

DRAFT

PROGRAMME APPENDIX TO THE TEACHING AND EXAMINATION REGULATIONS OF THE BACHELOR'S PROGRAMME CREATIVE TECHNOLOGY

The regulations in this appendix form an integral part of the teaching and examination regulations 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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PARAGRAPH 1

THE PROGRAMME SPECIFIC ISSUES OF ARTICLES 3.1 AND 3.2.
(WHW 7.13.2) OF THE REGULATIONS¹

Art 1.1 - PROGRAMME CONTENTS AND EXAMINATIONS(A)

1. Students who were enrolled for the Bachelor's programme Creative Technology in the academic year 2012-2013 pass the bachelor's examination by completing² the units of study of tables 1a, 2a and 3a.
2.
 - a. The units of study of tables 1a are no longer taught as separate units (as of September 1, 2013). Provisions for completing these units are in the Transitional arrangements appendix.
 - b. The units of study of table 2a are no longer taught as separate units (as of September 1, 2014). Provisions for completing these units are in the Transitional arrangements appendix.
3. Students who are enrolled for their first year in Creative Technology at September 1, 2013, or later, pass the bachelor's examination by completing the units of study of table 1b, and the units of the second and third year.
4. For (almost) every unit of study, with the exception of the units referred to in Article 1.1.2, supervised (teaching) activities are organized. The nature of the activities is included in the tables 1b, 2b, and 3a, using the following abbreviations
 - 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.
5. Some units in the second and third year are options, some are electives. Options and electives are further specified in this Art 1.1, items 7 – 10 below.
6. The student's choice of options and electives must meet the requirements of Art 1.12 of this appendix.

¹ The regulations are: the teaching and examination regulations for Creative Technology. The letters (a-m) in the article titles of this paragraph refer to the corresponding items in WHW 7.13.2

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

7.
 - a. At the end of the first year students who were enrolled in 2012-2013 must choose between two options for a specialization course in their second year: Smart Technology and New Media.
 - b. At the end of the first year students who were first enrolled in 2013-2014 or later must choose between two options for module 5 in their second year: Smart Technology and New Media.
8. Students have to choose courses with a study load of 30 EC in semester 5 (the first half of the third year of the programme), This is the *profileringsruimte*, i.e. the free space to establish an individual profile in the curriculum.
In the *profileringsruimte*
 - students can take courses to prepare for further study in a Master's programme,
 - students can take a standard or individual minor programme
 - students can take one semester of courses at another (foreign) university (which is in fact a special kind of an individual minor),
 - students can take the opposite course of their second year specialization (15 EC), and combine this with a choice of other courses with a 15 EC study load in total, to make an individual 30 EC minor,
 - and possibly more.
9. Students have to choose *electives* in their third year totalling at least 15 EC. The choice of electives serves at least two purposes:
 - students are confronted with a view on and research into the human-technology relationship which is largely inspired by behavioural or management sciences,
 - students work on ethics and professional standards for design.

Table 3a contains the list of electives. The text below the table elaborates the options a student has to deviate from this list.
10. In their Final project at the end of their third year students complete graduation work with a study load of 15 EC.
Graduation work consists of
 1. A design project, where context and goals are set preferably by an external party.
 2. A graduation report, with appendices when necessary, in which the student renders account of the graduation project and the design approach, and describes and documents literature search, surveys and experiments conducted during the project, as well as the prototypes and other deliverables which result from the project.
 3. A summary of the graduation report.
 4. A public presentation and defence of the graduation work.
11.
 - a. The student can start graduation work only at the beginning of a semester.

- b. The deadline for graduation work is at the end of the semester in which it started. This period of time cannot be extended. If the deadline is not met, the examiners will assess the graduation work anyway. This may result in a fail.
- 10 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 and Regulations* of the Examination Board.

Table 1a: the first year (for students enrolled in 2012-2013)

	study load in EC	teaching activities ³	assessment ⁴	enablers
We Create Identity	5		Q1	
Smart Environments	4		Q2	ST
Living and Working Tomorrow	5		Q3	
Have Fun and Play!	5		Q4	
Visual Communication	4		Q1	NM
Sketching for CreaTe	3		Q2	
Interactive Visualization	4		Q3&Q4	NM
Designing in Context	3		Q3	
Human Factors	3		Q4	
Introduction to Computer Science	2		Q1	
Programming and Physical Computing	7		Q1&Q2	NM
Introduction to Physical Systems and their Dynamic Behaviour	5		Q3&Q4	ST
Introduction to Mathematics and Modelling	6		Q2&Q3	ST
First year portfolio	4		Q1-Q4	P
Year 1	60			

The abbreviations for enablers must be read as follows

- NM (New Media) students must have completed these units before they can participate in the New Media course of the second year (cf. Art 1.12 of this appendix).
- ST (Smart Technology) students must have completed these units before they can participate in the Smart Technology course of the second year (cf Art 1.12 of this appendix).
- P students must have completed the first year portfolio before they can participate in the second year portfolio.

³ The column is empty since these units of study are no longer taught, cf Art. 1.1.2a

⁴ The column contains quarters where subtests have to be taken to fulfil the assessment requirements, since there will be no more examinations for these units. See the Transitional arrangements appendix.

Table 1b: the first year for students first time enrolled after 2012-2013

	study load in EC	teaching activities ⁵	Assessment type ⁶
We Create Identity	15	LPIADG	ADEOPW
Smart Environments	15	LPIADG	ADEOPW
Living and Working Tomorrow	15	LPIADG	ADEOPW
Have Fun and Play!	15	LPIADG	ADEOPW
Year 1	60		

⁵ The abbreviations are explained in Art. 1.1.4 of this appendix.

⁶ The abbreviations are explained in Art 1.11 of this appendix

Table 2a: the second year for students enrolled in 2012-2013

	study load in EC	teaching activities ⁷	assessment ⁸	prerequisites
Ambient Screens	5		Q2	45
Hybrid Worlds	5		Q4	45
Creative Explorations in Art, Science and Technology	2		-- ⁹	45
Animated Narration	3		Q4	45
Innovation and Entrepreneurship for IBA	3		Q3	45
Startrix for CreaTe	5		Q3	45
Programming with Structures	5		Q1 ¹⁰	45
Web Services and Data-driven Applications	4		Q4	45
Introduction to Probability and Statistics	3		Q4	45
Research Methodology	2		Q2	45
Systems and Signals	3		Q1	45
either Strategies and Protocols	3		Q2 ¹¹	45+r
or Queues and logistics	3			45+r
<i>either Smart Technology</i>	15		Q1	45+ST
<i>or New Media</i>	15		Q1	45+NM
Second Year Portfolio	2			45+P
Year 2	60			

The two pairs of units preceded by “either...or” are options. Each student has to complete at least one of the units of each pair. (cf this Art 1.1 items 6 and 7)

The units which are printed in italics are specific for a specialization. (cf this Art 1.1 items 6 and 7). Students who opt for Smart Technology take the Smart Technology unit. Students who opt for New Media take the New Media unit. Both units have a study load of 15 credits.

⁷ This column is empty since these units are no longer taught, cf. Art. 1.1.2b

⁸ The column contains quarters where subtests have to be taken to fulfil the assessment requirements, since there will be no more examinations for these units. See the Transitional arrangements appendix.

⁹ This unit is to be completed by individual appointment

¹⁰ There will be a resit for the original course (contrary to the stipulation of note 8) in the first quarter of 2014-2015

¹¹ There will be a resit for the original course (contrary to the stipulation of note 8) in the first quarter of 2014-2015

The prerequisites must be understood as follows (see also Art 1.12 of this appendix):

- 45 To participate, students must have completed units of the first year with a total study load of at least 45 EC
- +r To participate, students have to register, and their registration must be accepted; the courses have a limited capacity for participation
- +NM (New Media) To participate, students must have completed the NM enablers of table 1.
- +ST (Smart Technology) To participate, students must have completed the ST enablers of table 1a.
- +P To participate, students must have completed the first year portfolio.

Table 2b: the second year for students first time enrolled after 2012-2013

	study load in EC	teaching activities ¹²	Assessment type ¹³
<i>either</i> New Media <i>or</i> Smart Technology	15	LPIADG	ADEOPW
Interaction	15	LPIADG	ADEOPW
innovation & Entrepreneurship	15	LPIADG	ADEOPW
Hybrid Worlds	15	LPIADG	ADEOPW
Year 2	60		

¹² The abbreviations are explained in Art. 1.1.4 of this appendix.

¹³ The abbreviations are explained in Art 1.11 of this appendix

Table 3a: the third year for students enrolled in 2014-2015

		study load in EC	teaching activities	assessment	prerequisites
<i>Free space to establish a profile (profielingsruimte)</i>		30			90
<i>Electives, choice from</i>	<i>Design Against Crime, 6EC</i>	15			90
	<i>Remote Care Nearby, 5EC</i>				
	<i>Entertainment Education, 5EC</i>				
	<i>Communication Technology for Global Work, 5EC</i>				
	<i>Ethics for CreaTe, 5EC</i>				
Final Project					150
Year 3					

The units of table 3a which are printed in italics describe electives and options for the student. See Art 1.1.8 and 1.1.9.

Provisions for the choice of options and electives are further elaborated in Art. 1.12.5.

Students may replace Ethics for Creative Technology by other Ethics courses, if their tutor approves. Students may propose to take other courses as elective than the courses in the list; however, they need explicit permission of the Examination Board to take an elective (non-ethics) course which is not in the list.

The prerequisites must be understood as follows (see also Art 1.12 of this appendix)

- 90 To participate in these units of study, students must have completed units of their first and second year totalling at least 90 credits.
- 150 To start the Final Project, students must have completed 150 EC of the entire programme.

Art 1.2 - CONTENTS OF EXAMINATION SPECIALIZATIONS (B)

There are no specializations a student can choose for graduation.

Art 1.3 - FINAL QUALIFICATIONS (C)

Graduates of this program are problem-solvers, who

- can trace back (or help a client trace back) a possibly ill-posed initial question to the underlying challenge,
- can generate ideas and concepts,
- can identify opportunities for the exploitation of new technologies, and
- can develop ideas and concepts into key prototypes.

To this end, they acquire skills and knowledge in five areas:

- (1) Controlling the process of creation by a designer;
- (2) Understanding and use of technology;
- (3) Designing for interaction, expression, impact and experience;
- (4) Societal and economic value; and
- (5) Academic and professional skills.

The attainment targets in area (1) Controlling the process of creation, are:

1. Graduates understand autonomous design, and have the skills and knowledge to act as an autonomous designer, meaning that they can identify and choose projects, that they can explain and justify ideas in context, and that they have developed personality and a personal style
2. Graduates understands and are skilled in creative thinking and creative acting, meaning that they know and can apply creative thinking techniques, divergent and convergent thinking, and tinkering.
3. Graduates understand and have the knowledge to employ multidisciplinary design methods, meaning that they understand and can apply phasing in the systematic design process as an alternation of divergence and convergence, they understand and can apply demand driven and explorative design, The know how and are able to document and report, they know how and are able to incorporate the user in the design process, they know how and are able to evaluate design options and to take design decisions

The attainment target in the area (2) Understanding and use of technology are:

4. Graduates understand and can use technology in the following domains:
 - a. software, algorithms, physical interaction
 - b. web technology, web services and datamanagement,
 - c. behaviour of physical systems, (especially in the electrical domain)
 - d. sensing, implicit interaction
 - e. telecommunication.
5. Graduates can rely on a basic knowledge of physics, mathematics and engineering in support of their understanding and use of technology. (Skills and knowledge in technology)

The attainment targets in the area (3) Designing for interaction, expression, impact and experience are:

6. The graduates understand and can use expressive technology, meaning that they have knowledge and skills in expressive media, like stills and moving images, sound and 3d-modelling, and that they have knowledge and skills in story telling, story worlds, and messaging.
7. The graduates have knowledge of and can investigate human technology relationship and human design relationship; they are familiar with arts and culture; they are aware of human factors, and of social patterns and societal structures;

The attainment targets in the area (4) Societal and economic value are:

8. The graduates have knowledge and skills to bring creative technology to the market, meaning that they are familiar with market analysis, with attracting capital and financing, and with intellectual property rights, and that they can write a business plan.
9. Graduates are aware of the roles of designers in society, and the standards (ethically and legally) for professional behavior.

The attainment targets in the area (5) Academic and professional skills are:

10. Graduates can communicate with experts and non-experts about all aspects of their field, 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.
11. Graduates are capable of logical reasoning; they are inquisitive and capable of posing proper questions; they are familiar with research methods, and (to a limited extent) can set up their own research; they can critically evaluate results obtained (by themselves and others); they are capable of critical reflection and can adapt their behavior 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.

Art 1.4 - PRACTICAL WORK AND PRACTICAL EXERCISES (D)

There are no special provisions for practical work and exercises.

Art 1.5 - STUDY LOAD OF THE PROGRAMME AND ITS UNITS (E)

The study load of units of study is in the tables of article 1.1 of this appendix. The study load of the entire programme is 180 EC..

Art 1.6 - ADDITIONAL REQUIREMENTS REGARDING BSA (NOTICE OF EXCLUSION) (F)

The programme imposes no additional requirements regarding BSA (the “bindend studieadvies”).

Art 1.7 - STUDY LOAD MASTER'S PROGRAMME (G)

Does not apply.

Art 1.8 - PROVISIONS REGARDING THE NUMBER OF OPPORTUNITIES TO TAKE TESTS AND INTERIM EXAMINATIONS, AND THEIR ORDER (H)

1. There are two opportunities per academic year to sit a written interim examination for units of study in tables 1a, 2a and 3a of Art. 1.
2. For sub tests for the assessment of units of study in tables 1b and 2b, the regulations of Art. 1.11.3 of this appendix apply.
3. For the final assessment of a unit of study in table 1b or 2b, the regulations of Art. 1.11.4 and 1.11.5 of this appendix apply.
4. The provisions regarding the order of tests and exams are contained in the admission conditions of Art 1.12 of this appendix. The same provisions appear in the tables of Art 1.1 of this appendix.

Art 1.9 - THE FULL- /PART-TIME STATUS (I)

The programme enrolls only students with a full-time status.

Art 1.10 - TEST AND EXAMINATION PERIODS (J)

1. Periods for tests and exams are in the rosters.
2. There is no specific period to take the bachelor's examination.

Art 1.11 - TYPE AND ORGANIZATION OF TESTS AND ASSESSMENT (L)

1. The way test and assessment are organized can be found in the tables 1a, 1b, 2a, 2b, and 3a of Art 1.1 of this appendix. The following abbreviations are used:
 - A (Assignments) students hand in (homework) assignments.
 - D (Deliverable) students demonstrate the results of an assignment (a working prototype, a result to be analysed and observed, not mere text)
 - E (Essays) 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 exam.

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

2. For units in tables 1b and 2b (Article 1.1 of this appendix) the examiners will set and publish (available at the start of the unit)
 - a. an overview of the various tests involved, and the nature of each individual test in terms of Article 1.11.1
 - b. a required minimum score for each test, in order to achieve a result for the entire module.
 - c. the weight that each test will have in determining the final grade for the entire module.

Art 1.12 - CONDITIONS OF ADMISSION TO UNITS OF STUDY (S)

1. To participate in the units of study of the second year of table 2a the following conditions must be met:
 - a. There is a registration as either New Media or Smart Technology student
 - b. Study units of the first year with a total study load of at least 45 credits have been completed.
 - c(Math) To take either Queues and Logistics or Strategies and Protocols, the student's registration for the course of his/her choice must have been accepted. There is a registration procedure for students to apply for participation, the number of participants for each course is limited.
 - d(ST). To take Smart Technology 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 1a)
Smart Environments
Introduction to Physical Systems and their Dynamic Behaviour
Introduction to Mathematics and Modelling
 - d(NM). 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 1a)
Visual Communication
Interactive Visualization
Programming and Physical Computing
2. To participate in units of the third year, the following conditions must be met
 - a. Study units of the first and second years must have been completed with a total study load of at least 90 credits.
 - b. (*profileringsruimte*) The second year tutor has given permission (on behalf of the Examination Board) for the courses in the *profileringsruimte*; the tutor has the authority to refuse permission even if a proposed choice of courses meets the requirements b1, b2 and b3.
 - b1. (*profileringsruimte*) The units of study in the *profileringsruimte* are courses offered by an institution or programme which has an accreditation proving its university level, or comparable.
 - b2. (*profileringsruimte*) The units of study of an introductory nature among the courses in the *profileringsruimte* have a total study load of at most 20 EC; the amount of practical work in the *profileringsruimte* does not exceed a study load of 15 EC.
 - b3. (*profileringsruimte*) The units of study devoted to foreign culture and language among the courses in the *profileringsruimte* have a total study load of at most 10 EC
 - c (*electives*) The second year tutor has given permission (on behalf of the Examination Board) for the choice of electives; the tutor has the authority to refuse permission even if a proposed choice of courses meets the requirements c1, c2, c3 and c4.

- c1 (*electives*) At least one unit among the electives deals with ethics and professional standards.
 - c2 (*electives*) other units among the electives deal with research into human-product relationships, from the perspective of behavioural and/or management sciences, except for students who opt for an effort as described under c3 or c4.
 - c3 (*electives*) one unit among the electives, with a study load of 5 EC maximum, can be an assistantship in a final project of a fellow student. 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.
This option cannot be combined with the option under c4.
 - c4 (*electives*) one unit among the electives, with a study load of 5 EC maximum, can be devoted to academic writing. This option cannot be combined with the option under c3.
3. The Examination Board sets rules for the assistantships under 1.12. item 5.c3.
 4. To start their Final Project, students must have completed units totalling 150EC of the programme.

Art 1.13 - MANDATORY PARTICIPATION IN PRACTICAL WORK AND/OR PRACTICAL EXERCISES TO BE ADMITTED TO THE EXAMINATION (T)

1. The tables in Art 1.1 of this appendix show for which units of study participation in practical work is mandatory in order to be admissible to the exam (if any).
2. Provisions (if any) regarding mandatory practical work are also to be found in Art 1.12 of this appendix.

PARAGRAPH 2

OTHER PROGRAMME SPECIFIC CHARACTERISTICS

Art 1.14 - LANGUAGE

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. 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.

Art 1.15 - STUDENT COUNSELLING

1. By Art. 6.2.2 of the teaching and examination regulations, each student has a student adviser, who, in accordance with the university directive for study advice and notices of exclusion, is the primary person to address for students in matters concerning their study.
3. The student adviser for Creative Technology has a task in mentoring, i.e. personal guidance oriented to personal problems and personal growth.

Art 1.16 - TUTORING

1. Every student of Creative Technology has a tutor. Tutors are university staff members who take care of academic guidance and professional growth of their tutees (a tutee is a student who is guided by the tutor).
2. The Examination Board delegates advice and approval for choices of courses in the *profileringsruimte*, and choices of electives to the tutors.

Art 1.17 - REGULATIONS REGARDING REGISTERING FOR TESTS AND EXAMS

Regulations regarding the registration as a participant before taking a test or exam can be found at the Creative Technology web site.

Art 1.18 - THE DESIGNATED MASTER'S PROGRAMME

1. 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.
2. Admission to other Master's programmes may depend on study units in the student's "profileringsruimte". The Admissions Board of the Master's programme defines the requirements an applicant must meet to be eligible for admission.

Art 1.19 - THE ADMINISTRATION OF THE RESULTS FOR TESTS AND EXAMS

1. When an exemption is granted for a test, this is registered in the student information system as a result for that test, with code VR (Dutch: Vrijstelling). This VR result will count as a mark 6 when a (weighted) average of test results is determined.
2. A student who is entitled to an exemption for a test, may decide to take the test anyway, in order to get a proper mark, instead of the VR and its associated 6.
3. A test may be marked by Pass or Fail only, instead of a score on the standard numeric scale. A Fail is registered by code NVD (Dutch: niet voldaan), a Pass is registered by code V (Dutch: voldaan). No numeric values are associated with these codes for the purpose of determining averages.
4. If more than one mark is registered (for different attempts at the same test or exam), the highest mark counts.

Art 1.20 - REGULATIONS REGARDING BSA (NOTICE OF EXCLUSION)

1. Creative Technology uses the BSA module of the student information system.
2. Recommendations regarding the continuation of studies are based on results that are registered for units of study (i.e. not on the results of (sub)tests). After the first quarter a preliminary advice can be given, which is either positive, negative or neutral.
3. There are two moments in time when formal recommendations are issued, the intermediate and the final recommendation. If the final recommendation is negative, this is compelling, a negative final recommendation is a notice of exclusion.
4. Students will receive their formal recommendations digitally (i.e. not on paper, and with a digital signature). The recommendations are formulated in accordance with the provisions of these regulations.