit of study	credits	name of test	type of test	assessment type	assessment scale	prerequisites	norm/compensation
MCI-SI	MCABESI	Basic Electronics I	4.00	MCABESI	Written Exam	Individual	1,0-10,0	n/a	MCABESI ≥ 5,5
	MCADISI A	Digital and Software Engineering IA	3.00	MCADISIAP	Portfolio	Individual	I-S-G	n/a	MCADISIA = MCADISIAT ≥ 5,5 and MCADISIAP ≥ 5
				MCADISIAT	Written Exam	Individual	1,0-10,0	n/a	
	MCADISI B	Digital and Software Engineering IB	3.00	MCADISIBP	Portfolio	Individual	I-S-G	n/a	MCADISIB = MCADISIBT ≥ 5,5 and MCADISIBP ≥ 5
				MCADISIBT	Written Exam	Individual	1,0-10,0	n/a	
	MCAMEG I	Mechanical Engineering I	3.00	MCAMEGIP	Practical Assignment	Individual	I-S-G	n/a	MCAMEGI = MCAMEGIT ≥ 5,5 and MCAMEGIP ≥ 5
				MCAMEGIT	Written Exam	Individual	1,0-10,0	n/a	
	MCBBAMI	Basic Mechanics I	3.00	MCBBAMIP	Practical Assignment	Individual	I-S-G	n/a	MCBBAMI = MCBBAMIT ≥ 5,5 and MCBBAMIP ≥ 5
				MCBBAMIT	Assignment	Individual	1,0-10,0	n/a	
	MCBFEEI	Fundamentals of Electrical Engineering I	3.00	MCBFEEI	Written Exam	Individual	1,0-10,0	n/a	MCBFEEI ≥ 5,5
	MCDMAT I	Mathematics I	3.00	MCDMATI	Written Exam	Individual	1,0-10,0	n/a	MCDMATI ≥ 5,5
	MCDPRJ0	Project 0	3.00	MCDPDVIA	Practical Assignment	Individual	I-S-G	n/a	MCDPRJ0 = MCDSIM0 ≥ 5,5 and MCDPDVIA ≥ 5
				MCDSIM0	Project appraisal	Individual and Group	1,0-10,0	n/a	
	MCDPRJ1	Project 1	5.00	MCDCOMI	Practical Assignment	Individual	I-S-G	n/a	MCDPRJ1 = MCDSIM1 ≥ 5,5 and MCDCOMI ≥ 5 and MCDPDVIB ≥ 5 and MCDSYE1 ≥ 5
				MCDPDVIB	Practical Assignment	Individual	I-S-G	n/a	
				MCDSIM1	Project appraisal	Individual and Group	1,0-10,0	n/a	

				MCDSEI	Practical Assignment	Individual and Group	I-S-G	n/a	
MCI-S2	MCAACS2	AC Signals 2	3.00	MCAACS2	Written Exam	Individual	I,0-10,0	n/a	MCAACS2 ≥ 5,5
	MCAGIS2	Graphical Software Engineering 2	3.00	MCAGIS2P	Portfolio	Individual	I-S-G	n/a	MCAGIS2 = MCAGIS2T ≥ 5,5 and MCAGIS2P ≥ 5
				MCAGIS2T	Written Exam	Individual	I,0-10,0	n/a	
	MCAMEG2	Mechanical Engineering 2	4.00	MCAMEG2	Written Exam	Individual	I,0-10,0	n/a	MCAMEG2 ≥ 5,5
	MCDMAT2A	Mathematics 2A	3.00	MCDMAT2A	Written Exam	Individual	I,0-10,0	n/a	MCDMAT2A ≥ 5,5
	MCDMAT2B	Mathematics 2B	3.00	MCDMAT2B	Written Exam	Individual	I,0-10,0	n/a	MCDMAT2B ≥ 5,5
	MCDMBS2	Model Based Simulations 2	4.00	MCDMBS2	Practical Assignment	Individual and Duo	I,0-10,0	n/a	MCDMBS2 ≥ 5,5
	MCDPRJ2	Project 2	5.00	MCDPDV2A	Practical Assignment	Individual	I-S-G	n/a	MCDPRJ2= MCDSIM2 ≥ 5,5 and MCDPDV2A ≥ 5 and MCDSYE2A ≥ 5
				MCDSIM2	Project appraisal	Individual and Group	I,0-10,0	n/a	
				MCDSYE2A	Practical Assignment	Individual	I-S-G	n/a	
	MCDPRJ3	Project 3	5.00	MCDCOM2	Practical Assignment	Individual and Group	I-S-G	n/a	MCDPRJ3= MCDSIM3 ≥ 5,5 and MCDCOM2 ≥ 5 and MCDPDV2B ≥ 5 and MCDSYE2BT ≥ 5,5
				MCDPDV2B	Practical Assignment	Individual	I-S-G	n/a	
				MCDSIM3	Project appraisal	Individual and Group	I,0-10,0	n/a	
				MCDSYE2B	Written Exam	Individual	I,0-10,0	n/a	

MC2-S3	EXPO1	Expo 1	3.00	EXPO1	Project appraisal	Individual and Group	1,0-10,0	n/a	EXPO1 ≥ 5,5
	EXPO2	Expo 2	3.00	EXPO2	Project appraisal	Individual and Group	1,0-10,0	n/a	EXPO2 ≥ 5,5
	MCAEMP3	Electric Motors & Power Electronics 3	4.00	MCAEMP3	Written Exam	Individual	1,0-10,0	n/a	MCAEMP3 ≥ 5.5
	MCASDA3	Software Design & Architecture 3	4.00	MCASDA3P	Portfolio	Group	I-S-G	n/a	MCASDA3 = MCASDA3T ≥ 5.5 and MCASDA3P ≥ S
				MCASDA3T	Oral Exam	Individual	1,0-10,0	n/a	
	MCASIS3	Signals & Systems 3	3.00	MCASIS3P	Practical Assignment	Individual and Duo	I-S-G	n/a	MCASIS3 = MCASIS3T ≥ 5.5 and MCASIS3P ≥ S
				MCASIS3T	Written Exam	Individual	1,0-10,0	n/a	
	MCBISC3	Industrial Systems & Connectivity 3	3.00	MCBISC3P	Portfolio	Individual and Group	I-S-G	n/a	MCBISC3 = MCBISC3T ≥ 5.5 and MCBISC3P ≥ S
				MCBISC3T	Oral exam	Individual	1,0-10,0	n/a	
	MCBMDB3	Motion design for optimal dynamic behaviour 3	5.00	MCBMDB3P	Assignment	Group	I-S-G	n/a	MCBMDB3 = MCBMDB3T ≥ 5.5 and MCBMDB3P ≥ S
				MCBMDB3T	Written Exam	Individual	1,0-10,0	n/a	
	MCBPSD3	Professional Skills and Development 3	3.00	MCBPDV3	Practical Assignment	Individual	I-S-G	n/a	MCBPSD3 = MCBPRS3 ≥ S and MCBSYE3 ≥ S and MCBPDV3 ≥ S
				MCBPRS3	Practical Assignment	Individual	I-S-G	n/a	
				MCBSYE3	Practical Assignment	Individual	I-S-G	n/a	
	MCDCSS3	Control Systems & Sensors 3	3.00	MCDCSS3A	Oral exam	Individual	1,0-10,0	n/a	MCDCSS3 = MCDCSS3A ≥ 5.5 and MCDCSS3P ≥ S
				MCDCSS3P	Portfolio	Individual	I-S-G	n/a	
MC2-S4	EXPO3	Expo 3	3.00	EXPO3	Project appraisal	Individual and Group	1,0-10,0	n/a	EXPO3 ≥ 5,5
	EXPO4	Expo 4	3.00	EXPO4	Project appraisal	Individual and Group	1,0-10,0	n/a	EXPO4 ≥ 5,5
	MCAALA4	Applied Linear Algebra 4	3.00	MCAALA4P	Assignment	Group	1,0-10,0	MCAALA4 or MCAAST4 or MCAAMA4	MCAALA4 = MCAALA4T ≥ S and MCAALA4P ≥ 5.5
				MCAALA4T	Assignment	Individual	I-S-G	MCAALA4 or MCAAST4 or MCAAMA4	
	MCAAMA4	Applied Mathematical Algorithms 4	3.00	MCAAST4P	Assignment	Group	1,0-10,0	MCAALA4 or MCAAST4 or MCAAMA4	MCAAMA4 = MCAAMA4T ≥ S and MCAAMA4P ≥ 5.5
				MCAAST4T	Assignment	Individual	I-S-G	MCAALA4 or MCAAST4 or MCAAMA4	

	MCAAST4	Applied Statistics 4	3.00	MCAAST4P	Assignment	Group	I,0-10,0	MCAALA4 or MCAAST4 or MCAAMA4	MCAAST4 = MCAAST4T ≥ S and MCAAST4P ≥ 5.5
				MCAAST4T	Assignment	Individual	I-S-G	MCAALA4 or MCAAST4 or MCAAMA4	
	MCADDC4	Dynamic Design Criteria 4	3.00	MCADDC4P	Practical Assignment	Individual and Duo	I-S-G	n/a	MCADDC4 = MCADDC4T ≥ 5.5 and MCADDC4P ≥ S
				MCADDC4T	Written Exam	Individual	I,0-10,0	n/a	
	MCADFC4	Dynamic Feedback Control 4	3.00	MCADFC4P	Practical Assignment	Individual and Duo	I-S-G	n/a	MCADFC4 = MCADFC4T ≥ 5.5 and MCADFC4P ≥ S
				MCADFC4T	Written Exam	Individual	I,0-10,0	n/a	
	MCAEDS4	Electrical Drive Systems 4	3.00	MCAEDS4	Written Exam	Individual	I,0-10,0	n/a	MCAEDS4 ≥ 5.5
	MCARTS4	Real-Time Systems 4	4.00	MCARTS4P	Portfolio	Individual	I-S-G	n/a	MCARTS4 = MCARTS4T ≥ 5.5 and MCARTS4P ≥ S
				MCARTS4T	Written Exam	Individual	I,0-10,0	n/a	
	MCBDPB4	Design principles for optimal behaviour 4	4.00	MCBDPB4	Written Exam	Individual	I,0-10,0	n/a	MCBDPB4 ≥ 5.5
MC3-S5	MCASTAG E	Internship	30.00	MCBPDV4	Practical Assignment	Individual	I-S-G	n/a	MCBPSD4 = MCBPRS4 ≥ S and MCBSYE4 ≥ S and MCBPDV4 ≥ S
				MCBPRS4	Practical Assignment	Individual	I-S-G	n/a	
				MCBSYE4	Practical Assignment	Individual	I-S-G	n/a	
MC3-S6	n/a	Minor	30.00	n/a	n/a	Individual	I-S-G	SVC	≥ S

MC4-S7_AA S	MADIA7	Design for Industrial Automation 7	4.00	MADIA7P	Assignment	Group	I,0-10,0	n/a	MADIA7 = (MADIA7T + MADIA7P)/2 ≥ 5,5 MADIA7T ≥ 5,5 MADIA7P ≥ 5,5
				MADIA7T	Oral exam	Individual	I,0-10,0	n/a	
	MADIT7	Digital Twin 7	4.00	MADIT7P	Practical Assignment	Duo	I-S-G	n/a	MADIT7 = MADIT7T ≥ 5,5 and MADIT7P ≥ 5
				MADIT7T	Assignment	Individual	I,0-10,0	n/a	
	MAEMC7	Electromagnetic Compatibility 7	2.00	MAEMC7P1	Practical Assignment	Individual and Duo	I,0-10,0	N/a or MAEMC7 or MAGC7B	MAEMC7 = (MAEMC7P1 + MAEMC7P2 + MAEMC7P3)/3 ≥ 5,5 MAEMC7P1 ≥ 5,5 MAEMC7P2 ≥ 5,5 MAEMC7P3 ≥ 5,5
				MAEMC7P2	Practical Assignment	Individual and Duo	I,0-10,0	N/a or MAEMC7 or MAGC7B	
				MAEMC7P3	Practical Assignment	Individual and Duo	I,0-10,0	N/a or MAEMC7 or MAGC7B	
	MAGC7A	GLOW completion A	2.00	MAGC7A	Assignment	Individual	I,0-10,0	Be Creative minor (GLOW project)	≥ 5,5
	MAGC7B	GLOW completion B	2.00	MAGC7B	Assignment	Individual	I,0-10,0	Be Creative minor (GLOW project)	≥ 5,5
	MAPRS7	Project Semester 7	10.00	MAPRS7	Project appraisal	Individual and Group	I,0-10,0	Internship	≥ 5,5
	MBMSY7	Mechatronic Systems 7	4.00	MBMSY7P	Assignment	Group	I-S-G	n/a	MBMSY7 = MBMSY7T ≥ 5,5 and MBMSY7P ≥ 5
				MBMSY7T	Written Exam	Individual	I,0-10,0	n/a	
	MCAIS7	Autonomous and Intelligent Systems 7	4.00	MCAIS7P1	Assignment	Group	I,0-10,0	n/a	MCAIS7 = (MCAIS7T + MCAIS7P1 + MCAIS7P2) /3 ≥ 5,5 MCAIS7T ≥ 5,5 MCAIS7P1 ≥ 5,5 MCAIS7P2 ≥ 5,5
				MCAIS7P2	Assignment	Group	I,0-10,0	n/a	
				MCAIS7T	Written Exam	Individual	I,0-10,0	n/a	
	MDSYE7	Systems Engineering 7	2.00	MDSYE7	Assignment	Individual	I-S-G	N/a or MBSYE7 or MAGC7A	MDSYE7 ≥ 5
MC4-S7_AM C	MAACE7	Applied Control Engineering 7	4.00	MAACE7P	Assignment	Duo	I-S-G	n/a	MAACE7 = MAACE7T ≥ 5,5 and MAACE7P ≥ 5
				MAACE7T	Written Exam	Individual	I,0-10,0	n/a	
	MADMD7	Dynamic Modelling & Design 7	4.00	MADMD7P	Assignment	Duo	I-S-G	n/a	MADMD7 = MADMD7T ≥ 5,5 and MADMD7P ≥ 5
				MADMD7T	Written Exam	Individual	I,0-10,0	n/a	

	MAEMC7	Electromagnetic Compatibility 7	2.00	MAEMC7P1	Practical Assignment	Individual and Duo	I,0-10,0	N/a or MAEMC7 or MAGC7B	$MAEMC7 = (MAEMC7P1 + MAEMC7P2 + MAEMC7P3)/3 \geq 5,5$ $MAEMC7P1 \geq 5,5$ $MAEMC7P2 \geq 5,5$ $MAEMC7P3 \geq 5,5$
				MAEMC7P2	Practical Assignment	Individual and Duo	I,0-10,0	N/a or MAEMC7 or MAGC7B	
				MAEMC7P3	Practical Assignment	Individual and Duo	I,0-10,0	N/a or MAEMC7 or MAGC7B	
	MAGC7A	GLOW completion A	2.00	MAGC7A	Assignment	Individual	I,0-10,0	Be Creative minor (GLOW project)	$\geq 5,5$
	MAGC7B	GLOW completion B	2.00	MAGC7B	Assignment	Individual	I,0-10,0	Be Creative minor (GLOW project)	$\geq 5,5$
	MAOBS7	Observers for State Space Systems 7	4.00	MAOBS7P	Assignment	Duo	I-S-G	n/a	$MAOBS7 = MAOBS7T \geq 5,5$ and $MAOBS7P \geq 5$
				MAOBS7T	Written Exam	Individual	I,0-10,0	n/a	
	MAPRS7	Project Semester 7	10.00	MAPRS7	Project appraisal	Individual and Group	I,0-10,0	Internship	$\geq 5,5$
	MDAES7	Advanced Embedded Systems 7	4.00	MDAES7P	Oral exam	Duo	I-S-G	n/a	$MDAES7 = MDAES7T \geq 5,5$ and $MDAES7P \geq 5$
				MDAES7T	Report/verslag	Individual	I,0-10,0	n/a	
	MDSYE7	Systems Engineering 7	2.00	MDSYE7	Assignment	Individual	I-S-G	N/a or MBSYE7 or MAGC7A	$MDSYE7 \geq 5$

semester	unit of study	name unit of study	credits	name of test	type of test	assessment type	assessment scale	prerequisites	norm/compensation
MC4-S7_IE	MADIA7 / MBMSY7 / MAACE7 / MADMD7	Selective module 1 (period 1)	4.00	See module	See module	See module	See module	See module requirements	See module
	MAEMC7	Electromagnetic Compatibility 7	2.00	MAEMC7P1	Practical Assignment	Individual and Duo	1,0-10,0	N/a or MAEMC7 or MAGC7B	MAEMC7 = (MAEMC7P1 + MAEMC7P2 + MAEMC7P3)/3 ≥ 5,5 MAEMC7P1 ≥ 5,5 MAEMC7P2 ≥ 5,5 MAEMC7P3 ≥ 5,5
				MAEMC7P2	Practical Assignment	Individual and Duo	1,0-10,0	N/a or MAEMC7 or MAGC7B	
				MAEMC7P3	Practical Assignment	Individual and Duo	1,0-10,0	N/a or MAEMC7 or MAGC7B	
	MAGC7A	GLOW completion A	2.00	MAGC7A	Assignment	Individual	1,0-10,0	Be Creative minor (GLOW project)	≥ 5,5
	MAGC7B	GLOW completion B	2.00	MAGC7B	Assignment	Individual	1,0-10,0	Be Creative minor (GLOW project)	≥ 5,5
	MAPRS7	Project Semester 7	10.00	MAPRS7	Project appraisal	Individual and Group	1,0-10,0	Internship	≥ 5,5
	MCAIS7 / MDAES7 / MAOBS7 / MADIT7	Selective module 2 (period 2)	4.00	See module	See module	See module	See module	See module requirements	See module
	MDSYE7	Systems Engineering 7	2.00	MDSYE7	Assignment	Individual	I-S-G	N/a or MBSYE7 or MAGC7A	MDSYE7 ≥ 5
	WABI	Business Innovation	4.00	WABIP	Assignment	Group	I-S-G	n/a	WABI = WABIT ≥ 5,5 and WABIP ≥ 5
				WABIT	Written Exam	Individual	1,0-10,0	n/a	
	WAPI	Product Innovation	4.00	WAPI	Written Exam	Individual	1,0-10,0	n/a	≥ 5,5
MC4-S8	MCBGRADP	Graduation Project	30.00	MCBGRADP-A	Assessment	Individual	1,0-10,0	SVC	MCBGRADP = [(30%*MCBGRADP-A)+(30% * MCBGRADP-B)+(20% * MCBGRADP-C)+(20% * MCBGRADP-D)] ≥ 5,5 MCBGRADP-A ≥ 5,5 MCBGRADP-B ≥ 5,5 MCBGRADP-C ≥ 5,5 MCBGRADP-D ≥ 5,5
				MCBGRADP-B	Portfolio	Individual	1,0-10,0	SVC	
				MCBGRADP-C	Portfolio	Individual	1,0-10,0	SVC	
				MCBGRADP-D	Presentation	Individual	1,0-10,0	SVC	

Enrolment process exams

Exam registration in the academic year 2022-2023, Fontys University of Applied Sciences, School of Engineering Registration for regular and resit examinations

- Full-time and part-time students must register for the regular and resit examinations
- Registration for the examinations is done via the Progress portal (see the manual on the portal).
- The deadline for registration (end of course week 5) for the different examination periods is included in the annual calendar of Fontys University of Applied Sciences Engineering.
- Students who did not register during the registration period, but still wish to participate, can still be registered up to two working days before the examination, by paying a €10 fee per exam (with a maximum of €50 per examination period). Example: if the exam is on Friday, the student can register no later than Tuesday. In order to participate, students must report to the administration office.
- The deadline for registration for resits during the course weeks will be separately announced by the student administration office.
- Payment must be made at the student administration office by debit card.
- Participating in an examination without being registered (via the Progress portal or after the registration period subject to payment) is not possible.
- Students who have not acted in accordance with the registration procedure described above cannot take part in the examination.

Registration procedure for educational activities

Application procedure for educational activities academic year 2022-2023 Fontys University of Applied Sciences Engineering

- ☐ Full-time and part-time students can register to take part in an educational activity.
- ☐ Registration for these educational activities is done via Progress Portal (see the manual on the portal for the registration of educational activities).
- ☐ The deadline for registering educational activities is mentioned in Progress Portal.

Programme Feasibility, Study Load, and Testing for FHENG TU/e Pre-Master's HBO Top Programmes

In collaboration with the Technical University Eindhoven (TU/e), Fontys provides programmes for HBO students in which courses can be taken at the TU/e during the HBO programme that are part of the Pre-Master's programme. This type of programme is also referred to as HBO Top. The admissibility of students is subject to strict requirements determined in consultation with the TU/e. By completing a sufficient number of courses, students are given the opportunity to start directly in one of the Master's programmes at the TU/e after obtaining their HBO certificate.

Background and Definition of the Problem

The various Pre-Master's programmes between universities and HBO programmes vary in scope (see <http://doorstroommatrix.nl/>). It may also be the case that, for logistical reasons and/or programme feasibility reasons, the time span within which the minimum ECTS of additional study load must be completed within the Pre-Master's programme is extended. The TU/e has an HBO Master's track of 150 ECTS which equals a study load of 2.5 years. However, this track spans 3 years. It should be noted that at least in the Master's for Electrical Engineering, Mechanical Engineering, and Systems & Control, this is not done for logistical reasons but in order to guarantee the programme's feasibility. This was confirmed in the annual evaluation meeting that takes place between the TU/e and all Fontys HBO programmes involved in an excellence programme. It is too expensive to provide specific HBO/TU Pre-Master's courses. HBO students are therefore expected to make an extra effort on top of the standard curriculum in the Pre-Master's phase because the theoretical study load of 30 ECTS is not considered feasible to complete in one semester in practice by the TU/e. During the regular 3-year programme, this is covered by providing a 150 ECTS programme over a period of three years.

Since the HBO Top programmes consist of the same Pre-Master's courses that are taken during the minor phase, this creates a problem in regards to the study load to be accounted for in ECTS.

In the Engineering department, a meeting took place on 1 December 2016 between the then Chair of the Central Examination Board: Els Lenssen, member of the Central Examination Board: Max Bogers, and the three excellence programme coordinators for each Engineering programme Willem-Jan Verkerk (Electrical Engineering), Willem van de Groep (Mechanical Engineering), and Nelis van Lierop (Mechanical Engineering). During this meeting, the issue of the feasibility of the HBO Top programme was discussed and a possible solution was defined whereby this minor variant is built up from a part to be allocated by the TU/e and a part to be allocated and tested by Fontys.

Proposal

The HBO Top programme coordinators are mandated by the MT to formulate learning agreements for the various HBO TOP programmes. These learning agreements are used to create a composition minor. The learning agreements to be defined by the coordinators of the excellence programme must meet the following requirements:

1. The agreement must contain at least 20ECTS of TU/e courses that are part of the HBO Top programme applicable to the student. The programme coordinator must ensure that courses which are part of the learning agreement are not used to apply for exemptions from courses in the Fontys Bachelor's programme.
2. The agreement must include a Fontys module of 10 ECTS called "Academic Skills". The structure of the content and the description of the module is included below.
3. By successfully completing the above parts of the composition minor, the student completes their minor phase as part of the Fontys programme.
4. For each programme type there is a programme description in which the content, preliminary conditions, and criteria are established.

Academic Skills Module Description

The Fontys lecturers responsible for this module are the excellence programme coordinators of the engineering programmes as mandated by the MT.

Size of the module: 10 ECTS*

*It is not always possible to create a total of exactly 20 ECTS of relevant TU/e courses within a TU/e semester. It is possible that a student has to obtain more than 20 ECTS of TU/e courses. When more than 20 ECTS of TU/e courses are included in the minor learning agreement (see Appendix I), the courses and the Academic Skills module add up to more than 30 ECTS. However, the total number of EC for the total composition minor in that case amounts to 30 ECTS. It is the student's responsibility, in consultation with their study career advisor and the programme coordinator, to compose a realistic and feasible programme that includes at least 20 ECTS of TU/e courses.

The "Academic skills" module includes the following learning goals/competence development:

- The student must gain experience with large-scale lectures and instructional lesson models.
- The student must be able to independently analyse scientific literature in order to gain lacking previous experience.

- The student must have sufficient knowledge of the English language to be able to study English-taught academic-level courses and materials independently.
- The student must be able to conceptualise abstractly on an academic level.
- The student must be able to observe and reflect at an academic level.
- The student must be able to solve analytical problems independently at an academic level.
- The student must be able to formulate and report mathematical proof at an academic level.

The testing for achieving the above learning goals is done by means of an oral examination in which the student has to present and be able to defend the necessary evidence using a portfolio. The student must therefore demonstrate that they have been able to take level 5 modules at academic levels 6 and 7 of the European Qualifications Framework. This examination is carried out by the HBO Top coordinator mandated by the Examination Board as the first examiner. This mandate is defined in this document. The examination and its results shall be documented using the form included in Appendix II. In order for the HBO Top coordinator, as the sole examiner, to be able to administer the oral examination, this form also requires the student's consent in accordance with Article 17, paragraph 4 of the TER.

Procedure

The procedure to complete and formalise the free composition minor described here is as follows:

1. In consultation with the student, the mandated HBO Top coordinator will formulate a learning agreement in accordance with Appendix 1.
2. After the successful completion of the modules agreed in the learning agreement at the TU/e, an oral assessment will take place which will be administered by the HBO Top coordinator as first examiner and a second examiner appointed by the HBO Top coordinator. In preparation, the student submits:
 - Authenticated original TU/e list of grades of all completed courses included in the learning agreement.
 - Proof of the obtained Academic Skills by means of a portfolio. The composition of this portfolio is the student's responsibility and may consist of but is not limited to: self-reflection, proof of developed professional skills, written papers/articles/reports, etc.
3. If the assessment has been successfully completed, the programme coordinator must complete and sign the assessment form in Appendix II.
4. The student submits the signed test form, original authenticated list of grades, additional evidence, and portfolio material to the Operations Office
5. The Operations Office performs the following actions:
 - All the proof is entered into TRIM
 - The EC obtained are registered in the Progress portal in accordance with the structure below:
 - 43MINATOP – 30 ECTS – **Pre-Master's minor** (name of the minor on the diploma)
 - 43MINAHBOTP – 20 ECTS
 - 43MINAAV – 10 ECTS

The above coding has been determined in consultation with the Operations Office in accordance with the following structure:

- **43MINATOP**: 43MIN = Minor identifier for the institute (43)
- 43MINATOP: revision A. In the case of major changes (e.g. major changes in content or changes in study load)
- 43MINAHBOTP: study load from the TU/e modules of ≥ 20 ECTS
- 43MINAAV: Academic Skills module from Fontys of 10 ECTS.

Appendix I: Learning Agreement for the HBO Top Free Composition Minor

See next page (to allow for the entire document to be included as it was originally).

The red text has to be adjusted individually.

FIELD OF STUDY: "Name Fontys education"

Name of student:

Sending institution: Fontys University of Applied Sciences

DETAILS OF THE PROPOSED STUDY PROGRAMME:

"HBO excellence program Fontys Engineering name field of study and Eindhoven University of Technology (TU/e) name TU/e master"

Course unit code (if any)	Course unit title	Number of ECTS credit
	List of TU/e courses (min. 20ECTS)	
	Academic skills (Fontys course)	10
	Total	30*

*If the individual courses amount to more than 30ECTS, the total number of EC that will be registered for the Fontys minor is still limited to 30 ECTS.

Student's signature

..... Date:

SENDING INSTITUTION

We confirm that this proposed programme of study/learning agreement has been approved.

Excellence Programme Coordinator**:

Signature:

Name:

Date:

**Mandated by the Fontys Engineering Management Team

RECEIVING INSTITUTION

The attached TU/e enrolment form for the excellence program, including the additional documents indicated in the enrolment form, guarantees that the proposed programme of study/learning agreement can be followed and registered at the TU/e. The excellence program coordinator is responsible for the academic skills course.

Appendix II: Examination Form for the Academic Skills Module of the Free HBO Top Composition Minor

See next page (to allow for the entire document to be included as it was originally).

GENERAL INFORMATION			
Name of student:		Student number:	
Date of assessment:		Name of first assessor:	

Composition of minor part: 43MINAHBOTP (>=20 ECTS)				
Course code (TU/e)	Course name (TU/e)	# EC	Part of learning agreement?*	Course concluded?**
			Yes / No	Yes / No
			Yes / No	Yes / No
			Yes / No	Yes / No
			Yes / No	Yes / No
			Yes / No	Yes / No
			Yes / No	Yes / No
			Yes / No	Yes / No
Total # EC completed:				
43MINAHBOTP part completed?		Yes / No		

Composition of minor part: 43MINAAV (10 ECTS)		
Learning goal	Learning goal demonstrated?*	Notes & Evidence
The student has demonstrated experience with large-scale lectures and instructional lesson models.	Yes / No	
The student has demonstrated being able to independently analyse scientific literature.	Yes / No	
The student has demonstrated sufficient knowledge of the English language to be able to independently study English-taught Academic level courses and materials.	Yes / No	
The student has demonstrated to be able to conceptualise abstractly on an academic level.	Yes / No	
The student has demonstrated being able to observe reflectively on an academic level.	Yes / No	
The student has demonstrated being able to solve analytical problems independently at an academic level.	Yes / No	
The student has demonstrated being able to formulate and report mathematical proof at an academic level.	Yes / No	
Academic Skills part 43MINAAV completed?*	Yes / No	

*Cross out what is applicable

** Concluded only if an original authenticated grade list is available

Final appraisal of HBO Top Composition minor The HBO TOP Composition minor has been successfully completed by the student. <u>Excellence Programme Coordinator:</u> _____ Signature: _____ Name: Date:	
Student agrees to verbal exam by one assessor (according to OER article 17-4) Name student: Signature:	

Appendix III: Background Information

HBO Top student excellence programme between Fontys Engineering Eindhoven and the Technical University Eindhoven (TU/e)

(Below is a quote from: <https://www.tue.nl/studeren/tue-graduate-school/schakelprogramma/hbo-top-minor/>)

“HBO-TOP (minor)

Are you an excellent HBO student? In that case, you may be eligible for the HBO Top programme during your HBO studies. After concluding the HBO Top programme you can easily move on to a Master's programme!

Please note: The HBO Top programme is not a regular minor. It is possible that the HBO Top programme will extend beyond one semester.

Can I participate?

You can join our HBO Top programme if:

- you are selected by Fontys or Avans
- you are selected by TU/e if you are not a student at Fontys or Avans
- you have completed your HBO propaedeutic year
- you have sufficient study progress (at least one propaedeutic year)
- you are interested in a Master's programme at TU/e

What is included in this excellence programme?

- During one or more years of your HBO programme, you will participate in the excellence programme.
- In most cases, you will have direct access to the TU/e Master's programme after successful completion of the HBO Top programme.
- If you have direct access to the TU/e Master's programme after successfully concluding the HBO Top programme, you can register for the Master's programme in studielink. (In that case, the automatic rejection does not apply to you)
- Part of the programme can be “on top of” your HBO programme.
- Within the programme you will receive EC for your HBO programme.”

Requirements for connecting the HBO with the TU/e

(Quoted from: Master's in Electrical Engineering for HBO graduates

https://static.studiegids.tue.nl/fileadmin/content/Faculteit_EE/Reglementen/EE_HBO-masterprogram_2016.pdf)

“HBO-minor and HBO-excellence programme

At some HBO schools, e.g. Fontys, it is possible to take Pre-Master's courses during the HBO programme.

At Fontys, these are the “HBO minor” and the “HBO excellence programme”.

The HBO minor has been discontinued, although part of the programme can still be taken. If you are interested, please contact us (see page 1). Currently, TU/e focuses on offering Pre-Master's courses over a period of two to three years, some of which are part of the HBO programme, and others are in addition to the HBO programme. Check the current situation before making any plans.

When you register at TU/e after having completed your HBO programme, you will continue the programme from where you left off. Unless you completed 30 ECTS at TU/e during your HBO programme, you will register as a Pre-Master's student. After having completed the remaining Pre-Master's EC, you must register as a Master's student.”



PROUD: PRogramme OUtstanding Development
February 2021

PROUD is the honours programme of Fontys Engineering. It is extra-curricular so only meant for those motivated students looking for more challenge in their education. It is meant specifically for getting more experiences and skills in the field of engineering and sharing these with their fellow students and the Engineering Department.

The following selection criteria are checked and applied in order to enter the PROUD programme as a member:

The student:

1. Has completed the first year with the propaedeutic certificate.
2. Has an approval by his/her study counsellor to join the programme.
3. Has proven to be well motivated for the program by means of a written motivation.
4. Passed the intake interview at the university.
5. Has a personal development plan that is approved of by the committee.

Main planning for PROUD:

Semester 3: Intakes and acceptance

Semester 4: Start PROUD work (in the community and at the company / Fontys research)

Semester 5: Internship (when working for PROUD at a company preferable at that company) finalized with a PROUD reflection of his coach and a peer assessment of the student's PROUD colleagues.

Semester 6: PROUD work at company or Fontys and being active in the community where possible to share the additional acquired knowledge and skills.

Semester 7: PROUD work at company or Fontys, sharing the additional acquired knowledge and skills in the community and finalizing the PROUD programme with the student's portfolio.

The student has to share their acquired knowledge from the programme and gain additional coaching experience by helping others students somewhere during the PROUD programme. During the programme, no big delays in the regular programme are preferred and in case of a delay a discussion with the Fontys PROUD committee should take place. The PROUD student should show active behaviour and ownership in building his/her portfolio as mentioned below. PROUD Committees can decide to remove a PROUD student from the PROUD programme in case of study delay or not showing eagerness to the PROUD programme and/or community. In order to finalize the PROUD programme with a certificate, we expect the PROUD student to deliver his/her final PROUD portfolio. In this document, the PROUD students show the final results of the required PROUD activities. The final PROUD portfolio shows the committees that the student has performed all the required activities, including a reflection on these items. Based on this evidence, the student will receive a PROUD honours certificate together with his Bachelor's degree.