

# **Education and Examination Regulations**

**Bachelor of Science Programme**

**Circular Engineering**

**2022-2023**

**Maastricht, May 2022**

**Faculty of Science and Engineering**

*BSc Circular Engineering*

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## Section 1 General provisions

### ARTICLE 1.1 APPLICABILITY OF THE REGULATIONS

These regulations apply to the education and exams and examinations of the bachelor's programme Circular Engineering (hereinafter to be referred to as: 'the programme') and to all students who are registered for the programme.

The programme is provided by Maastricht University's Faculty of Science and Engineering, hereinafter to be referred to as: 'the faculty'.

The regulations were adopted by the faculty board after consent and advice from the faculty council of the Faculty of Science and Engineering. The regulations will take effect on 1 September 2022 for the 2022-2023 academic year.

These regulations also apply to students from other programmes, faculties or institutions of higher education, insofar as they follow components of the programme to which these Education and Examination Regulations apply.

For components of the programme that students follow at another degree programme, faculty or institution of higher education, the Education and Examination Regulations for the other programme, faculty or institution apply to the component in question.

### ARTICLE 1.2 DEFINITIONS

In these regulations, the following definitions apply:

- a.** academic advisor: staff member that acts as mentor, providing insights or direction on an individual basis to a group of students;
- b.** academic year: the period from 1 September of a calendar year up to and including 31 August of the following calendar year;
- c.** (the) Act: the Higher Education and Scientific Research Act [*Wet op het hoger onderwijs en wetenschappelijk onderzoek*];
- d.** assignment: part of the course examination, e.g. written exam, multiple choice exam, oral exam, portfolio;
- e.** bachelor thesis project: an individually and independently written thesis, related to a specific domain, that concludes the programme;
- f.** binding study advice: the advice in accordance with Article 7.8b of the Act entailing that the student can or cannot continue in the programme, in case of the latter also referred to as the 'negative binding study advice';
- g.** board of examiners: the programme committee referred to in Article 7.12 of the Act;
- h.** course: a programme component or study unit of the programme within the meaning of Article 7.3 of the Act;
- i.** skills course: a course assigned a value of 2.5 ECTS used to provide student learning opportunities focussed mainly on skills acquisition;
- j.** concentration: a groups of courses chosen by the student in year leading to a specialisation as detailed in appendix one.
- k.** course catalogue: the programme guide which includes further details about courses, programme-specific provisions and information, available via the student portal;
- l.** course coordinator: Synonym for examiner as referred to in Article 7.12c of the Act;
- m.** (course) examination: a component (*tentamen*) of the examination (*examen*) as referred to in Article 7.10 of the Act;
- n.** course manual: a paper or electronic document outlining the goals and content of a particular course, describing methods of education and examination of that particular course and prescribing particular regulations and guidelines applicable to that particular course;
- o.** course year: year 1, year 2 or year 3 of the programme;

<b>p.</b>	credit:	a unit expressed in ECTS credits, with one credit equalling 28 hours of study;
<b>q.</b>	elective course:	a course within the programme freely chosen from the list of elective courses of the programme;
<b>r.</b>	exam:	course examination (in Dutch, <i>tentamen</i> ) as defined in Article 1.2(I);
<b>s.</b>	examiner:	the person designated by the board of examiners to construct and administer exams and to determine the results of such exams;
<b>t.</b>	extracurricular education:	courses and/or other educational activities for which credits may be obtained that are not part of the programme;
<b>u.</b>	faculty board:	the faculty board of the Faculty of Science and Engineering referred to in Article 9.12 of the Act;
<b>v.</b>	faculty council:	the faculty council referred to in Article 9.37 of the Act;
<b>w.</b>	final examination:	the examination for the programme;
<b>x.</b>	internship:	an experience-based opportunity, whereby a student who applied and was accepted receives extracurricular credits for a supervised work experience;
<b>y.</b>	matching (studiekeuzecheck):	a voluntary part of the admissions process for the programme without assessment by a Board of Admissions;
<b>z.</b>	office of student affairs:	a team of administrative staff providing services related to course registration, grades publication and education;
<b>aa.</b>	project:	a course designated as such in the course catalogue and course manual which consists of real-world problems that require analytical, problem solving and design skills from students where they have to apply newly acquired knowledge;
<b>bb.</b>	programme:	the bachelor's programme referred to in Article 1.1 of these regulations, consisting of a coherent whole of study units;
<b>cc.</b>	educational programme committee:	the representation and advisory body that carries out the duties described in Article 9.18 and 9.38c of the Act;
<b>dd.</b>	programme director:	the person responsible for the operational management of the programme;
<b>ee.</b>	propaedeutic phase:	the initial period for the programme with a study load of 60 credits, coinciding with course year 1;
<b>ff.</b>	semester:	part of the academic year, starting 1 September and ending 31 January or starting 1 February and ending the following 31 August;
<b>gg.</b>	skills training:	practical exercise as referred to in Article 7.13(2)(d) of the Act, carried out in, but not limited to, one of the following forms: <ul style="list-style-type: none"> <li>- writing a thesis;</li> <li>- carrying out a (group) project, including participating in project meetings or skills classes;</li> <li>- writing a paper, creating a technological design or performing another written assignment;</li> <li>- participating in a tutorial group</li> <li>- performing a research or design assignment or developing a software programme;</li> <li>- carrying out a (group) project;</li> <li>- participating in field work or a field trip;</li> <li>- participating in an activity intended to develop certain skills;</li> </ul>
<b>hh.</b>	student:	a person who is registered at the university for education and/or to take exams and the examination of the programme;
<b>ii.</b>	student portal:	the portal to the digital environment of Maastricht University which can be used by the student for administrative purposes e.g. course registration and by the programme for communication to the student, for which a username and password are provided to the

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- student upon enrolment at Maastricht University. This also includes the digital learning environment and/or the intranet.
- jj.** study abroad: an arrangement through which students study abroad for one semester at one of the partner universities;
- kk.** UM: Maastricht University.
- ll.** Written exam: a summative assessment that constitutes or is part of an exam, consisting of multiple choice or open questions performed either on paper or in a digital format

The other terms have the meaning given to them by the Act.

## Section 2 Admission

### ARTICLE 2.1 MATCHING

Participation in matching is an optional part of the admission procedure. The matching consists of filling out an online questionnaire. The results of the questionnaire provide a recommendation if the programme fits the student's profile.

### ARTICLE 2.2 PRE-UNIVERSITY EDUCATION REQUIREMENTS

A person will be granted admission to the programme if he/she has a pre-university education diploma referred to in Article 7.24 of the Act with the following pre-university education profile:

- proof of having obtained a Dutch VWO degree with NT or NG profile, or international equivalent;
- with mathematics B level or international equivalent;
- and having completed Physics up to and including the last year of the VWO or international equivalent degree;
- and having completed Biology and/or Chemistry up to and including the last year of the VWO or international equivalent degree.

### ARTICLE 2.3 LANGUAGE REQUIREMENT WITH NON-DUTCH DIPLOMAS

Holders of a non-Dutch diploma may only register:

- a. if they have met the requirement concerning a sufficient command of English of a minimum level corresponding to academic IELTS 6.0.
- b. if they have been exempted from the language proficiency test. Exempt are students:
  - who completed their secondary education in an EU/EEA country where they followed English up to and including the final year;
  - who completed their secondary education in a country where English is the national language and language of instruction in education;
  - who completed a bachelor's or master's programme where the language of instruction is English;
  - who obtained an International or European Baccalaureate, a US high school diploma or UK GCE A-levels;
  - who can demonstrate sufficient proficiency in English by courses, internships or work experience in an English environment.

## Section 3 Content and structure of the programme

### ARTICLE 3.1 AIM OF THE PROGRAMME

The programme has five overall intended learning outcomes.

DUBLIN DESCRIPTORS	INTENDED LEARNING OUTCOMES
1. Students have a breadth of academic and engineering knowledge	<b>1.1 CORE KNOWLEDGE</b> Students have knowledge of the basic concepts within science, technology, engineering and mathematics (STEM), including the nature of academic knowledge and theory forming development
	<b>1.2 CIRCULAR ENGINEERING KNOWLEDGE</b> Students understand the opportunities and challenges for science and engineering in a dynamic world with increasing focus on circularity and can integrate the concepts of a circular economy, sciences and engineering into a single discipline: circular engineering
	<b>1.3 ACADEMIC AND ENGINEERING KNOWLEDGE</b> Students have basic knowledge of the engineering design cycle and understand and are able to apply relevant models, theories, methods and techniques in the STEM disciplines
2. Students have in-depth academic and engineering expertise in the field of circular engineering	<b>2.1 IN-DEPTH KNOWLEDGE</b> Students have academic and engineering knowledge of disciplines which form the basis of circular engineering and they are able to place the knowledge in a broader context: <ul style="list-style-type: none"> <li>▪ Sciences: materials, physics, chemistry and biology;</li> <li>▪ Technology: biotechnology, process technology, manufacturing technology, energy technology, sustainability;</li> <li>▪ Engineering: design and systems engineering, thermodynamics, control engineering, product life cycle and footprint; regulatory and industry standards;</li> <li>▪ Mathematics: quantitative modelling, simulation and statistics</li> </ul>
	<b>2.2 CONDUCT RESEARCH</b> Students have the ability to formulate and analyse a circular engineering problem (including systems' boundaries) and assess which expertise, design strategy, materials, laboratory infrastructure and experiments are required to solve this problem at a basic level in an efficient manner through scientific research
	<b>2.3 CONDUCT DESIGN</b> Students have basic knowledge of methods and tools for modelling and designing to execute a engineering design cycle including synthetic activities to solve circular engineering problems at a basic level
	<b>2.4 INTEGRATE DEVELOPMENTS</b> Students are aware of the effects of developments and new insights to running academic and engineering processes and are able to integrate these to benefit problem solving
	<b>2.5 PREPAREDNESS</b> Students are adequately prepared for relevant graduate programmes
3. Students have a scientific and intellectual attitude	<b>3.1 CRITICAL THINKING</b> Students demonstrate critical thinking, a logic line of reasoning and an adequate questioning strategy to analyse and/or solve problems
	<b>3.2 SCIENTIFIC ATTITUDE</b> Students have the ability to review, expand and apply the acquired knowledge to contribute to the generation of new knowledge and viewpoints
	<b>3.3 REFLECTION</b> Students have the ability to critically reflect on their own activities and conclusions and steer their learning process
	<b>3.4 ANALYTICAL AWARENESS</b> Students are aware of orders of magnitudes and have the ability to work at different levels of abstraction
	<b>3.5 LIFE-LONG LEARNING</b> Students have the ability to act as a junior professional by demonstrating motivation, perseverance, accuracy and independence thereby having the attitude and skills required for life-long professional growth and professional responsibility
4. Students have in-depth insights in the societal and environmental contexts in which they perform	<b>4.1 CONTEXTUAL AWARENESS</b> Students have the ability to understand and apply the professional, social, cultural and environmental contexts within which they perform
	<b>4.2 GLOBAL AWARENESS</b> Students have knowledge of the most important globalisation developments and relationships in sustainability, technology and society
	<b>4.3 SOCIETAL RESPONSIBILITY</b> Students are aware of the societal and environmental implications of new developments in science and engineering and specifically for circular engineering
	<b>4.4 ETHICS</b> Students have the ability to analyse ethical issues in academic and social environments in relation to their professional activities and to oversee the implications of their decisions and work as circular engineers
5. Students have highly-developed (inter)personal skills	<b>5.1 LEARNING</b> Students have the ability to quickly adapt to new emerging theories and techniques in the field of circular engineering as a result of the competence to increase and develop scientific and engineering knowledge through study
	<b>5.2 COMMUNICATION</b> Students have the ability to communicate the result of their learning, thinking and decision-making at an international level to professionals and a non-specialised public
	<b>5.3 TEAM WORK</b> Students have the ability to share expertise and work effectively in an interdisciplinary team existing of members with different academic, socio-cultural and national backgrounds or other social arrangements on solving problems and accomplishing tasks
	<b>5.4 LEADERSHIP</b> Students have the ability to lead a multidisciplinary team of individuals and the ability to take adequate decisions within team
	<b>5.5 PROJECT MANAGEMENT</b> Students have the ability to execute a project in systematic manner including prioritisation of tasks, maintaining focus and taking responsibility, dealing with limited resources and time, risk management and trade-offs, and adequate decision-making



## **ARTICLE 3.2 FORM OF THE PROGRAMME**

This is a full-time programme. The programme commences once a year in September.

## **ARTICLE 3.3 LANGUAGE OF INSTRUCTION**

The programme is given in English in accordance with Appendix II. Components of the programme may be in Dutch or in another common language in the EU.

## **ARTICLE 3.4 COMMUNICATIONS AND ANNOUNCEMENT OF DECISIONS**

1. The faculty board, the programme director, the board of examiners and the examiners may use the student portal and e-mail via the UM account for communications relating to the education and examinations.
2. The faculty board, the programme director, the board of examiners and the examiners may use the student portal and e-mail via the UM account to announce decisions.
3. The student must regularly check his/her university e-mail address, intranet, the student portal and the digital learning environment. Information disseminated via e-mail, intranet, the student portal, the digital learning environment or the website will be assumed to be known.

## **ARTICLE 3.5 STUDY LOAD**

The programme has a study load of 180 credits (ECTS), with one credit equalling 28 hours of study.

## **ARTICLE 3.6 CONTENT OF THE PROGRAMME**

1. The programme includes the following components with the stated study load:

Course year 1:

- Eight mandatory courses (5 credits each);
- Four mandatory skills courses (2.5 credits each);
- Two mandatory projects (5 credits);

Course year 2:

- Eight elective courses (5 credits each);
- Four elective skills courses (2.5 credits each);
- Two mandatory projects (5 credits each);

Course year 3:

- One mandatory course (5 credits);
- Five mandatory concentration courses (5 credits each);
- Two mandatory concentration skills courses (2.5 credits each);
- The Bachelor Thesis Project (25 credits).

2. After approval from the Board of Examiners, the student can also choose to follow an exchange programme such as study abroad for a semester (in year 2, semester 2) or do his/her thesis project abroad. These two options cannot be combined.
3. To attain the certificate for the final examination for the bachelor's programme, the student must have obtained at least 120 ECTS of the educational programme through components of the programme.

## **ARTICLE 3.7 CORE CURRICULUM**

1. As part of the programme, the core in year 1 consists of 8 courses with a total study load of 40 credits, 4 skills courses at with a total study load of 10 credits and 1 project with a total

study load of 5 credits as listed in Appendix I (table colour green for courses and skills training, table colour purple for the project).

2. Year two contains two mandatory projects for a total study load of 10 credits.
3. In addition, the student completes a core course in year 3 as listed in Appendix I (table colour green).
4. All core courses and skills courses and projects are of an introductory or intermediate level.

### **ARTICLE 3.8 ELECTIVE CURRICULUM**

1. As part of the programme, the electives in year 2 consists of 8 courses with a total study load of 40 credits, 4 skills courses at with a total study load of 10 credits and 2 projects with a total study load of 10 credits as listed in Appendix I (table colour red for courses and skills courses, table colour purple for the projects).
2. The elective choice is subject to availability within each course year.
3. A student may, with the permission of the Programme Director, register for additional electives above the normal credit load in year 2 from the programme course catalogue that will be designated as extra-curricular courses.

### **ARTICLE 3.9 CONCENTRATIONS AND BACHELOR THESIS PROJECT**

1. Part of the programme, the concentration, comprises 5 courses with a total study load of 25 credits and 2 skills courses with a total study load of 5 credits as listed in Appendix I (table colour blue).
2. The student must choose and register for the concentration before the 1<sup>st</sup> of June in the academic year preceding the year in which the concentration will start.
3. All concentration courses and skills courses are advanced level.
4. The Bachelor Thesis Project is the concluding advanced-level educational unit of the programme with a total credit value of 25 credits.
5. The student needs at least 120 ECTS before being allowed to start the thesis project, see also Article 5.3.

### **ARTICLE 3.10 COMPONENTS ELSEWHERE (ELECTIVES OUTSIDE THE PROGRAMME)**

1. The student may- subject solely to prior approval by the board of examiners and the board of examiners of the other programme - as part of the programme, choose to take components given by another UM programme.
2. The maximum overall study load of the courses as referred to in paragraph 1 is 30 ECTS.
3. Students may choose to study the components referred to in 3.10.1 in year 2 only.
4. The board of examiners may withhold the approval referred to in paragraph 1 if, in its judgment, the proposed elective is in terms of content similar to components taken previously by the student and would result in duplication, if they do not contribute to the objectives of the programme, or if they are not at sufficient level. If elective components overlap in whole or in part, the board of examiners can decide to limit the contribution of these components towards the final examination by subtracting credits in proportion to the overlap.
5. The board of examiners may formulate guidelines for components elsewhere. The guidelines are part of the Rules and Regulations.
6. Approval will not be granted if the student has not met the standard for the Binding Study Advice.

### **ARTICLE 3.11 THE EXAMINATION**

The final examination consists of all programme components listed in article 3.6.

## Section 4 Education

### ARTICLE 4.1 COURSES; COMPOSITION; DESIGN

1. For the programme components, courses are given with the study load stated in article 3.6.
2. The education is given in the form of problem-based learning (PBL), classes, study groups, practical training, lectures, individual supervision, projects or otherwise.

### ARTICLE 4.2 PRIOR KNOWLEDGE; ENTRANCE REQUIREMENTS

1. The student may only participate in the elective and concentration components after he/she has passed the required prior courses as stated in the course catalogue and/or course manual.
2. Within the order of exams set out in Article 5.3, the examiner of a course may waive the prerequisites from paragraph 1 if the student has shown that the student has acquired this knowledge otherwise. The waiver expires at the end of the academic year and if the student has not passed the course, the student must again meet the entrance requirements. A waiver can only be provided once by an examiner.
3. The student may only participate in the concentration components after he/she has passed all core courses and the course(s) marked as prerequisite for the chosen concentration.

### ARTICLE 4.3 COURSE AND EXAMINATION REGISTRATION

1. The student may participate in a course after he/she has registered for it in a timely manner.
2. First year students are registered for all courses of year 1.
3. The student can register for electives and a concentration through completing and submitting a course registration form.
4. Before the start of the bachelor thesis research, the student needs to submit a thesis plan, to confirm the suitability, level and scientific character of the proposed topic and the thesis process, for approval to the Board of Examiners.
5. In the case where a student fails to comply with the course registration deadline, registration will be guaranteed.
6. The student is registered for the assessments in the courses for which they register, both for the first sit and the resit.
7. Deadlines for course registration will be communicated to the student in a timely manner.
8. It is the responsibility of the student to check in good time whether he/she has a valid registration for the course and the (resit) examination.
9. In the case where a student has no valid registration for the course and/or the (resit) examination, the student will be not allowed to take the (resit) course examination.

### ARTICLE 4.4 ATTENDANCE

1. Most courses of the programme have a minimum attendance requirement of 85% of the educational activities. Some courses (skills courses, projects) may have a minimum attendance requirement of 100% of the educational activities. The minimum attendance requirement for every course is specified in the course manual.
2. Students who have not met the attendance requirement and who have missed not more than 30% of the educational activities with a valid reason may submit a request to the board of examiners for an additional assignment to meet the attendance requirement.
3. Attendance and participation may be part of the exam in a module. This information is contained in the course manual.
4. Failure to meet attendance requirements will be taken into account by the BSA Committee if a student receives a negative BSA at the end of the academic year.

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#### **ARTICLE 4.5 PRACTICALS**

1. Courses may include a practical in accordance with the given specifications regarding the nature and scope of the student's activities.
2. Participation in these practicals can be made mandatory with permission of the Board of Examiners.
3. The requirements in paragraph 2 are requirements as in article 7.13(2)(t) of the act. A student who has not met the requirements as stated in paragraph 2, cannot participate in the examination of the course and will receive an NG. More information can be found in the Rules and Regulations.
4. The information on what are mandatory practicals is included in the Rules and Regulations and/or the course manual.
5. The Board of Examiners may draw up guidelines for the practicals, which include projects, and theses. The guidelines will be included in the Rules and Regulations.

## Section 5 Assessment

### ARTICLE 5.1 GENERAL

1. During a course, the student will be assessed on the extent to which they have achieved the stated intended learning objectives.
2. The assessment in a course consists of at least two moments of assessment.
3. The course manual describes the achievements required to pass the course and the criteria on which the student is assessed.
4. The Rules and Regulations describe the assessment procedure.

### ARTICLE 5.2 GRADES

1. Grades are awarded on a scale of 1 to 10 in accordance with table 1. Grades are rounded to 1 decimal, or can be awarded as pass/fail or No Grade (NG).
2. The student must receive a final grade of 5.50 without rounding to pass a course.
3. A label NG (no grade) can be assigned as a result of plagiarism or academic dishonesty; or when assessment is incomplete and no grade can be assigned. An NG automatically constitutes a fail and no credits are awarded.

10.0	Outstanding
9.0	Very good
8.0	Good
7.0	More than satisfactory
6.0	Satisfactory
5.0	Almost satisfactory
4.0	Unsatisfactory
3.0	Very unsatisfactory
2.0	Poor
1.0	Very poor
Pass	≥ 5.50; performance meets the minimum criteria
Fail	< 5.50; performance below the minimum criteria
'No grade' (NG)	Result cannot be determined

**Table 1** Interpretation of the Dutch grading system

### ARTICLE 5.3 ORDER OF EXAMS

1. If the student has obtained at least 45 credits in course year 1, he/she may sit and register for the exams in course year 2.
2. If the student has obtained at least 60 credits in course year 1 and at least 40 credits in course year 2, he/she may sit and register for the exams in course year 3.
3. If the student has obtained at least 60 credits in course year 1, at least 40 credits in course year 2, and at least 120 ECTS overall, he/she may apply for the bachelor thesis project in course year 3.
4. The student may not take an exam for course components until the entrance requirements as stated in Article 4.2 have been fulfilled.

5. In compliance with article 7.30 paragraph 3 of the Act, the Board of Examiners may grant a student permission to sit other exams than referred to in paragraphs 1 through 4.
6. If a student deviates from the sequence as described in paragraphs 1 through 4, without permission from the Board of Examiners, the result of the course in question can be declared invalid.

#### **ARTICLE 5.4 FREQUENCY OF THE EXAMS**

7. The student can take written exams twice per academic year on dates to be determined by the faculty board: once during or directly after the course period (first sit for the exam) and once during the course of the academic year (resit).
8. Students can take other exam forms, including practicals, in principle once a year (see also paragraph 4).
9. No resit will be offered for courses that are passed with a 5.50 or higher.
10. If a student fails a practical, a repair can be offered subject to conditions. General provisions are given in the Rules and Regulations, further specifics are given in the assessment plan of the component.
11. In exceptional cases, the board of examiners can decide that an exam may be taken at another time than determined in accordance with the first paragraph.

#### **ARTICLE 5.5 FORM OF THE EXAMS**

1. Exams can be written exams, oral exams, projects, a thesis, participation, practical assignments, a combination thereof, or a form specified in the course manual or Student Portal / the digital learning environment. The Board of Examiners may draw up guidelines, and the form and organization of exams can be further specified in the Rules and Regulations.
2. In principle, all exams and assignments with the exception of projects are on an individual basis, unless explicitly announced otherwise.
3. Oral exams can only take place upon prior approval by the Board of Examiners.
4. Upon request, a student with a disability may take exams in a manner which accommodates his/her specific disability as much as possible. If necessary, the board of examiners will obtain expert advice where necessary from the faculty's student advisor and/or the student dean at the Student Services Centre (SSC) before taking a decision in such matters.

#### **ARTICLE 5.6 ORAL EXAMS**

1. Oral exams are taken only by one student at a time, unless the board of examiners decides otherwise.
2. An oral exam is given by the examiner in the presence of a second assessor, unless the board of examiners has decided otherwise.
3. Oral exams take place in public, unless the board of examiners decides otherwise.

#### **ARTICLE 5.7 EXTRA EXAMINATION OPPORTUNITY**

A student of the programme can submit a request to the Board of Examiners for an individual assessment.

1. This request may be granted if the student has not passed the exam in question due to exceptional circumstances and not granting an individual assessment would result in an unacceptable study delay.
2. The following criteria apply to the granting of an individual assessment for the final component of the programme:
  - It must be the final study result to be obtained.
  - The study delay in case the individual assessment is not granted must be at least one semester.

- The student must have taken part in the last two regular exam opportunities for the exam for which he/she is requesting another assessment.
3. Further requirements can be specified in the Rules and Regulations.

#### **ARTICLE 5.8 DETERMINATION AND ANNOUNCEMENT OF EXAM RESULT**

1. The board of examiners determines the standards for assessing each examination component. The standards are included in the Rules and Regulations.
2. The examiner determines the result of a written exam within 15 working days of the date on which it was taken and provides the office of student affairs with the necessary information to appraise the student of the result.
3. The examiner determines the result of an oral exam immediately after it is taken and issues the relevant certificate to the student. If more than one student takes the same exam after each other, this period may be extended by up to five working days.
4. When the result of an exam is announced, it will be indicated how the student can file an appeal as referred to in Article 6.5.

#### **ARTICLE 5.9 RIGHT OF INSPECTION**

1. The student may inspect his/her evaluated work within 10 working days of the date on which the result of a written exam, including a computer-based exam, is announced.
2. Within the period referred to in paragraph 1, any interested party may, upon request, inspect the questions and assignments for the written exam and, if possible, the standards based on which it was assessed.

#### **ARTICLE 5.10 PERIOD OF VALIDITY**

1. Exams that have been passed are valid for an unlimited period.  
In some cases, the board of examiners may require the student to take an additional or replacement exam or exam component for an exam which was passed more than six years ago if the student's knowledge or insight that was examined is demonstrably outdated or the skills that were examined are demonstrably outdated.
2. If exceptional circumstances apply as referred to in Article 7.51 paragraph two of the Act, the period of six years in paragraph one will be extended by the duration of the financial support the student receives from the profiling fund.
3. Partial grades and assignments which were passed within a course exam that was not passed will lose their validity after the academic year in which they were passed unless the board of examiners decides otherwise.

#### **ARTICLE 5.11 RETENTION PERIOD FOR ASSESSMENTS**

1. The exercises, answers and the evaluated work of the written assignments will be retained in paper or digital form for two years after the exam/examination result is determined.
2. The final projects/theses and the evaluation of these will be kept for at least seven years after the evaluation.

#### **ARTICLE 5.12 EXEMPTIONS**

1. The board of examiners may, at a student's request and having heard the relevant examiner, grant the student an exemption from taking an exam if he/she demonstrates that he/she previously:
  - either passed an exam for a university or higher professional education programme which was similar in terms of content and level to the course from which the student requests to be exempted, or
  - gained sufficient knowledge and skills relevant to the exam concerned, either through work or professional experience.
2. An exemption can only pertain to an entire course and not a component thereof.
3. At most 30 credits for the programme may be earned based on the exemptions granted.

4. The thesis project is excluded from this exemption option.
5. The board of examiners will not grant any exemption based on exams passed by a student outside the programme during the period in which the student was barred by the board of examiners from taking exams for the programme because of fraud.
6. The same period of validity applies to exemptions as to examination results.

#### **ARTICLE 5.13 EXTRACURRICULAR EDUCATION**

1. Courses, skills training and/or projects taken at another programme or faculty of UM or at another university that are not part of the programme are extracurricular.
2. Additional credit taken from the programme course catalogue outside of the programme structure detailed in appendix 1. are extra curricula.
3. Internships are not part of the programme and are extracurricular.

#### **ARTICLE 5.14 FRAUD**

1. 'Fraud', including 'plagiarism', means actions or omissions by the student which make it impossible in whole or in part to properly evaluate his/her knowledge, understanding and skills.
2. 'Plagiarism' means the presentation of ideas or words from one's own or someone else's sources without proper acknowledgment of the sources.
3. If the board of examiners determines that the student has engaged in fraud with respect to an exam or exam component, the board of examiners can take appropriate measures.
4. In serious cases of fraud, the board of examiners can propose to UM's Executive Board that the student(s) concerned be permanently deregistered from the programme.
5. The Rules and Regulations include further provisions about what constitutes fraud and which disciplinary measures the board of examiners can impose.

#### **ARTICLE 5.15 INVALID EXAM**

If an exam involves irregularities that make it impossible to accurately assess the candidate's knowledge, insight and skills, the board of examiners may declare the exam invalid for an examinee, a group of examinees, or all examinees.

#### **ARTICLE 5.16 UNSUITABILITY (*JUDICIUM ABEUNDI*)**

1. In exceptional cases and after careful consideration of the interests involved, the board of examiners or the faculty board may ask the executive board to terminate or refuse the enrolment of a student in a programme, if that student, through his/her behaviour or opinions ventured, has demonstrated his/her unsuitability for the practice of one or more professions for which he/she is trained by the programme he/she follows, or, as the case may be, for the practical preparation for the practice of the profession.
2. The relevant clauses of the UM Enrolment Provisions apply.



## Section 6 Final examination

### ARTICLE 6.1 FINAL EXAMINATION

1. The board of examiners determines the result and date of the final examination and issues the certificate as referred to in Article 6.3 as soon as the student has satisfied the requirements for the programme.
2. Prior to determining the result of the final examination, the board of examiners may conduct their own investigation of the student's knowledge regarding one or more components or aspects of the programme
3. To pass the final examination, the student must fulfil all requirements of the programme.
4. To pass the final examination and receive the certificate, the student must also have been registered for the programme during the period that the tests were taken.
5. A certificate may only be issued after it has been shown that the student has satisfied all the obligations, including paying the tuition fees.
6. The last day of the month in which the student satisfied all the examination obligations will be considered the graduation date.
7. Students who have passed the final examination and who are entitled to a certificate may, stating reasons, ask the board of examiners not to issue this yet. This request must be submitted at least one month before the final assignment is turned in or the final test is taken. The board of examiners grants the request:
  - if the student is selected by the faculty for an extracurricular internship or an extracurricular exchange, or
  - if the student holds or will hold a board position for which at least nine months of financial support is awarded from the profiling fund or holds or will hold an 'INKOM' board position.

The board of examiners may also grant the request if refusal would result in an exceptional case of extreme unfairness because of the fact that the student concerned could not have taken the automatic graduation into account when he/she was planning his/her study.

### ARTICLE 6.2 DEGREE

Students who have passed the final examination will be awarded the degree 'Bachelor of Science' in Circular Engineering.

### ARTICLE 6.3 CERTIFICATE AND STATEMENTS

1. As proof that the final examination was passed, the board of examiners issues a certificate, after it has been stated by or on behalf of UM's Executive Board that the procedural requirements for receiving the certificate have been met. The certificate is based on the model that UM's Executive Board has adopted. One certificate will be issued for the programme, even if the student also completed other programmes.
2. The certificate that the final examination has been passed also indicates:
  - a. the name of the institution;
  - b. the name of the programme;
  - c. the examination components;
  - d. the degree awarded;
  - e. the date on which the programme was most recently accredited or was subjected to the new programme test;
3. Students who are entitled to the issuance of a certificate may, stating reasons, ask the board of examiners not to do this yet pursuant to Article 6.1(7).
4. The certificate is signed by the chair of the board of examiners and the dean.
5. The certificate is awarded in public, unless the board of examiners decides otherwise in exceptional cases.
6. The board of examiners includes a diploma supplement as referred to in Article 7.11(4) of the Act with the certificate. This diploma supplement is based on the model adopted by UM's Executive Board, which is in compliance with the agreed European standard format.
7. The Board of Examiners may award the 'cum laude' or 'summa cum laude' designation in

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- accordance with the provisions in the Rules and Regulations.
8. Students who have passed more than one exam and who cannot be issued a certificate will upon request, receive a statement issued by the board of examiners, which at least indicates the exams that they passed.

#### **ARTICLE 6.4 GRADE POINT AVERAGE (GPA)**

1. The diploma supplement referred to in Article 6.3(6) indicates the final grade point average (GPA), to provide a reflection of the student's academic performance.
2. The GPA equals the weighted average of all final numerical grades on the student's transcript, whereby weighting is based on the ECTS credits of the courses on the transcript, taking into account that:
  - a. Extracurricular courses are not included in the GPA.
  - b. An exam for which a failing grade is obtained is also included in the GPA, although no credits are listed on the Student Portal;
  - c. If more than one grade is listed for an exam, the highest grade is taken into account for the calculation.
3. The weighted average score (GPA) partially determines the distinction.

#### **ARTICLE 6.5 RIGHT OF APPEAL**

Within six weeks after the decision by the examiner and/or the Board of Examiners is announced, the student may appeal this decision to UM's Complaints Service Point, in line with the provisions and advice provided on the website of the UM Complaint Service Point.

The appeal must be signed, must include a date and the name and address of the party lodging the appeal, must indicate the grounds for the appeal and, if possible, must include a copy of the decision being appealed.

## Section 7 Study guidance

### ARTICLE 7.1 STUDY PROGRESS ADMINISTRATION

The faculty records the students' individual study results and makes them available through the student portal.

### ARTICLE 7.2 STUDY GUIDANCE

1. The faculty will provide for the introduction and study guidance for students registered for the programme, including but not limited to academic advising, which also includes advising students regarding possible study paths in and outside the programme.
2. The types of study guidance will be indicated on the student portal/intranet.

### ARTICLE 7.3 (NEGATIVE) BINDING STUDY ADVICE (N)BSA

1. At the end of the first year of registration for the propaedeutic phase of a full-time bachelor's programme, the study advice is issued by the BSA committee on behalf of the faculty board to each student regarding continuation or not of the programme.
2. Subject to the provisions in the first paragraph, the BSA Committee on behalf of the faculty board may issue the advice to the student as long as the student has not passed the exams related to the propaedeutic phase programme components.
3. If the advice referred to in paragraph 1 is negative, the advice also entails a rejection for the bachelor's programme.
4. The rejection referred to in paragraph 1 is binding and means that the student cannot register for the bachelor's programme for the next 6 academic years.
5. The negative Binding Study Advice (nBSA) is issued to a student who was registered for the full-time bachelor's programme at any time during the first academic year and who earned less than 45 credits at the end of the academic year concerned.
6. When determining the number of credits obtained as referred to in paragraph 4 all credits obtained in the 1<sup>st</sup> year are included, except those for exemptions.
7. Students who apply to deregister before 1 February of the first year of registration will not be issued with a study advice as referred to in paragraph 1. If a student re-registers in a subsequent academic year, the study advice will be issued in the next academic year.
8. Before the negative binding study advice is issued, the student will be given the opportunity to be heard by the BSA committee.

### ARTICLE 7.4 PROCEDURE

1. No later than in the month of March of the first academic year of the programme, a student who has earned less than 24 credits at that time is given a written warning.
2. The warning indicates the period within which the study results must be improved.
3. In the month of August of the first academic year, students meriting negative binding study advice are given written notice that the BSA Committee intends to issue this advice to them.
4. Before the nBSA is issued, the student will be given the opportunity to be heard. The student will be informed of this in the notice referred to in paragraph 3. The hearings will take place in mid-August. A minimum of two members of the BSA Committee will attend the hearing.
5. The study adviser is informed which students merit negative binding study advice. The study adviser may, upon request or otherwise, make a recommendation to the BSA Committee.
6. After the student has been heard, the BSA Committee will determine whether to issue the nBSA to the student.
7. The student receives written notice of the nBSA decision by 31 August at the latest.
8. The written notice is signed by the Chair of the BSA Committee.
9. An appeal against the nBSA decision may be lodged with UM's Complaint Service Point within six weeks of the date on which the decision was announced.

## ARTICLE 7.5 PERSONAL CIRCUMSTANCES

1. In issuing the study advice, the BSA Committee on behalf of the faculty board takes the personal circumstances referred to in paragraph 2 of this Article into account.
2. Personal circumstances which may be considered include:
  - a. Illness on the part of the student concerned;
  - b. physical, sensory or other impairments which the student concerned has;
  - c. pregnancy on the part of the student concerned;
  - d. special family circumstances;
  - e. administrative activities as referred to in Article 2.1(1) under (e), (f) and (g) of the Implementation Decree for the Act 2008 [*Uitvoeringsbesluit WHW 2008*].
  - f. participation in top-level sport;
  - g. circumstances other than those referred to in subparagraphs a. to f. which, if they were not to be honoured by the faculty board, would result in excessive unfairness
3. To ensure that the student receives the best possible support, he/she must notify the student advisor of the personal circumstances as soon as possible.

## ARTICLE 7.5B PERSONAL CIRCUMSTANCES

1. If it is impossible to issue advice on the student's suitability for the programme due to personal circumstances that occurred in the first year, contrary to Article 7.4 this advice may be postponed to a later moment during the propaedeutic phase. An adapted standard may be used for the student in question.
2. If the advice is postponed, the advice will be issued no later than at the end of the following year of registration in the programme. The postponed advice will be positive if the (adapted) BSA standard is met. The student will receive a negative advice if he/she has not achieved the agreed standard.

## ARTICLE 7.6 HARDSHIP CLAUSE

In exceptional cases in which application of the study advice rules would lead to unreasonable treatment or serious unfairness, the board of examiners on behalf of the faculty board can deviate from the stated regulations in the student's favour.

## Section 8 Transitional and final provisions

### ARTICLE 8.1 AMENDMENTS

1. Amendments to these regulations may be adopted in a separate decision by the faculty board, after consent from and in consultation with the educational programme committee and after consent from and in consultation with the faculty council.
2. An amendment to these regulations will not pertain to the current academic year, unless the interests of the students will be harmed unreasonably as a result.
3. In addition, amendments may not affect, to the students' detriment, a decision regarding a student which has been taken by the board of examiners pursuant to these regulations.

### ARTICLE 8.2 NOTICE

1. The faculty board ensures that proper notice is given of these regulations, the rules and regulations adopted by the board of examiners, and any changes to these documents, by, for example, placing such notice on the faculty website and/or the student portal.
2. Any interested party may obtain a copy of the documents referred to in the first paragraph from the faculty office.

### ARTICLE 8.2A EVALUATION

The faculty board will ensure that the education of the programme is regularly evaluated, assessing at least – for the purpose of monitoring and if necessary adapting the student workload – the amount of time students need to complete their duties as set out therein.

### ARTICLE 8.3 UNFORESEEN CASES/SAFETY NET SCHEME

1. In cases not covered or not clearly covered by these regulations, decisions are taken by or on behalf of the faculty board, after it has consulted with the board of examiners.
2. In individual cases in which application of the Education and Examination Regulations would lead to manifestly unreasonable results, the board of examiners can deviate from the stated regulations in the student's favour.

### ARTICLE 8.4 EFFECTIVE DATE

This Regulation will come into force on 1 September 2022 and will apply to the academic year 2022-2023.

Adopted by the faculty board of the Faculty of Science and Engineering on 1 September 2022.

## APPENDIX I

### COURSE OVERVIEW

#### YEAR 1

S1	P1	core: 2 courses, 1 skills	Engineering in a Circular Economy (5 EC) Calculus (5 EC)	Academic Skills and Project Management (2.5 EC)
	P2	core: 2 courses, 1 skills	Fundamentals of Engineering (5 EC) Linear Algebra (5 EC)	Basic Programming Skills (2.5 EC)
	P3	core: 1 project	Life Cycle Assessment Project (5 EC)	
S2	P4	core: 2 courses, 1 skills	Chemical Engineering (5 EC) Biotechnology (5 EC)	Physics and Electronics Laboratory Skills (2.5 EC)
	P5	core: 2 courses, 1 skills	Thermodynamics and Engineering Physics (5 EC) Multivariable Calculus (5 EC)	Chemistry and Biology Laboratory Skills (2.5 EC)
	P6	core: 1 project	Choice: Design Project related to 1 of 3 concentrations (5 EC)	

#### YEAR 2 (electives in any particular year are subject to availability and communicated via academic advice annually)

S1	P1	electives: 2 courses, 1 skills	Polymeric Materials (5 EC) Fluid Mechanics (5 EC) Energy Systems (5 EC) Remake, Reuse, Repair, Recycle (5 EC)	Advanced Programming Skills (2.5 EC) Plant Biology Skills (2.5 EC)
	P2	electives: 2 courses, 1 skills	Imaging Engineering (5 EC) Biobased Materials (5 ECTS) Sustainable Food Production (5 ECTS) Biochemistry (5 ECTS)	Polymer Processing Skills (2.5 EC) Statistics Skills (2.5 EC)
	P3	core: 1 project	Choice: Design Project related to 1 of 3 concentrations (5 EC)	
S2	P4	electives: 2 courses, 1 skills	Heat & Mass Transfer (5 EC) Genetics & Cell Biology (5 EC) Electronics Engineering (5 EC) Organic Chemistry (5 ECTS) Differential Equations (5 ECTS)	Organic Chemistry Skills (2.5 EC) Genetics Skills (2.5 EC)
	P5	electives: 2 courses, 1 skills	Circular Business Development (5 EC) Sustainable Agronomy (5 EC) Data Science and Analysis (5 EC) Quantum Physics (5 EC)	Bioinformatics Skills (2.5 EC) Signal Processing and Control Skills (2.5 EC)
	P6	core: 1 project	Choice: Design Project related to 1 of 3 concentrations (5 EC)	

### YEAR 3

			<b>Concentration Circular Chemical Engineering</b>	<b>Concentration Sustainable Biotechnology</b>	<b>Concentration Engineering Physics for Sustainable Manufacturing</b>
S1	P1	concentration: 2 courses, 1 skills	Chemical Engineering Thermodynamics and Kinetics (5 EC) Reactor Engineering (5 EC) Industrial Process Design Skills (2.5 EC)	Gene Technology (5 EC) Biological Separations (5 EC) Biotechnology Skills (2.5 EC)	Mechanical Physics (5 EC) Sensors, Instrumentation and Measurements (5 EC) Mechanical Design Skills (2.5 EC)
	P2	concentration: 2 courses, 1 skills	Chemical Separations (5 EC) Chemical Plant Design (5 EC) Unit Operations Skills (2.5 EC)	Plant Biotechnology (5 EC) Bioreactors (5 EC) Microbiology and Fermentations Skills (2.5 EC)	Materials and Production Engineering (5 EC) Advanced Electronics and Sensor Technology (5 EC) Advanced Electronics Skills (2.5 EC)
	P3	core: thesis	Bachelor Thesis Proposal (5 EC)		
S2	P4	1 core 1 concentration thesis	Ethical and Philosophical Reflections (5 EC)	<b>Concentration Circular Chemical Engineering:</b> Circular Process Design and Control (5 EC)	
				<b>Concentration Sustainable Biotechnology:</b> Biotechnology for Sustainable Processes (5 EC)	
				<b>Concentration Engineering Physics for Sustainable Manufacturing:</b> Product and Process Design for Sustainable Manufacturing (5 EC)	
	P5	core: thesis	Bachelor Thesis Project (15 EC)		
P6	core: thesis	Bachelor Thesis Defence and Symposium (5 EC)			

## APPENDIX II

### LANGUAGE OF INSTRUCTION

The choice for the language of instruction of the programme is in line with the UM Code of Conduct on language in accordance with the Dutch Higher Education and Research Act (WHW) art. 7.2.

To prepare students for working in academic and engineering communities in which the teams are interdisciplinary and international, the programme is offered in an international classroom setting. Moreover, students are offered many opportunities for learning, research and design at the Brightlands Campuses, which offer an international ecosystem to address societal challenges by creating high-tech, environmentally sound, business-wise, innovative solutions.

Because of the specific educational nature and profile of the programme, all teaching and examinations are conducted in English. This guarantees the quality of education, because:

- The content of the programme has an international orientation and focus as it is designed for students who can develop innovative, technical solutions to the worldwide challenges in the transition to a circular economy.
- To participate in the globalizing research and design community, home to diverse engineering, mathematics and natural sciences domains and different cultures, it is crucial that students master the English language.
- The programme is characterised by working together across and strengthening the links between disciplines. The programme is also characterised by a strong connection to stakeholders in industry and society. Offering the programme in English allows students to develop the ability to cooperate and communicate in the required international context.
- Being internationally competent enhances students' chances on both the national and international labour markets. This is endorsed by multiple regional and (inter)national companies.
- The student intake is expected to be internationally diverse, whereby English is the common language.