# UNIVERSITEIT TWENTE.

Faculteitsdecaan
Prof. Dr. P.M.G. Apers
Zilverling 1064

## FACULTEIT ELEKTROTECHNIEK WISKUNDE & INFORMATICA
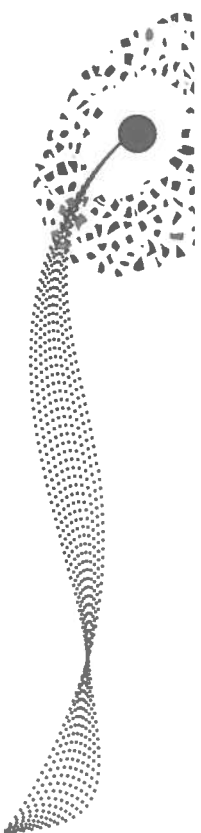
ONDERWERP
Master HMI OER 2016/2017

Geachte heer Apers,

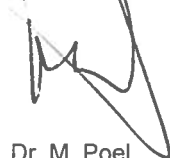Na kennisneming van het opleidingsspecifieke gedeelte van de Master Human Media Interaction OER 2016/2017 stemt de Opleidingscommissie CreaTe – HMI in met deze nieuwe editie van de OER, onder de voorwaarde dat de op 2 juni 2016 aangegeven wijzigingen worden doorgevoerd:

Vertrouwende u hiermede naar behoren te hebben bericht.

Met vriendelijke groet,

Dr. M. Poel
*Voorzitter Opleidingscommissie CreaTe - HMI*

# SECTION B: PROGRAMME-SPECIFIC SECTION MASTER HUMAN MEDIA INTERACTION

## 1. General provisions

### Article 1.1 Definitions
Definitions additional to the ones in Article 1.2 of Section A.

a. graduation supervisor: a staff member of the HMI chair who supervises the student's final project


## 2. Programme objectives and final attainment targets

### Article 2.1 Aim of the Human Media Interaction Master's programme
Highlighting the interaction between people and technology, the HMI master's programme studies this relationship from different perspectives. Special emphasis is placed on the manner in which people interact with technology (i.e. what are their requirements, abilities and limitations) and on the identification of the best way to implement or further develop technical capabilities to meet the needs of users.

The HMI master's programme focuses specifically on intelligent, multimodal systems offering a more natural form of interaction than currently possible with conventional monitors, mice and keyboards. By employing a broad range of input modalities to observe and intelligently interpret user actions, these intelligent interactive systems aim to automatically determine the user objectives and operational context and make the necessary adjustments. This multimodality applies both to system input and output; text, speech, haptic and visual feedback and all manner of communication media are integrated and presented to users in an intelligent manner.

The HMI programme combines technical expertise and skills in the field of interaction technology with knowledge and skills in user-oriented design methodologies and an understanding of how people interact with technology.

### Article 2.2 General attainment targets
The degree programmes have the following general scientific attainment targets

    a. Graduates have an extensive knowledge of and understand the issues relevant to their specific field of study (i.e. domain specific attainment targets) described in art. 2.4.

    b. Graduates can contribute to scientific research, and independently design, conduct and present the results of small-scale research.

    c. Graduates can provide an original contribution to the development and/or application of the field of study. 'Original' is understood to mean 'demonstrative of a creative contribution'.

    d. Graduates can analyse complex problems (change problems) relevant to the field of study and obtain the required knowledge and information.

    e. Graduates can design, validate and implement solutions/systems in their operational context; identify and apply relevant advanced knowledge, methods and techniques from their field of study.

f.   Graduates can assess solutions/systems and their applications according to their properties and potential to solve problems even if they are new to or unfamiliar with the situation or lack information and/or reliable information; they can use their assessment as a basis for (substantiation of) decisions.

g.   Graduates understand the ethical, social, cultural and public aspects of problems and solutions in their field of study; apply this insight in their international role as scholar.

h.   Graduates can work as part of and play a leading role in a team; manage and plan a development process; document development and research processes.

i.   Graduates can substantiate research results, designs and applications in writing and verbally; critically assess and participate in debates regarding the same.

j.   Graduates can independently acquire new knowledge and skills; reflect on trends in their field of study, responsibilities and roles and use this insight as a guide for and integrate it into their own personal development.

k.   Graduates can integrate information from other disciplines into their own work if necessary.

l.   Graduates take a critical approach to reading, incorporating information presented in and participating in debates regarding international scientific literature relevant to their field of study.


## Article 2.4 Domain specific attainment targets

The degree programme has the following subject specific scientific attainment targets (elaborating art. 2.3)

a.   Graduates have a thorough knowledge and understanding of each of the sub-fields listed below
   - methodology of user-oriented design, including the drafting of user requirements, user studies and usability engineering;
   - forms of natural, multimodal interaction such as natural language interfaces
   - intelligent interaction employing techniques taken from artificial intelligence;

b.   Graduates can design, both independently and as part of a team, sophisticated applications involving digital media and interactive systems and geared to the needs of users, using state-of-the-art techniques and methods

c.   Graduates have knowledge of and understand various aspects of the user context of digital media and interactive systems and, based on this, communicate effectively and efficiently with users during the various phases of the development process.

d.   Graduates have knowledge of and understand basic questions and research methods into human behavior relevant to the multimodal system they develop (e.g. linguistics in the case of natural language processing or neuroscience in Brain Computer Interfaces) and grasp the relevance of these fields of study to the design of interactive systems.

e.   Graduates can draft, transfer, document and communicate to technical designers specifications on the basis of a knowledge and understanding of the technical aspects of digital media and interactive systems.

f.   Graduates can assess systems for human media interaction according to their technical and operational aspects, incorporating a thorough knowledge and understanding of mathematics.

HMI graduates have specialist knowledge of one or more of the three Human Media Interaction sub-fields outlined above and practical experience conducting, reporting about and applying the results of scientific research in developing innovative interactive systems and the relevant techniques and methods.

## 3. Further admission requirements

Admission requirements additional to the ones in Article 2 of Section A can be found in Appendix A.

## 4. Curriculum structure

Article 4.1 Programme structure

1. Each student has an individual course programme with units of study as outlined by a - d, further elaborated in Article 4.2 to 4.8:
   a. Compulsory units of study (55 EC):
      i. 192166100 Human Media Interaction Project (10EC)
      ii. 191612680 Computer Ethics (5EC)[1]
      iii. 192199508 Research Topics (10EC)
      iv. 192199978 Graduation Project / Final Assignment (30EC)
   b. 20 EC core courses in the techniques for Intelligent Interactive systems listed in art. 4.2, out of which at least 1 advanced course
   c. Optional internship (20 EC)
   d. Additional core courses (art. 4.2 – 4.3) and electives (art. 4.4) so that the total course programme adds up to at least 120 EC.
2. Students whose admission to the HMI programme is derived from, or constitutes a part of, their admission to a special programme within the Twente Graduate School (HCIT programme) or the EIT ICT Labs Master school (HCID programme), may have a course programme which deviates from the requirements listed under 4.1 – 4.7. Regulations regarding the course programme for these students are in Appendix C of these Regulations.
3. A choice of units becomes a course programme once it has been laid down, with the approval of the programme mentor (Art. 5). The programme mentor has the authority to refuse his approval even if the choice of units is within the limitations of these Regulations.
4. In some cases the admissions board may issue a certificate of admission with additional requirements. See the admissions appendix. Students must use the space for elective subjects in their course programme to meet these additional requirements, usually called 'homologation'. Homologation requirements limit the space the student has for electives in the student's course programme.

Article 4.2 Core courses: Techniques to build (Socially) Intelligent Interactive Systems

*General Techniques*
- 2016XXXXX Introduction to Machine Learning (5EC)
- 2016XXXXX Advanced Machine Learning (5EC)
- 191210910 Image Processing and Computer Vision (5 EC)

*Sensing Technology / Human Signal Processing / Interactive Systems*
- 2016XXXXX Affective Computing (5EC)
- 2016XXXXX Natural Language Processing (5EC)

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[1] With the exemption of students with an UT Bachelor's degree in Creative Technology.

**Commented [St1]:** Gaat het hierbij om een advanced research project of kan dit ook advanced machine learning zijn? Ik zie het verschil niet tussen een advanced vak en advanced project door hoe het geformuleerd en opgesteld is.

**Commented [St2]:** Appendix A i.p.v. admission appendix.

**Commented [Ddm3]:** Hoezo valt "Advanced Computer Vision & Patern recognition " hier eigenlijk niet onder? Anders misschien wel goed om bij electives te zetten.

**Commented [St4]:** Waarom niet gewoon 1 titel?

- 2016XXXXX Speech Processing (5EC)
- 2016XXXXX Information Retrieval (5EC)
- 2016XXXXX Conversational Agents (5EC)
- 2016XXXXX Brain Computer Interfaces (5EC)
- 2016XXXXX Trends in Human Robot Interaction Research (5EC)

*Advanced Research Projects*
Advanced Research Projects (5 EC) in Affective Computing, Natural Language Processing, Speech Processing, Information Retrieval, Conversational Agents, Brain Computer Interfaces, Human Robot Interaction..

Article 4.3 Core courses: Human Computer Interaction and Design Courses
- 2016XXXXX Designing Interactive Experiences
- 201000113 User Centered Design of New Media (5 EC)
- 192166100 Human Media Interaction Project (10 EC)
- 201100126 Human Computer Interaction (5 EC)
- 2016XXXXX Trends in Human Robot Interaction Research (5 EC)

Article 4.4 Electives
1. Outside the core units as listed in article 4.2 – 4.3, students are free to choose electives courses. Possible electives are:

- 192111301 Ubiquitous Computing (5 EC)
- 192320601 Multi-Agent Systems (5 EC)
- 192850830 Create the Future (10 EC)
- 201500440 Design and Emotion (5 EC)
- 201500133 Embodied Interaction (5 EC)
- 201400180 Multi-Sensory Design (5 EC)
- 201000201 Virtual Reality (5 EC)
- 201400174 Data Science (5 EC)
- 201200063 Philosophy of Technology (5 EC)
- 201300074 Research Experiments in Databases and Information Retrieval (5 EC)
- 192140302 Artificial Intelligence (Self-Tuition) (5 EC)
- 192166200 Capita Selecta HMI (5 EC)

Article 4.5 Internship

Students may take a 20 EC internship in their course programme.
Organisational procedures are found on: www.utwente.nl/ewi/en/education/external_training/. These procedures are considered part of this Regulation.

Article 4.6 Research Topics
All students must take a 10 EC Research topics course in their course programme in preparation for their 192199978 Final project.

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**Commented [St5]:** Zelfde probleem; onderscheid advanced course en advanced research project is me niet helemaal duidelijk voor 5 EC verplichte eis.

**Commented [St6]:** Op zich een beetje onlogisch dat het vak "trends in human robot interaction research" onder 4.3 valt en een research project hierin onder 4.2 valt…

**Commented [St7]:** Punt te veel

**Commented [St8]:** Is er ook nog niet bekend hoeveel EC dit vak heeft?

**Commented [Ddm9]:** Misschien het nieuwe vak "Designing Tomorrow's Healthcare Products" hier nog aan toevoegen?

### Article 4.7 Final Project

1. All students must carry out graduation work under the supervision of a staff member of the HMI chair. The following requirements must be met:[2]
   a. Students complete graduation work worth 30 credits.
   b. Graduation work consists of a graduation project, a graduation report, a summary of the report, and a presentation. Generally the Research topics of art. 4.6 above immediately precede the graduation work, and serve as a preparation for the graduation work.
   c. Students may only start the graduation work with a maximum of 10 EC of unfinished courses.
   d. The HMI chair takes responsibility for supervision and assessment of graduation work.
   e. The graduation project description is written down as an agreement, signed by both the student and the supervisor. The supervisor signs on behalf of the Examination Board.[3]

## 5. Course programme approval

### Article 5.1 Approval procedures

The student must complete the following steps to obtain course programme approval:

1. Contacting the programme mentor and laying down the course programme.
   Students may complete subjects and sit interim examinations up to a maximum of 15 credits in a specialization before contacting the programme mentor[4]. At this point, permission from the programme mentor is required for complete programme of 120 credits. The programme is written down as an agreement on the content of the course programme, signed by both the student and the programme mentor[5.] The programme mentor signs on behalf of the Examination Board.

2. Alterations and renewed approval of entire course programme.
   The course programme laid down in phase 2 can be altered during executing the master's programme, by laying down revised course programmes. This can be done until research topics and final project are started by the student. At that time the programme mentor should have approved the 120-credit course programme in its entirety.

3. The completed and signed form listing the course programme must be included in the student's file at *Bureau Onderwijszaken* (BOZ, office of educational support) a part of Centre for Educational Support (CES). The student will earn the diploma if he/she completes the units of study listed in the course programme and earns results in line with the guidelines for passing the final assessment.

4. If the course programme listed on a signed form does not satisfy the regulations described in these regulations and/or does not satisfy the conditions imposed by the admissions board, the Examination Board is authorized to impose additional diploma eligibility requirements.

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[2] Organizational procedures are found on: www.utwente.nl/hmi/programmeinformation/final_project.doc/

[3] Forms to be found on: www.utwente.nl/hmi/programmeinformation/rules_documents/

[4] It is strongly recommended for students to contact the programme mentor immediately at the start of the master's study.

[5] Forms to be found on: www.utwente.nl/hmi/programmeinformation/rules_documents/

**Commented [Ddm10]:** Betekent dit dat het een onderzoek binnen de UT moet zijn? Of mag het bijvoorbeeld ook een onderzoek bij een bedrijf zijn, maar met een supervisor vanuit de UT?

**Commented [St11]:** Ik neem dat je je research topics 10 EC wel al moet hebben afgerond voordat je mag beginnen? Valt dit buiten de 10EC unfinished courses?

**Commented [St12]:** En anders?

**Commented [St13]:** Misschien mis ik het, maar waar verwijst "Phase 2" naar?

5. Requirements apply to each course programme to ensure basic knowledge in the field of study. The admissions board may adjust these programme requirements on the basis of the student's prior education and training. Such an adjustment will never entail an intensification of the requirements, the programme will always have a study load of 120 credits.

6. The total number of credits completed at the UT or at another university or research institute approved by the programme mentor, must be at least 90. The Examination Board may permit a student to deviate from this rule.

## 6. Degree
Students who have successfully completed their Master's final examination are awarded a Master of Science degree. The degree awarded is stated on the diploma.

## 7. Transitional and final provisions

### Article 7.1 Transitional provisions
The transitional arrangements can be found in appendix B.

### Article 7.2 Publication
1. The dean will ensure the appropriate publication of these Regulations and any amendments to them.
2. The Teaching and Examination Regulations will be posted on the faculty website.

**Commented [St14]:** Spatie te veel☺

### Article 7.3 Effective date
These Regulations enter into force with effect from 1 September 2016

Thus drawn up by the ….. on …2016….

Advice from Board of Studies,
……, on [date] …...
……, on [date] …...
……, on [date] …...

Approved by authorized Faculty Council on [date] …....
Adopted by: the dean  on [date] ……… 20….

## A. ADMISSIONS APPENDIX TO THE TEACHING AND EXAMINATION REGULATIONS OF THE MASTER'S HUMAN MEDIA TECHNOLOGY

The provisions in this appendix are an integral part of the teaching and examination regulations of the Master's programme Human Media Interaction of the Faculty of Electrical Engineering, Mathematics and Computer Science of the University of Twente and are an addition to the regulation stated in Section A and B. References to numbered articles in this appendix are references to the main text of these Regulations.

Enrolment as a student is required to sit interim examinations and to be eligible to earn the Master's diploma. In order to be enrolled, students must demonstrate that they have been admitted to the Master's programme.

## Article A.1 Admission to the programme

1. Admission to the programme can be granted only to students who meet the requirements regarding the level of their previously earned diploma's, in accordance with the provisions of Art.7.30b of the Act.
2. Students in possession of a diploma which shows that they have passed the final examination for the Technische Informatica (TU/e, TUD, UT), Informatica (RUG, UU, UvA, VU, UL, RU, OU), Business & IT (UT), Creative Technology (UT), or (Technische) Kunstmatige Intelligentie (RUG, UvA, UU, RU) Bachelor's programme will be eligible for admission to the programme.
3. Students who are not in possession of the diploma mentioned in Article A.1.2 will require a certificate of admission issued by the Admissions Board. The Admissions Board is appointed by the Dean with the power to act in matters of admission to the programme. Admission involves an assessment of the student's eligibility for the Master's programme of his/her choice. If the admissions board positively assesses an application for admission, it issues a certificate of admission. Students with a certificate of admission are eligible for enrolment by the Central Student Administration. Enrolment will only take place if the other admission requirements maintained by the UT have also been satisfied.
4. Admission of foreign students. In addition to the requirements in article 2.6 and 2.8 of Section A, the following criteria apply:
   a. The level of education in the country in which the student has completed his/her pre-university education: this must be more or less comparable with that in the Netherlands.
   b. Level of knowledge: the student must have accumulated sufficient knowledge on the basis of the courses he/she has studied abroad to be at a level comparable to that of Dutch students who are admitted to the Master's programme.

## Article A.2 Admission to the programme pursuant to a regulation

The Dean has adopted the following provisions for certain students to be eligible for admission (next to the ones mentioned in Article A.1).

1. Applicants who satisfy the following three requirements are eligible for admission to the HMI Master's programme.
   a. The applicant is holder of a diploma of a university of professional education (HBO) demonstrating that he has satisfied the requirements of the final assessment of the Computer Science (Informatica) HBO Bachelor's programme or the Technical Computer Science (Technische Informatica) HBO Bachelor's programme.

      b.   The applicant has successfully completed the "Kies op Maat" transfer minor for Human Media Interaction

2. Applicants who satisfy the following requirements are eligible for admission to the HMI Master's programme.
   a. The applicant is holder of a diploma from the University of Twente demonstrating that he or she has satisfied the requirements of the final assessment of the Psychology Bachelor's programme.
   b. The applicant has successfully completed the programming theory and project part of 201500111 Software Systems of the TI Bachelor's programme or 201500533 Python Programming.

3. Applicants who satisfy the following requirements are eligible for admission to the HMI Master's programme.
   a. The applicant is holder of a diploma from the University of Twente demonstrating that he or she has satisfied the requirements of the final assessment of the Industrial Design Bachelor's programme.
   b. The applicant has successfully completed the programming theory and project part of 201500111 Software Systems of the TI Bachelor's programme or 201500533 Python Programming.

## Article A.3 Admission to the Master's programmes after individual assessment

In all other instances than those mentioned in Art. A.1 and A.2., the admissions board conducts a detailed assessment of the applicant's eligibility for admission. This assessment takes the following factors into account:

1. the highest diploma earned by the applicant: This must be at least a Bachelor's diploma from a recognized higher education institution. If such a diploma cannot be produced, the admissions board will ask for a statement attesting to the equivalency of the applicant's qualifications with the Bachelor's diploma required. The body issuing this statement must be authorized to do so.
2. the nature of the degree course and the content of the course programme completed by the applicant, the speed with which the course programme was completed and the marks earned: The nature of the degree course, content of the course programme and marks earned for the individual units of study must clearly demonstrate that the applicant has the fundamental academic skills and appropriate basic knowledge for the Master's programme or is able to compensate for any gaps in basic knowledge.
3. the student's motivation for applying for admission
4. the applicant's command of English: This only applies to international students. The threshold values for sufficient command of English are in Article 2.8 of section A.

## Article A.4 Variations in admission decisions

1.    Issuing an unconditional certificate of admission

The admissions board may decide to admit applicants to the Master's programme after assessing their file. These applicants will be issued a (unconditional) certificate of admission.

2.    Issuing a conditional certificate of admission

The admissions board may not reach a final decision about admission, because it finds insufficient or formally incorrect evidence of the applicant's status in the application file. In such a case the board can decide to admit the applicant conditionally. The student can enroll at the UT on the condition he or she submits the evidence lacking in the original application file to the satisfaction of the admissions board. (A typical case of conditional admission is when the applicant's file shows no formal proof of sufficient proficiency in English.)

3.      Issuing a certificate of pre-Master admission

In some cases, the admissions board will issue applicants a certificate of pre-Master admission. While these individuals may enroll at the UT, they are not entitled to sit interim examinations or to have the final assessment conducted.

Students with a certificate of pre-Master admission must first successfully complete the Bridging programme before being fully admitted to the Master's programme and become fully enrolled students with all the associated rights. Certificates of pre-Master admission are valid for a limited term (generally one year). Students who are not fully admitted during this term must re-apply for admission.

Completing a Bridging programme to convert a pre-Master admission to 'fully admitted' student status is often referred to as 'overcoming deficiencies'.

NB: While the results earned as part of an undergraduate-level Bridging programme do not count towards a Bachelor's degree, a certificate is awarded in recognition of the academic achievements during the Bridging programme.

4.      Issuing a certificate of admission with additional requirements

The admissions board may attach additional requirements to a certificate of admission (also to conditional and pre-Master admissions). These additional requirements do not impact the right to enrol, sit interim examinations or have the final assessment conducted. They do, however, impact the regulations governing successful conclusion of the Master's programme final assessment. With this admission decision, the admissions board establishes additional requirements for the course programme to satisfy in order to successfully pass the Master's programme final assessment. Naturally, the additional requirements will be limited to the extent that the student will still be able to complete the programme with a study load of 120 credits. The additional requirements placed on the course programme are referred to as "homologation".

5.      Issuing a certificate of admission with a requirements waiver

Article 4.7 of Section A of the Teaching and Examination Regulation stipulates that the Examination Board may not honour requests for exemptions based on results earned as part of a Bachelor's programme. However, the Examination Board may waive a requirement placed on the course programme in recognition of the results earned as part of a Bachelor's programme and, consequently, permit the student to successfully pass the Master's programme final assessment with a course programme that does not satisfy all the formal requirements. Students who wish to have a waiver for requirements placed on the course programme based on their undergraduate education should submit a request to the admissions board. The admissions board will render a decision on the request on behalf of the Examination Board. If granted, it will issue a certificate of admission with a waiver for requirements, thereby granting the student the right to have the Master's programme final assessment

conducted without meeting all the formal requirements. Such a waiver will never affect the Master's programme study load. A study load requirement of less than 120 credits is not permitted

# B. TRANSITIONAL ARRANGEMENTS APPENDIX TO THE TEACHING AND EXAMINATION REGULATIONS OF THE MASTER'S PROGRAMME HUMAN MEDIA INTERACTION

The regulations in this appendix are an integral part of the teaching and examination regulations of the Master's programme Human Media Interaction of the Faculty of Electrical Engineering, Mathematics and Computer Science of the University of Twente. References to numbered articles in this appendix are references to the main text of the teaching and examination regulations. Regulations with a passed validity date can be found in previous teaching and examination regulations.

In general students with an approved programme are allowed to finish their programme under the previous conditions taking into account the current en previous transitional arrangements that might apply to them.

1. Regulation 2016-2017 regarding the split of the 10 EC courses into two 5 EC courses
   Occasion: Apart from the Human Media Interaction project, all 10 EC courses will be split into two 5 EC parts
   Terms of validity: until September 1, 2017
   Contents of the regulation: Students who have not completed one or more of the following courses as part of their approved programme need to replace these courses with the corresponding new 5 Core EC courses and the corresponding Advanced Research Projects: 192166420 Machine Learning, 201000078 Brain Computer Interfacing, 192160400 Information Retrieval and 192166370 Conversational Agents

2. Regulation 2016-2017 regarding 192165201 KMT Mediatechnology
   Occasion: Name change KMT Mediatechnologie to better reflect the contents of the course
   Terms of validity: until September 1, 2017
   Contents of the regulation: Students who have 192165201 KMT Mediatechnologie as part of their approved course programme and have not yet completed the course need to substitute the course with 2016XXXXX Designing Interactive Experiences.

3. Regulation 2016-2017 regarding Speech and language processing 1 and 2
   Occasion: The courses have been renamed.
   Terms of validity: until September 1, 2017
   Contents of the regulation: Students who have included SLP 1 / 2 in their approved course programmes and have not yet completed these can take the new corresponding course.

## C. SPECIAL COURSE PROGRAMME APPENDIX TO THE TEACHING AND EXAMINATION REGULATIONS OF THE MASTER'S PROGRAMMES HUMAN MEDIA INTERACTION

The regulations in this appendix are an integral part of the teaching and examination regulations of the Master's programme Human Media Interaction of the Faculty of Electrical Engineering, Mathematics and Computer Science of the University of Twente. References to numbered articles in this appendix are references to the main text of the teaching and examination regulations.

## Article C.1 graduate research programme Human-Centered Interaction Technologies intermediate leading to the diploma

1. Students enrolled for the Human-centered Interaction Technologies (HCIT) programme of the Twente Graduate School (TGS) must complete a 120 EC course programme in Human Media Interaction, and will take the HMI diploma.
2. The HMI course programme of these students must satisfy the following constraints of Article 4.1 of the programme specific Section B of these regulations with the exception of the mandatory Research Topics. The course programme of an HCIT student will not contain the 10 EC Research Topics, but instead contain a 15 EC Research Internship as part of their Final Project.
3. The programme mentor can give the student directions (in accordance with the HCIT Programme Leader) to take additional mandatory courses other than those specified in Article 4.1.

## Article C.2 EIT ICT Labs Master School programme Human Computer Interaction Design leading to the diploma

1. Students enrolled for the Human Computer Interaction and Design (HCID) programme of the EIT ICT Labs Master School take a 60 EC course programme in Human Media Interaction, which is completed to a full 120 EC course programme at one of the other participating institutions.
   a. First year HCID students in HMI take a 60 EC programme in HMI as outlined in item 2 below. These students continue with a second year specialization At KTH, UniTN, Aalto University, UPS, TU Berlin, or UCL
   b. Second year HCID students have completed 60 EC (a first year) at Aalto Univerity, KTH, or UPS before they start their 60 EC programme in HMI as outlined in item 3 below.
   c. Both first and second year HCID students will take a double degree, one of their diplomas is the HMI diploma.

2. The HMI course programme for students with an entry year at the University of Twente need to include the mandatory courses of Article C2.1 supplemented with electives (see art. 4.2 - 4.5) to add up to 60 EC.
3. The HMI course programme for exit year students need to include the mandatory units of Article C2.2.

Article C2.1 Entry year: mandatory courses
*HCID core courses:*

- 2016XXXXX Designing Interactive Experiences
- 201000113 User Centered Design of New Media (5 EC)
- 192166100 Human Media Interaction Project (10 EC)
- 201100126 Human Computer Interaction (5 EC)
- 2016XXXXX Trends in Human Robot Interaction Research (5 EC)

*Innovation and Entrepreneurship (I&E) course for HCID students who do NOT have a bachelor degree in Creative Technology from the University of Twente:*

- 201500289 Innovation and Entrepreneurship Theory (5 EC)
- 201500505 Business Development Lab (10 EC)
- One of the following courses:
    - 201500147 IT-based Knowledge Management for Business Innovation (5 EC)
    - 201000087 Entrepreneurial Finance(5 EC)
    - 194105070 Information Systems for the Financial Services Industry (5 EC)
    - 192376000 Business Case Development for IT-projects (5 EC)

**Commented [St26]:** Spatie invoegen

*Innovation and Entrepreneurship (I&E) courses for HCID students who have a bachelor degree in Creative Technology from the University of Twente:[6]*

- 201500065 New Technology Business Development (15 EC)
- One of the following elective courses on Innovation and Entrepreneurship:

    - 201600011 International Entrepreneurship - A Strategic Technology Perspective (5 EC)
    - 201600012 Management and Governance of Innovation and Creativity (5 EC)
    - 201600015 Strategic Technology Management and Innovation (5 EC)
    - 201500147 IT-based Knowledge Management for Business Innovation (5 EC)
    - 201000087 Entrepreneurial Finan(ce5 EC)
    - 194105070 Information Systems for the Financial Services Industry (5 EC)
    - 192376000 Business Case Development for IT-projects (5 EC)

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## Article C2.2 Exit year: mandatory courses

Students in the exit year of the HCID programme need to include the following courses:

- XXXXX Research Topics (10 EC)[7]
- 192199978 Graduation Project / Final Assignment (30EC)
- 20 EC of the following courses
    - 192166100 Human Media Interaction Project (10 EC)
    - 2016XXXXX Natural Language Processing (5 EC)
    - 2016XXXXX Speech Processing (5 EC)
    - 2016XXXXX Brain Computer Interfacing (5EC)

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[6] These students have already taken the equivalent of 201500289 Innovation and Entrepreneurship Theory  and 201500505 Business Development Lab as part of their bachelor programme and therefore take different I&E courses within HCID.

[7] This includes the I&E minor thesis of 6 EC

- o 2016XXXXX Advanced Research Project in Brain Computer Interfacing (5EC)
- o 192320601 Multi-Agent Systems (5 EC)
- o 2016XXXXX Information Retrieval (5EC)
- o 2016XXXXX Advanced Research Project in Information Retrieval (5EC)
- o 201400180 Multisensory Design (5 EC)
- o 201500133 Embodied Interaction (5 EC)

| | |
|---|---|
| **From:** | Heylen, D.K.J. (EWI) |
| **Sent:** | donderdag 2 juni 2016 15:41 |
| **To:** | Schaafstal, A.M. (EWI) |
| **Cc:** | Poel, M. (EWI); Salm, C. (EWI); Akker, H.J.A. op den (EWI); Lammers, F.G. (Frank, Student B-CREA); Faber, E.J. (EWI); Stal, S. ter (Silke, Student M-HMI); Meij, D.R. de (David, Student M-HMI, M-IEM); Burghardt, C.N. (Carmen, Student B-CREA); Spikker - Sieverink, B. (CES); Theune, M. (EWI); Grinsven, M. van (EWI) |
| **Subject:** | Re: OER HMI |
| **Attachments:** | OER-HMI-programm-specific-section-b-OLC-with-comments.docx; ATT00001.htm; OER-HMI-programm-specific-section-b-OLC-without-comments.docx; ATT00002.htm |

Dag,
Mariet, Rieks en ik hebben vanmiddag een uurtje bij elkaar gezeten om nog een aantal punten die openstonden te bespreken en aan te passen.
Ik had eerder deze week nog verder aan de OER gewerkt.

Ik heb hierbij twee versies van het document. 1) met nog wat commentaar en 2) zonder commentaar en helemaal schoon van "changes" als het goed is.

Wat is er gebeurd:
- er zijn aanpassingen gemaakt in Artikel 2.4 domain specific attainment targets om het wat netter te formuleren zoals we het in gedachten hebben en om redundantie weg te halen.
- er is nog wat aangepast in artikel 4.1. over de compulsory units: dat gaat nu om 20EC uit 4.2 waarvan 1 advanced (dat is iets strenger dan in de oude situatie; of dat nog restrictiever moet, daarover volgende keer maar praten, denk ik)
- in 4.2 zijn de categorieen wat versimpeld om ervoor te zorgen dat er geen vakken onder 2 kopjes terechtkomen
- Article A.2: hier zijn wat aanpassingen gemaakt om de huidige stand rond pre-masters beter te omschrijven in paragraaf 2 en 3.
- Article C.2: is up-to-date gemaakt.

Wat nog belangrijk is in de implementatie:
- dat de nieuwe vakcodes er komen
- dat we in overleg met BOZ moeten kiezen om Advanced Research Projects te behandelen - voorkeur 1 vak dat meerdere keren gevolgd kan worden - zoals een HMI project en Research Topics.

groeten,
Dirk

# Spikker - Sieverink, B. (CES)

| | |
|---|---|
| **From:** | david M <daviddemeij@gmail.com> |
| **Sent:** | donderdag 2 juni 2016 19:07 |
| **To:** | Poel, M. (EWI) |
| **Cc:** | Heylen, D.K.J. (EWI); Meij, D.R. de (David, Student M-HMI, M-IEM); Theune, M. (EWI); Schaafstal, A.M. (EWI); Salm, C. (EWI); Akker, H.J.A. op den (EWI); Lammers, F.G. (Frank, Student B-CREA); Faber, E.J. (EWI); Stal, S. ter (Silke, Student M-HMI); Burghardt, C.N. (Carmen, Student B-CREA); Spikker - Sieverink, B. (CES); Grinsven, M. van (EWI) |
| **Subject:** | Re: OER HMI |

Prima, ik snap ook wel dat dit niet meer in de OER kan worden opgenomen op zo'n korte termijn.

Het lijkt me inderdaad goed om hier wel naar te kijken want hoewel ik het nieuwe programma er erg goed uit vind zien qua vakken, denk ik dat er nog verbetering mogelijk is door wat meer feedback van de HMI studenten te vragen.

Is de versie van de OER op de OLC schijf (\\ad.utwente.nl\EWI\Projects\Opleidingscommissie-CreaTe\OER CreaTe & HMI 2015-2016 ) de nieuwste die er is? Dan zal ik zo direct mijn feedback geven.

Groeten,
David


2016-06-02 17:52 GMT+02:00 <m.poel@utwente.nl>:

> Ik voel meer voor de aanpak van Dirk.
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>
> Mvg.
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> Mannes
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> ===============================
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> Mannes Poel
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> Dept. of Computer Science
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tel: +31-(0)53-4893920

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**From:** Heylen, D.K.J. (EWI)
**Sent:** donderdag 2 juni 2016 17:14
**To:** Meij, D.R. de (David, Student M-HMI, M-IEM) <d.r.demeij@student.utwente.nl>
**Cc:** Theune, M. (EWI) <m.theune@utwente.nl>; Schaafstal, A.M. (EWI) <a.m.schaafstal@utwente.nl>; Poel, M. (EWI) <m.poel@utwente.nl>; Salm, C. (EWI) <c.salm@utwente.nl>; Akker, H.J.A. op den (EWI) <h.j.a.opdenakker@utwente.nl>; Lammers, F.G. (Frank, Student B-CREA) <f.g.lammers@student.utwente.nl>; Faber, E.J. (EWI) <e.j.faber@utwente.nl>; Stal, S. ter (Silke, Student M-HMI) <s.terstal@student.utwente.nl>; Burghardt, C.N. (Carmen, Student B-CREA) <c.n.burghardt@student.utwente.nl>; Spikker - Sieverink, B. (CES) <b.sieverink@utwente.nl>; Grinsven, M. van (EWI) <m.vangrinsven@utwente.nl>
**Subject:** Re: OER HMI

Dag David,

Dat is interessant om te horen.  Het kan niet zo makkelijk uit de lijst van verplichte vakken gehaald worden omdat een flink aantal attainment targets hieraan gekoppeld zijn. Er zijn weliswaar alternatieve constructies mogelijk, maar dat is niet zo 1, 2, 3 vast te leggen. Ik zou zelf voorlopig eerder geneigd zijn om te kijken hoe ernstig en algemeen verbreid die negatieve verhalen zijn en wat we daaraan kunnen doen.

Ook in overweging te nemen is het volgende. Er is eerder ook wel eens commentaar gekomen van bv. proefvisitiatie en misschien wel van de visitatie, dat er eigenljk weinig verplichte onderdelen zijn in het programma en er zoveel vrije keuze is dat 2 studenten een totaal verschillend vakkenpakket kunnen hebben zonder enige overlap behalve afstuderen. In het overleg dat we binnen de vakgroep hebben gevoerd de afgelopen jaren hebben we ook wel scenario's besproken waar er meer verplichte vakken ingevoerd zouden worden. Ook sommige studenten hebben me wel eens verteld dat ze al die keuzes maar moeilijk vonden.

Dus mijn voorstel zou in ieder geval zijn om het nu niet meteen te doen. Maar zeker even goed te kijken naar waar dingen beter kunnen.

Dat is mijn bescheiden mening, maar ik heb hierin formeel geen stem.

groeten,

Dirk

On 02 Jun 2016, at 12:54, David de Meij <d.r.demeij@student.utwente.nl> wrote:

Beste allen,

Ik kan vanavond ook feedback geven op de concept OER. Ik heb wel alvast een punt dat ik eigenlijk tijdens de OLC had willen bespreken, maar hier was helaas geen tijd meer voor:

Van een aantal studenten hoor ik negatieve verhalen over het HMI Project en als reden wordt vaak genoemd dat de groep niet lekker loopt door ongemotiveerde studenten in de groep of dat ze de opdracht niet interessant vinden. Ik denk dat dit veroorzaakt wordt doordat dit vak verplicht is en studenten niet bewust hiervoor kiezen.

Nu is mijn vraag of dit als verplichting uit de OER zou kunnen worden gehaald. Volgens mij zijn er met het nieuwe curriculum meer dan genoeg interessante vakken om deze 10 EC mee in te vullen en zijn er ook genoeg andere vakken met projectwerk.

Ik hoor graag wat jullie mening hierover is.

Met vriendelijke groet,

David de Meij

2016-06-02 12:04 GMT+02:00 <m.theune@utwente.nl>:

Hoort Marloes niet ook bij deze discussie?

Groeten,
Mariet

> -----Original Message-----
> From: Schaafstal, A.M. (EWI)

> Sent: donderdag 2 juni 2016 12:00
> To: Poel, M. (EWI); Salm, C. (EWI); Akker, H.J.A. op den (EWI); Lammers, F.G.
> (Frank, Student B-CREA); Faber, E.J. (EWI); Stal, S. ter (Silke, Student M-HMI);
> Meij, D.R. de (David, Student M-HMI, M-IEM); Burghardt, C.N. (Carmen,
> Student B-CREA); Spikker - Sieverink, B. (CES)
> Cc: Theune, M. (EWI); Akker, H.J.A. op den (EWI); Heylen, D.K.J. (EWI)
> Subject: RE: OER HMI
>
> Beste allemaal,
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>
>
> Ik heb/maak tijd om morgen het commentaar te verwerken.
>
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>
> Groet, Alma
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>
>
> From: Poel, M. (EWI)
> Sent: donderdag 2 juni 2016 11:03
> To: Salm, C. (EWI) <c.salm@utwente.nl>; Akker, H.J.A. op den (EWI)
> <h.j.a.opdenakker@utwente.nl>; Lammers, F.G. (Frank, Student B-CREA)
> <f.g.lammers@student.utwente.nl>; Faber, E.J. (EWI)
> <e.j.faber@utwente.nl>; Schaafstal, A.M. (EWI)
> <a.m.schaafstal@utwente.nl>; Stal, S. ter (Silke, Student M-HMI)
> <s.terstal@student.utwente.nl>; Meij, D.R. de (David, Student M-HMI, M-
> IEM) <d.r.demeij@student.utwente.nl>; Burghardt, C.N. (Carmen, Student
> B-CREA) <c.n.burghardt@student.utwente.nl>; Spikker - Sieverink, B. (CES)
> <b.sieverink@utwente.nl>
> Cc: Theune, M. (EWI) <m.theune@utwente.nl>; Akker, H.J.A. op den (EWI)
> <h.j.a.opdenakker@utwente.nl>; Heylen, D.K.J. (EWI)
> <d.k.j.heylen@utwente.nl>
> Subject: OER HMI
>
>
>
> Beste mensen,
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>
>
> Heb net een gesprek gehad met de decaan over de OER HMI. Deze moet
> eigenlijk a.s. vrijdag bij de FR binnen zijn, aangezien deze op de agenda van
> de eerst volgende vergadering staat. Ik weet dat Rieks, Mariet en Dirk
> vandaag nog met de OER HMI aan de slag gaan. Om de deadline van morgen
> te halen zijn er een aantal stappen nodig, weet niet of we die in deze korte
> tijd kunnen zetten.
>
> 1.     Dirk, Mariet en Rieks lukt het om vanmiddag rond 17 uur een concept
> OER HMI af te hebben?
>
> 2.     Hebben de leden van de OLC, met name David en Silke vanavond tijd
> om naar de concept OER HMI te kijken en van commentaar te voorzien?

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\> 
\> 3.　　　Heeft Alma, Dirk of Mariet tijd om dit commentaar morgenochtend te
\> verwerken zodat we de OER op tijd bij de FR kunnen afleveren?
\> 
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\> 
\> Hoor graag z.s.m. jullie reactie.
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\> Mvg.
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\> Mannes
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\> 
\>

**Subject:**                          FW: OER HMI

Ik ben het met Dirk eens.
Maar het niet draaien van project groepen is wel vaker een probleem. Ik ken het project niet, maar als het een optie is om een individueel project als alternatief aan te bieden zou dat wellicht ook de angel eruit kunnen halen.
cora

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**From:** Poel, M. (EWI)
**Sent:** Thursday, June 02, 2016 5:53 PM
**To:** Heylen, D.K.J. (EWI) <d.k.j.heylen@utwente.nl>; Meij, D.R. de (David, Student M-HMI, M-IEM) <d.r.demeij@student.utwente.nl>
**Cc:** Theune, M. (EWI) <m.theune@utwente.nl>; Schaafstal, A.M. (EWI) <a.m.schaafstal@utwente.nl>; Salm, C. (EWI) <c.salm@utwente.nl>; Akker, H.J.A. op den (EWI) <h.j.a.opdenakker@utwente.nl>; Lammers, F.G. (Frank, Student B-CREA) <f.g.lammers@student.utwente.nl>; Faber, E.J. (EWI) <e.j.faber@utwente.nl>; Stal, S. ter (Silke, Student M-HMI) <s.terstal@student.utwente.nl>; Burghardt, C.N. (Carmen, Student B-CREA) <c.n.burghardt@student.utwente.nl>; Spikker - Sieverink, B. (CES) <b.sieverink@utwente.nl>; Grinsven, M. van (EWI) <m.vangrinsven@utwente.nl>
**Subject:** RE: OER HMI

Ik voel meer voor de aanpak van Dirk.

Mvg.

Mannes


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