

Teaching and Examination Regulations
(under articles 7.13 and 7.59 of the Higher Education and Research Act)

UT Bachelor's Programmes

The Dean of the faculty,

in view of the articles 9.5, 9.15, first paragraph under a, 7.13 first and second paragraph, 9.38, under b, and 9.18, first paragraph under a, and 7.59 of the Higher Education and Research Act (WHW), and

in due consideration of the recommendations of the Board of Studies, as well as the approval by, or advice of, the Faculty Council, pertaining to the specific appendix of the programme in question,¹

hereby authorizes the Teaching and Examination Regulations of the following educational programme:
Creative Technology

¹ The right of recommendation relates to Article 7.13 of the Higher Education and Research Act in respect of parts a through g. The right of approval relates to Article 7.13 of the Higher Education and Research Act in respect to other parts.

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DRAFT Programme appendix to the Teaching and Examination Regulations of the Bachelor’s programme Creative Technology

Preamble Applicability

1. Each programme has a specific programme appendix.
2. For each programme, the general section and the specific programme appendix together form the Teaching and Examination Regulations for the applicable Bachelor's programme.
3. The general section and the specific programme appendix of the Teaching and Examination Regulations are approved by the Dean.
4. The Teaching and Examination Regulations apply to all students registered with the applicable programme.
5. A programme's Examination Board sets down the Examination Board Regulations for the execution of its tasks and powers in accordance with article 7.12b of the WHW.
6. The jurisdiction of the Examination Board of a programme extends to all units of study that are part of a student's programme.
7. The stipulations in this general section of the Teaching and Examination Regulations, in the specific programme appendix of the Teaching and Examination Regulations and in the programme Examination Board Regulations also apply to units of study provided by lecturers from other programmes or institutions.
8. An English translation of the general section and the specific programme appendices of the Teaching and Examination Regulations and the Examination Board Regulations is available for the English-language Bachelor's programmes. In conflicting situations the Dutch text shall take priority over the English text.
9. Please read all qualifications such as him, her, he and she as gender neutral.

Section 1 General

Article 1 Definitions

The terms used in these regulations should be interpreted as meaning the same as in the Higher Education and Scientific Research Act (WHW), insofar as they are defined in that Act.

The following terms and definitions apply to this regulation:

EB:	Executive Board of the University of Twente.
Dean:	Head of the faculty.
EC:	European Credit (EC), a credit point of 28 hours as described in the WHW.
ECTS:	European Credits Transfer System: European agreements on a system for expressing student study load; the study load of an academic year is 60 European Credits, or 1680 hours (see article 7.4 of the WHW).
Examination:	An examination is deemed successfully completed if the exams required for the units of study of a programme or the propedeutic phase of a programme have been successfully taken.
Examination Board:	The programme's Examination Board is appointed by the Dean in accordance with article 7.12a of the WHW.
Examiner:	The individual who has been appointed by the Examination Board to hold the exams in accordance with article 7.12c of the WHW.
Examination Programme:	The specific contents of units of study recorded in the Student Information System (SIS) that an individual student is to complete during the course of a programme, inclusive of any optional (elective) programme components.
Authorized Proof of Result:	An authorized proof of result is a list or other written document initialled by or on behalf of an Examiner, or a result published via the Student Information System (SIS).
Institution	University of Twente.
Unit of Study:	A unit of study in a programme as described in article 7.3, paragraphs 2 and 3 of the WHW.
Study programme:	The applicable curriculum of the programme as recorded in the specific programme appendix.
Programme:	The Bachelor's programme as described in the appendix to the Teaching and Examination Regulations.
Practical exercise:	A practical exercise, as described in article 7.13 paragraph 2d of the WHW, is a unit of study or part of a unit of study, whereby the emphasis is placed on the student's activities, such as: <ol style="list-style-type: none">1. carrying out literature research, an assignment or a preliminary design, writing a thesis, article or 'position paper', or giving a presentation in public;2. carrying out a design or research assignment, doing tests and experiments, participating in practicals, practising skills;3. following an internship, taking part in field work or an excursion;4. participating in other educational activities deemed as necessary and aimed at achieving the required skills.
Student:	Anyone registered with a programme in accordance with article 7.34 and 7.37 of the WHW.
Student Information System: (SIS)	Application authorized by the Board of the university for registration and for providing information on all relevant data on the students and the university, as described in the WHW.
Student Counsellor:	Person appointed by the Board of the university who acts as contact between the student and the university as described in article 7.34, paragraph 1d of the WHW.
Student Adviser:	Person appointed by the Dean of the Faculty who acts as contact between the student and the university, and in this role represents the interests of the students, as well as fulfilling an Advisory role.
Academic year:	The term that starts on 1 September and ends on 31 August of the following year. The academic year is 60 ECs or 1680 hours.
Study plan	A plan prepared by the students describing their study programme itinerary.
Study Rate:	Number of ECs achieved in a certain period divided by the number of ECs that can nominally be achieved in this period.
Exam:	An evaluation of the knowledge, insight and skills of the student, as well as the assessment of the results of this evaluation.
UT:	University of Twente.
Working day:	Any day from Monday to Friday with the exception of official holidays and the prearranged 'bridging days' (brugdagen) on which the staff are free.
Act:	The Higher Education and Scientific Research Act (WHW), in the Dutch Bulletin of Acts, Orders and Decrees, number 593, and as amended since.

Article 2 Programme Content

The items as described in article 7.13, paragraph 2, a to j and l, s and t of the WHW are laid out in the specific appendix of each programme.

Article 3 Final Attainment Targets of the Programme

The goals and final attainment targets (article 7.13 paragraph 2c of the WHW) are described in the specific programme appendices.

Article 4 Admission to the Programme

1. Admission is granted to the programme if at least one of the requirements with regard to prior education for enrolment in university education is met in accordance with the WHW, article 7.24 on prior education requirements, article 7.25 on additional entry requirements, article 7.28 on exemption on the basis of other diplomas and article 7.29 on exemption on the basis of successfully completed entrance exams.
2. The conditions pertaining to this entrance exam are described in detail in the latest version of the document entitled "University Entrance Exam and other admission regulations for admission to Bachelor's programmes" (*Colloquium Doctum en andere toelatingsregelingen voor toelating tot bacheloropleidingen*). This document can be found on the University of Twente's website.

Article 4a Language

1. The Bachelor's programmes are taught in the Dutch language in accordance with the University of Twente's Code of Conduct for Working Languages (*Gedragscode Voertalen*) and in accordance with article 7.2 of the WHW.
2. An alternative language may be used for a Bachelor's programme with the authorization of the Programme Director if:
 - a. it concerns a part of the curriculum that is given in the form of a guest lecture by a non-Dutch speaking lecturer, or
 - b. the specific nature, design or quality of the curriculum, or the origin of the students, requires it.
3. If neither the Examiner nor the student objects, the exam can be taken in a different language.
4. Programme-specific supplements to the stipulations in this article and the manner in which an English language programme can guarantee that it meets the conditions of the above-mentioned Code of Conduct for Working Languages are recorded in the programme appendix and/or the Examination Board Regulations.

Section 2 Student Supervision

Article 5 Study Plan

1. The student is required to submit a study plan for a semester prior to the start of this semester. The deadline for submitting the study plan is communicated to the student by the Dean of the programme in due time.
2. The programme itself determines the student's study plan for the first semester of the first academic year. This study plan will comprise all units of study of the first semester of the first academic year of the programme. In exceptional situations, the student may change this study plan in consultation with the Student Adviser.
3. After the deadline as described in paragraph 1 above, second sentence, the student can change the study plan in consultation with the Student Adviser.
4. The student may receive an advice about their study plan if the Student Adviser deems this necessary.
5. The details of the method used by the Student Adviser to advise on the students' study plans will be made known by the Programme Director before the start of the academic year.

Article 6 Student Supervision

1. The Dean is responsible for student supervision, which includes informing the student of study opportunities within and without the programme. The Dean has given a mandate to the Programme Director of the programme to execute the tasks of student supervision.
2. Each student is appointed a Student Adviser.
3. The Student Adviser supervises the student and offers advice on study-related matters, as well as personal problems if the student so desires. The Student Adviser also advises the student on facilities for specialized supervision within and without the university.
4. Within 20 working days of publication of the results of the 1st semester, the Student Adviser provides the student with an advice in anticipation of the expected advice for the end of the first year. The performance and circumstances of the student, as these are known to the programme, are taken into account.
5. Each student receives a written student progress evaluation, at the latest by the end of the first year of registration with the programme, on the continuation of their studies within or without the programme. This evaluation is based on the results achieved and the advice of the Student Adviser.
6. If a student wishes to make use of their right to specific supervision or facilities, they must contact the Student Adviser. The Student Adviser records the agreements with the student in the SIS, from which agreements rights may be derived.
The following applies to special facilities:
 - a) Students who fall behind in their studies through demonstrable circumstances beyond their control or personal circumstances have the right to request extra supervision or facilities.
 - b) The right to the aforementioned supervision or facilities concerns the right to additional individual student supervision. This includes dispensation from participation in programme components and/or the use of special facilities, if necessary and possible. Such dispensation and special facilities can only be granted by the Examination Board.

Article 7 Studying with a Disability

1. A disability is a protracted physical, sensory or other functional disorder that might limit the student's academic progress.
2. The extra facilities considered most effective for the student in question are discussed in an interview with the Student Adviser. The extra facilities are intended to safeguard the student's achievement of the final attainment targets.
3. On the basis of the interview described in paragraph 2, the student submits a written application for the facilities in consultation with the Student Adviser.
4. The application is submitted to the Dean of the faculty, preferably three months before the student is to participate in classes, exams and practical exercises for which the facilities are required.
5. The application is supported by documents that can reasonably be requested in support of the application (such as a doctor's or psychologist's letter or, in case of dyslexia for example, a report by a testing bureau registered with BIF, NIB or NVO).
6. The Dean of the faculty makes a decision, within 20 working days of receipt of the application, or as earlier as the urgency of the application necessitates it, on the validity of the application as described in paragraph 3, and informs the student and the Student Adviser of their informed decision.
7. The Student Adviser ensures that the relevant parties are informed in due time of the facilities granted to the student with a disability.
8. Should the Dean of the faculty turn down the application in full or in part, the Dean will inform the student of the justification for this rejection and the possibilities for making an objection and an appeal. An objection must be submitted in writing to the Objections, Appeals and Complaints Desk at Student Services within six weeks of notice of the decision.
9. Should extra facilities be granted, it will be stated for what term this grant will apply. The applicant and the Student Adviser will evaluate the facilities before the end of this term. During this evaluation parties will discuss the effectivity of the facilities provided and whether they should be continued.

Section 3 Exams

Article 8 Registration, Withdrawing Registration, Frequency and Periods

1. There will be an opportunity at least twice a year to sit written or oral exams. Practical exercises can be completed at least once per year.
2. There is in any case at least one opportunity to sit an exam at the end of the period in which the applicable unit of study had been taught.
3. If a student fails to achieve a mark of 6 or higher after two attempts to sit an exam for a unit of study, and the student wishes another opportunity to sit this exam, an application must be made to the Examination Board. This application must be accompanied by a plan of action, which will be drawn up by the student in consultation with the Student Adviser. The Examination Board decides whether or not to grant the application.
4. The details of the stipulation in paragraph 3 are made known by the Programme Director before the start of the academic year.
5. In contradiction with that determined in paragraph 1 of this article, an opportunity to take an exam for a unit of study that is part of the study programme, but which was not taught during that particular academic year, shall be offered at least once per academic year.
6. In certain cases the Examination Board can deviate from the number of times and the manner in which exams can be taken.
7. At least one month before the start of the semester the exam timetable for that semester is published with the dates and times of the exams.
8. The Dean must approve any changes to the exam schedule. Students will be informed of any changes. The Programme Director must inform the Examination Board of the decision to make these changes during the next exam meeting.
9. The student is required to register for exams via the SIS.
10. Should the student fail to register before the close of registration, they will lose the right to take that particular exam.
11. The student can withdraw their registration up to 24 hours prior to an exam.
12. Should a student fail to appear for an exam for which they registered via the SIS, and from which they failed to withdraw 24 hours prior to the exam, this is recorded in the SIS as a fail. This will count as an unsuccessful exam attempt as meant in article 3.

Article 8a Types of Exams and Information about the Exams

1. A unit of study is completed with an exam. An exam can comprise one of the following types:
 - a written exam;
 - an oral exam;
 - a series of tests;
 - the assessment of practical exercises as meant in article 1;
 - a combination of the above.
2. The Examination Board of the relevant programme is to publish the following programme details at least two weeks before the start of the teaching period:
 - the exam requirements (in any case which material is to be tested);
 - further information concerning the method of examination;
 - the weight of a particular exam for the final result of a series or combination of exams.
3. The information in article 2 is in any case published in the electronic learning environment (Blackboard) of the unit of study in question.
4. The student has the right to view model exam questions, practice exams or representative old exams, and the relevant answers, as well as the assessment standard for the exam in question.

Article 9 Oral Exams

1. Oral exams are taken in public, unless the Examination Board decides otherwise due to extraordinary circumstances.
2. A student or Examiner who wishes third parties to be present during an oral exam must inform the Examination Board at least 10 working days prior to this exam.
3. If the Examination Board has determined that members of the Examination Board (or an Observer representing the Examination Board) is to be present during an oral exam, this is made known to the Examiner and the student at least one working day prior to the exam.

Article 10 Validity of Exams

1. A successfully completed unit of study is valid for a term of six years.
2. The student can submit a request to the Examination Board to have the validity of a result as meant in paragraph 1 extended. The Examination Board may not refuse this request without a valid reason. The Examination Board will provide a written justification if it turns down this request.
3. The results of exams that are part of a series or combination of exams are valid only during the academic year in which they are achieved. The Examiner of the unit of study may determine an alternative arrangement. In this case the Examiner will inform the Examination Board. The alternative arrangement must be made known via the electronic learning environment (Blackboard).

Article 11 Registration and Publication of the Results

1. The result of a written exam or practical exercise is published via the SIS within 20 working days.
2. The result of an oral exam is made known to the student within one working day in the form of an authorized proof of result provided by the Examiner.
3. The provisions of paragraph 2 do not apply if the oral exam is part of a series of oral exams of the same unit of study, which take place on more than one day. In that case, the Examiner determines the result within one working day after conclusion of the series of oral exams.
4. If the result of a unit of study is based on the completion of one or more assignments, papers or theses, then the date of submission of the final assignment, paper or thesis will count as the exam date.
5. Should the Examiner not be able to meet the term as described in paragraphs 1 and 2 due to extraordinary circumstances, they will report this with reasons to the Examination Board. The student is informed of the delay as soon as possible by the Examination Board whereby the new term within which the result will be made known is also communicated. If the Examination Board is of the opinion that the Examiner has not met their obligations, it may appoint another Examiner to ascertain the result of the exam.
6. If a second exam opportunity is planned shortly after the first, the results of the first exam will be published at least ten working days prior to the second exam.
7. The student can request a certified study progress overview from the Student Services Desk in de Vrijhof if required.
8. If a student receives more than one authorized result for one and the same unit of study, the highest result will apply.

Article 12 Right of Inspection and Justification

1. The student has the right to hear a justification of the results of an exam from the Examiner. If no collective discussion of the results is held, the student may submit a request for a discussion of the results to the Examiner within two weeks of publication of the exam results. This discussion, or a collective discussion, must be held within five weeks of publication of the exam results. After this term of five weeks the student will no longer have the right to a discussion of the results of an exam and a justification of the assessment by the Examiner.

The Examiner responsible for the assessment of a student's written exam is also responsible for ensuring that this work is stored for at least two years, following publication of the results, in the applicable chair's or department's administration. The student has the right of access to this work during this term.

2. The Examination Board may permit deviations from the provisions of paragraphs 1 and 2.

Article 13 Administrative Errors

If, following the publication of an exam result, a marks sheet, or an overview of a student's progress, an alleged error is discovered, the discoverer, be it the university or the student, is required to make this known to the other party immediately upon finding the error and to cooperate with rectification of the error.

Article 14 Exemption from an Exam or Practical Exercise

The Examination Board can, at a student's request, grant that student exemption from an exam or practical exercise. If applicable, the Examiner in question may be consulted first.

The grounds under which the Examination Board can grant exemption from a specific exam pertain solely to the level, content and quality of exams or tests previously taken by the student, or knowledge, insight and skills acquired by the student outside of the sphere of university education.

Students may also be exempted from assignments or practical exercises by the Examination Board if they can demonstrate that a specific assignment or practical exercise, or the execution of such assignment or exercise, will likely place them before a moral dilemma. In such a case the Examination Board decides whether the practical exercise or assignment can be carried out in another manner to be determined by it.

Section 4 Examinations

Article 15 Flexible Programme

The Examination Board of the programme decides whether a student may take part in a flexible programme as meant in Article 7.3d of the WHW. The Examination Board assesses whether a flexible programme is appropriate and consistent within the domain of the programme and whether the level is high enough in light of the final attainment targets of the programme.

Article 16 Programme Examinations

The programme has a first-year examination (*'propedeuse'*) and a Bachelor's examination.

The first year of study at the programme is known as the propedeutic phase and has a study load of 60 ECs.

The Bachelor's programme has a study load of 180 ECs. The programme consists of a propedeutic phase with a study load of 60 ECs and a second and third year, each with a study load of 60 ECs.

Article 17 Periods, Frequency of Examinations and Issuing of Certificates

1. In accordance with article 7.10, paragraph 2 of the WHW, the propedeutic or Bachelor's examination is deemed successfully completed if the exams in the propedeutic or Bachelor's phase have been taken successfully.
2. The Examination Board declares the student to have successfully completed the propedeutic or Bachelor's examination if they meet the examination requirements, and invites the student to accept the relevant certificate and marks sheet or supplement. The date recorded on the certificate – the examination date – is the date on which the student successfully completed the last remaining unit of study.
3. The student may make a request in writing to the Examination Board to postpone declaring the examination as 'successfully completed' and also to postpone the presentation of the certificate. The student must indicate the length of postponement they desire in this request.
4. The details of the stipulation in paragraph 3 will be included in the Examination Board Regulations.
5. If the student has requested postponement on the basis of paragraph 3, the examination date will be the date following postponement on which the Examination Board has decided to declare the student to have successfully completed the examination.

Article 18 Degree

Participants who have successfully met all requirements for the Bachelor's examination are awarded a Bachelor of Science (BSc) degree.

Section 5 Appeals and Objections

Article 19 Individual Appeals and Objections

An appeal against a decision made by the Examination Board or an Examiner, and objections to decisions made by the Dean on the basis of these regulations, must be submitted in writing to the Objections, Appeals and Complaints Desk at Student Services within six weeks of notice of the decision.

Section 6 Conflicts, Amendments and Implementation

Article 20 Conflicts with the Regulation

If other additional regulations and/or provisions pertaining to teaching and/or examinations conflict with these Teaching and Examination Regulations, the present Teaching and Examination Regulations take precedence.

Article 21 Amendments to the Regulations

Amendments to these Teaching and Examination Regulations are determined by the Dean in a separate decree.

In principle, amendments to these regulations do not apply to the current academic year. Amendments to these regulations may apply to the current academic year if the interests of the students' are not prejudiced within reasonable bounds, or in situations of force majeure.

Amendments to these regulations have no effect on earlier decisions of the Examination Board.

Article 22 Transitional Arrangements

In case of amendment of the Teaching and Examination Regulations, the Dean may decide on a transitional arrangement with a predetermined term of validity.

The transitional arrangement will be published on the applicable programme's website.

Points of departure for a transitional arrangement if a study programme is changed:

- a) Changes to a study programme are published before the start of the academic year in which they are to apply.
- b) No guarantee can be given that all the units of study of a programme, as these were defined upon a student's registration with a programme, will actually be taught in the study programme. The study programme as most recently approved by the Dean is taken as the basis for establishing the results of the propedeutic and Bachelor's examination.

These transitional arrangements shall at all events include:

- a) which lapsed units of study are equivalent to which units of study, or parts thereof, in the changed study programme as recorded in the specific programme appendix;
- b) that if a unit of study that does not involve a practical exercise is deleted from a programme, then students are to be given two opportunities in the following academic year to take the relevant exam, either orally or in writing, or to undergo another form of assessment;
- c) that if a unit of study that involves practical exercises is deleted from a programme, and during that academic year no opportunities are offered to carry out these practical exercises, at least one unit of study is designated to replace the lapsed unit of study;
- d) the term of validity of the transitional arrangements.

The stipulations in article 4 of a transitional arrangement must be approved by the Examination Board.

In exceptional cases, and if this is to the student's advantage, the Examination Board may allow a deviation from the number of times and the way in which exams for a lapsed unit of study may be taken.

Article 22a Review of the Teaching and Examination Regulations

The Programme Director, under mandate by the Dean, is responsible for the regular review of the Teaching and Examination Regulations and takes into account the resultant study load for the students to enable this to be monitored and adjusted if necessary.

In accordance with article 9.18 of the WHW, the Board of Studies is responsible for issuing an advice on the Teaching and Examination Regulations as well as the annual assessment of the manner in which the Teaching and Examination Regulations are executed.

Article 23 Publication

The Teaching and Examination Regulations and the Examination Board Regulations are published via the website of the programme in question.

Article 24 Date of Commencement

The date of commencement of these regulations is 1 September 2011.

DRAFT Programme appendix to the Teaching and Examination Regulations of the Bachelor's programme Creative Technology

The regulations in this appendix are part of the teaching and examination regulation of the bachelor's programme Creative Technology of the Faculty of Electrical Engineering, Mathematics and Computer Science of the University of Twente.

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a. Programme and examinations

The student passes the propedeuse (first year's) examination by completing² the units of study of table 1.

The student passes the Bachelor's examination by passing the propedeuse examination, and completing the units of tables 2 and 3.

Some units in tables 2 and 3 are options, some are electives. The student's choice of options and electives must meet the requirements of the subsection *Options and electives* below.

The Examination Board may decide that students pass their examination even if some results are insufficient. The rules set by the Examination Board for passing examinations are in the *Rules for Assessment and Examination*.

The Examination Board may grant students permission to deviate from the requirements of the subsection *Options and electives* when choosing their options and electives.

The tables offer the following information for each unit:

- The name of the unit
- The study load of the unit, in EC (European Credit, 1 EC amounts 28 study hours)
- The nature of the teaching activities, expressed in letter codes (using the abbreviations A, D, G, I, L, and P; they are explained below the tables)
- The nature of the assessment, expressed in letter codes and numbers (using the abbreviations A, D, E, O, P, and W; they are explained below the tables)
- Enablers/Prerequisites, to participate in some units of study, it is mandatory to have completed at least some other preceding units. The preceding units are enablers for the units which have them as prerequisites. (The enabler/prerequisite relation is indicated by the abbreviations NM, which stands for New Media, or ST, which stands for Smart Technology; more explanation is below the tables)

² To complete a unit means to pass the unit's assessment with a sufficient result.

Table 1: the first year – the propedeuse

	study load in EC	teaching activities	assessment	enablers
We Create Identity	5	LPIDG	DPE(2)	
Smart Environments	3	LPIDG	DPE	ST
Interactive Visualization	5	LPID	DE	NM
Living and Working Tomorrow	5	LPIDG	DPEO	
Have Fun and Play!	5	LPIDG	DPE	
Visual Communication	4	LPI	D	
Sketching for CreaTe	2	LIA	D	
Designing in Context	2	LAI	D	
Human Factors	3	LPDG	A	
Introduction to Computer Science	3	LIAG	APE	NM
Programming and Physical Computing	7	LIA	AO(2)	NM
Dynamical systems	6	LIA	AO(3)	ST
Introduction to Mathematics and Modelling	6	LIAD	DW(3)	ST
First year portfolio	4	I	D(4)	
Year 1	60			

The abbreviations for teaching activities must be read as follows.

- A (Assignments) Students work on assignments, under supervision of a teacher and/or assistant.
- D (Deliverable) a result is being produced, which can be demonstrated and observed; the product is more than mere text for reading.
- G (Group) students collaborate in a group.
- I (Interaction) questions are raised, discussed and answered, in collaboration between students and teacher.
- L (Lectures) an expert speaker addresses the students.
- P (Presentations) the students address their fellow students.

The abbreviations for assessment must be read as follows.

- A (Assignments) students hand in (homework) assignments.
- D (Deliverable) students demonstrate the results of an assignment (a working prototype, a result to be analyzed and observed, not mere text)
- E (Essay) students hand in one or more essays.
- O (Oral) oral examination
- P (Public defence) student give a presentation and (publicly) defend the results of an assignment
- W (Written) students participate in a session for a written examination.

A number (n) between brackets in the assessment column indicates that the interim examination for the unit consists of n separate sub tests.

The abbreviations for enablers must be read as follows

- NM (New Media) students who wish to continue in the New Media track of the second year (see *section b, Specializations* below), must have completed these units before they can take any of the New Media options.
- ST (Smart Technology) students who wish to continue in the Smart Technology track of the second year (see *section b, Specializations* below), must have completed these units before they can take any of the Smart Technology options.

Table 2: the second year

	study load in EC	teaching activities	assessment	prerequisites ³
Ambient Screens	6,5	LPIDG	DEP	
Hybrid Worlds	7,5	LPIDG	DEP	
CE in art, science and technology	2	A	H	
3-D Modelling	2,5	LID	D	
Advanced Graphic Design	2,5	LPID	D	
Design marketing	5	LPI	W	
Business management	5	LI	DP	
<i>Introduction to electronics</i>	4	LA	HO	ST
<i>Wireless communication systems</i>	4	LA	W	ST
<i>Control systems</i>	4	LIA	W	ST
<i>Sensors</i>	3	LIA		ST
<i>Web 2.0 Mashups</i>	3	LPID	DEP	NM
<i>Virtual environments</i>	6	LPID	DEP	NM
<i>Game development</i>	6	LPID	DEP	NM
Programming with structures	5	LID	AO	
Data-driven Applications	3	LA	A	
Strategies and Protocols	3	LI	W	
Queues and logistics	3	LI	W	
Tutoring		I	D	
Year 2	60			

The abbreviations for teaching activities and assessment are explained more elaborately below table 1.

Teaching activities	Assessment
A Assignments	A Assignments
D Deliverable	D Deliverable
G Group Work	E Essay
I Interaction	O Oral
L Lectures	P Public Defence
P Presentations	W Written

A number (n) between brackets in the assessment column indicates that the interim examination for the unit consists of n separate sub tests.

The units of table 2 which are printed in italics are optional. The options fall into categories, either ST (for Smart Technology) or NM (for New Media). The category appears in the prerequisites column. See also *section b Specializations* below. Students who opt for Smart Technology take all units of the ST category. Students who opt for New Media take all units of the NM category. Both options have a study load of 15 credits

The prerequisites must be understood as follows

NM (New Media) students who specialize in the New Media track of the second year, must have completed the NM enablers of table 1 before they can take any of the New Media options.

ST (Smart Technology) students who specialize in the Smart Technology track of the second year, must have completed the ST enablers before they can take any of the Smart Technology options.

Note that there is also a general prerequisite for participation in second year units. See the footnote below.

³ To participate in any unit of the second year, students must have completed units of the first year with a total study load of at least 40 EC

Table 3: the third year

	study load in EC	teaching activities	assessment	prerequisites
<i>Electives</i>	15			1
<i>Free space to establish a profile (profielingsruimte)</i>	30			1
Final Project	15			2
Year 3	60			

The units of table 3 which are printed in italics describe electives and options for the student. See the subsection *Option and electives* below.

The prerequisites must be understood as follows

1. To participate in these units of study, students must have completed units of their first and second year totalling at least 80 credits. See also *section h*.
2. **To start the Final Project, students must have completed 150 EC of the entire programme. See also *section h*.**

Options and electives

At the end of the first year students must choose between two options: Smart Technology and New Media. See *section b, Specializations*, below

Students can use semester 5 (totalling 30 EC) for various purposes. This is the free space to establish a profile ("profielingsruimte") in the curriculum.

They can take courses to prepare for further study in the Master's programme Communication Studies.

They can take courses to prepare for further studies in Industrial Design Engineering.

They can take courses to prepare for further studies in Mechatronics or Electrical Engineering.

They can take the courses (and projects) of the minors Ondernemerschap or Management to prepare for a role on the labour market.

A one semester stay at another (foreign) university is also an option.

And finally, students who just want to broaden their knowledge in related topics which are not in the curriculum (e.g., computer music, image or language processing), can use the free space for their profile (profielingsruimte) to do so.

Students need permission for their use of free space to establish their profile. The Examination Board issues a regulation regarding this permission.

Students have to choose electives in the third year totalling at least 15 EC.

The choice of electives is restricted by the following rules.

1. At least one unit of study among the electives deals with ethics and professional standards
2. The other units of study among the electives deal with human-product relationships, except for students who opt for an effort as described under 3.
3. Students can participate in a final project of a fellow student, as an assistant, with a maximum study load of 5 credits. It must be clear that the student doing the final project defines the work of the assistant, and acts as his or her manager. An examiner appointed by Examination Board is responsible for the assessment of the assistant's work.

The Examination Board sets rules for such assistantships.

The nature of teaching activities and assessment

The tables above specify the nature of teaching activities and assessments for the various units of study in their “teaching activities” and “assessment” columns.

The nature of the teaching activities is expressed in letter codes, using the abbreviations A, D, G, I, L, and P; they are explained below the tables.

The nature of the assessment is expressed in letter codes and numbers, using the abbreviations A, D, E, O, P, and W; they are explained below the tables.

The codes for assessment characterize interim examination. The examiner will observe these characteristics, but may add more detailed requirements for assessment.

b. Specializations

At the end of the first year students choose between two options: Smart Technology and New Media. Programmes for these tracks (or specializations) differ in the second year. Students who opt for Smart Technology take the units of the ST category in table 2. Students who opt for New Media take the units of the NM category of table 2. Both options have a study load of 15 credits.

Admission to the options is discussed in *section h*.

c. The programme’s final qualifications

The intended learning outcomes of the Creative Technology curriculum are captured by the following 12 final qualifications for the Creative Technology graduates. Names for the qualifications are in boldface.

1. Graduates are skilled in problem-finding, idea and concept generation, and in the identification of opportunities for the exploitation of new technology; they can develop concepts and ideas, using the latest tools, into key prototypes. (**Concept generation and prototype development**)
2. Graduates can evaluate concepts and ideas from the viewpoints of functionality, performance, experience, user acceptance and usability, marketing and societal implications (issues like privacy and security); they can present the results of their evaluation in an understandable manner. (**Evaluation of concepts**)
3. Graduates understand the workflow of a design process, can plan such a design process, and are aware of the effects that unforeseen circumstances (new ideas, new requirements, lack of resources) may have on this planning. (**Understanding and planning the design process**)
4. Graduates can assume a role in a multi-disciplinary team, are aware of personal strengths and weaknesses, can develop a personal vision and can capture requirements and knowledge from different fields of specialization. (**Collaboration and multidisciplinary**)
5. Graduates know the relevant theories underpinning graphic design in all its aspects (including the use of colour and motion, the combination of text and other visual means, and even the combination of graphics and sound) (**Skills and knowledge in graphic design**)
6. Graduates know the relevant (web technology, databases, dynamic and control systems) technologies to be used, and the relationships they have to one another and to graphic and motion design (qualification 5), concerning both principles and functionality. In addition to this, each student has additional technological knowledge, which concerns, depending on his specialization, either knowledge of (serious) games and 3D (virtual) environments or knowledge of sensors, wireless communication and electronics. (**Knowledge of technology**)
7. Graduates can implement algorithms and combine principles from physics and mathematics at the level required to demonstrate an application. (**Skills in technology**)
8. Graduates can analyze and classify system behaviour and express the analysis in mathematical models; they can use tools to perform simulations, they are capable of critical evaluation of their simulations. (**Skills and knowledge in modelling and simulation**)
9. Graduates know how to develop a business plan. (**Business knowledge**)
10. Graduates are aware of the roles of designers in society, and the standards (ethically and legally) for professional behaviour. (**Roles in society**)
11. Graduates can communicate with experts and non-experts about all aspects of his field, i.e. firstly concerning concepts, ideas, opportunities, and design workflow (qualifications 1,3), secondly concerning evaluation of concepts (qualification 2), and finally concerning prototype development and technological and modelling issues (1,6,7,8); this communication covers presentation, justification and documentation, and (to a limited extent) scientific debate; in this communication the graduate knows how to employ modern media. (**Communication**)
12. Graduates are capable of logical reasoning; they are inquisitive and capable of posing proper questions; they can critically evaluate results obtained (by themselves and others); they are capable of critical reflection and can adapt their behaviour on the basis of that reflection, and are aware of gaps in their own knowledge and skills; they are prepared to learn and capable of learning. (**Basic academic attitude**)

d. Practicals

No special provisions apply to the organisation of practicals.

e. Study load

The study load of units of study can be found under a.

f. Master's programmes

The master's programme for Creative Technology graduates, in accordance with section 7.13, subsection 3 of the Act, is the Human Media Interaction Programme of the University of Twente.

Admission to other Master's programmes depends on study units in the student's "profielingsruimte". See *section a, subsection Options and electives*.

g. Provisions for part-time students

The programme offers no provisions for part-time students. The programme is a programme for full-time study.

h. The conditions of admission to units of study and interim examinations

Conditions of admission to (i.e. prerequisites for) units of study are in the tables of *section a, Programme and examinations*, where the units of study are listed.

To participate in units of study of the second year students must meet two conditions:

- a. They are registered as either New Media or Smart Technology students
- b. They have completed study units of the first year with a total study load of at least 40 credits.

To take Smart Technology units as a specialization in the second year, the enabling units of the first year must have been completed. The enabling units for ST are (see also table 1)

Smart Environments

Dynamical Systems

Introduction to Mathematics and Modelling

To take New Media units as a specialization in the second year, the enabling units of the first year must have been completed. The enabling units for NM are (see also table 1)

Interactive Visualization

Introduction to Computer Science

Programming and Physical Computing

To participate in units of the third year, students must meet a single condition

- c. They have completed study units of the first and second years with a total study load of at least 80 credits.

To start their Final Project, students must have completed units totalling 150EC of the programme.

The Examination Board issues a regulation for students who wish to change their registration (from NM to ST or conversely).

The Examination Board may grant permission to students to start in their second or third year, or in their Final Project, even if they do not meet the requirements of this regulation.

i. Transitional arrangements

1. Regulation 2011-2012 regarding study units of the first year

Occasion: This regulation is necessary because the first year's programme changes, starting September 2011.

Term of validity: until September 1, 2013.

Contents of the regulation:

Students who started their studies in 2010-2012 take their first year exam if they meet the following requirements:

1. They have completed units of study with a study load totalling 60 EC;
2. The list of units they have completed is (or can be) a combination of units of the 2010-2011 programme, and the 2011-2012 programme
3. According to the table below, they meet the requirements (by substitution) of the 2011-2012 programme.

The table below shows how units of study may replace one another to fulfil the requirements of the first year examination.

Units/sub tests of 2011-2012	Units before 2011-2012
We Create Identity sub test 1	We Create Identity
We CreaTe Identity subtest 2	Web Technology
Smart Environments	Smart Environments
Interactive Visualization	Interactive Visualization
Living and Working Tomorrow	Living and Working Tomorrow
Have Fun and Play!	Have Fun and Play!
Visual Communication	Graphic Design
Sketching for CreaTe	Sketching for CreaTe
Designing in Context	Designing in Context
Human Factors	Human Factors
Introduction to Computer Science	Introduction to Computer Science
Programming and Physical Computing	Programming for CreaTe
Dynamical systems	Dynamical Systems
Introduction to Mathematics and Modelling sub tests 1&2	Motion and Modelling
Introduction to Mathematics and Modelling sub test 3	Creative Exploration of Structures
First year portfolio	Tutoring

There will be an opportunity to take interim exams in Introduction to Statistics and Probability and in Signals and Systems in 2011-2012. These opportunities can be used to accumulate units totalling 60 EC study load.

2. Regulation 2011-2012 regarding Design Marketing and Business Management

Occasion: This regulation is necessary because the Design Marketing and Business Management courses are not taught in 2011-2012

Term of validity: until September 1, 2013.

Contents of the regulation: The course 201000073 Marketing for International Business Administration can replace Design Marketing. The course 193902220 Startrix for Advanced Technology can replace Business Management.

j. The language of the programme, and language proficiency conditions for admission

1. The language of the programme is English. This applies to teaching and examination.
2. The Examination Board can grant permission to teach and conduct interim examination in another language. Permission can be granted only if it serves the quality of the assessment.
3. Dutch students with a vwo diploma meet the English language proficiency requirements for admission. Students from countries participating in the Lisbon treaty for whom English is a subject of their final examination, meet the language proficiency requirements for admission. In particular, German students with English up to their Abitur (13 years) meet the English language proficiency requirements for admission. Students who went to school in a system of education where the language of teaching is English, meet the language requirements. (The admissions office maintains an official list of these countries. This list is decisive.) Others must explicitly prove their proficiency at IELTS 6.0 level (over all score), before admission can be granted.
4. Students who meet the admission requirements of *section j, subsection 3* above, but without English language proficiency corresponding to the IELTS 6.0 level, must take English language courses to overcome their deficiency. The dean issues a regulation concerning the conditions for participation in these courses, and the faculty's contribution in the costs of these courses.
5. The dean issues a regulation concerning the assessment of English language proficiency of staff members who teach courses in the programme, and of the support staff for the programme. All staff involved must meet the language requirements of the regulation. Courses to improve English proficiency of staff members are provided.