Master Kick-off 2020

Master’s program Electrical Engineering 25 August 2020

Marion Matters, Graduate Program Director Electrical Engineering
Harald van den Meerendonk, Academic Advisor Electrical Engineering
Morning program 10:30h – 11:45h

• 10:30h – 10:35h Welcome
• 10:35h – 10:40h Introduction Graduate School
• 10:40h – 11:00h Choosing specialization and core courses
  Master Market Place
  Mentoring
  Broadening
  IND Study Progress Check
  Registration for courses and exams
  Health and Safety Risk Management training
  Digital education guide
  Academic Advisor
• 11:00h – 11:25h Thor, Eir, ODIN, Waldur, StudentBody, IEEE
• 11:25h – 11:45h Master’s program of Electrical Engineering
Afternoon program 13:30h – 15:15h

• 13:30h – 14:15h Information about the Master’s tracks
  - Artificial Intelligence Engineering Systems (AIES)
  - Care & Cure (C&C)
  - Connected World Technology (CWT)

• 14:15h – 14:30h Break

• 14:30h – 15:15h Q&A
Welcome

Marion Matters
• Graduate Program Director Electrical Engineering
  Vice-dean of the department of Electrical Engineering

Harald van den Meerendonk
• Academic advisor master, pre-master
  and HBO-TOP students Electrical Engineering
Eindhoven University of Technology (TU/e)

**Top-ranking Dutch University**
Eindhoven University of Technology is a first-rate research university specializing in engineering science & technology in the Netherlands.

**At the heart of the Brainport region**
TU/e is situated in the heart of one of the most intelligent communities in the world: Brainport, renowned for technology and design.

**Strong technology heritage Eindhoven**
With companies such as Philips, ASML, DAF, NXP and FEI, the Eindhoven region has a strong heritage in technology.
Brainport region: one of the world’s most innovative regions
TU/e Electrical Engineering

Department EE since 1957
Education and Research
1150 BSc and MSc students
380 employees
280 PhD students

Intense cooperation with high-tech industry and research institutes
e.g. Philips, NXP, ASML, OCE, TNO, Thales, ...

Three main research themes (Societal embedding Electrical Engineering)
Connected World
Smart and Sustainable Society
Care and Cure

Master Kick-off 2020
The Connected World
Smart and Sustainable Society
Care and Cure
And many more applications
After you finished your master
Before we continue...

Are you a pre-master student?
• Pre-Master kickoff on 31 August 2020 at 12:45h

Are you a SENSE student?
• Second master year at TU/e
• Courses (15 EC), internship (15 EC) and graduation project (30 EC)
• Check with your coordinator Vladimir Cuk

Are you a PIXNET student?
• Second master year at TU/e
• Courses (15 EC) and graduation project (45 EC)
• Check with your coordinator Nicola Calabretta
Choosing your specialization and core courses for Q1

• Choose your specialization/research group for your graduation. Check the websites of our nine research groups, see the online education guide for an overview:
  • https://educationguide.tue.nl/programs/graduate-school/masters-programs/electrical-engineering/curriculum/specialization-path/
  • Website Explore Your Master 2020 from StudentBody: https://www.studentbody.nl/xplore-your-master-2020-presentations/

• Choose three core courses depending on the specialization, see the online education guide: https://educationguide.tue.nl/programs/graduate-school/masters-programs/electrical-engineering/curriculum/core-courses/

• For external master students only: register the core courses in OSIRIS before 4 September 2020 23:59h. For other master students: register this week with payment (AKR/ACR)
Register your specialization

- In Osiris

- In the Master Market Place
Master Market Place

• Online tool for
  - registration of specializations
  - filling in a preliminary study program for approval by the Examination Committee
  - overview of available internship and graduation projects

• Why registration of specializations?
  - get to know in advance how many master students choose a specific research group
  - research groups can guarantee sufficient graduation projects and scientific staff
  - specialization is part of preliminary study program

• Why filling in preliminary study program?
  - know in an early stage if your choice of specialization electives and free electives is according to the regulations of the Examination Committee
Master Market Place

• Why overview of projects?
  - Check online for available projects for internship and graduation
  - Get insight in research activities of the research groups
  - Scientific staff can upload projects

• Open as of now for all new master students of Electrical Engineering

• Save your preferred specialization in the Master Market Place before **15 September 2020**. Changing specialization is always possible

https://master.ele.tue.nl
Master Market Place – Register specialization

Register For Specialization Path

Approval Status:  

Course Planner  Download Filled Approval Form  Request Approval

Student:  

Cohort:  2020

Origin:  Other institute

Institute (if not TU/e):  

Specialization Path:  

Save  

Fields marked with * are required.

Master Kick-off 2020
Master Market Place

• After **15 September 2020**, mentors will be informed about students who have selected their research group. Each research group has its own mentor(s), see: https://educationguide.tue.nl/programs/graduate-school/masters-programs/electrical-engineering/mentoring/. You will have to make an appointment with the mentor.

• With **advice** of the mentor (see Mentoring), you fill in the courses (core, specialization electives and free electives) for your preliminary study program in the Course Planner of the Master Market Place.
Master Market Place – Course Planner empty

Course Planner

from Other institute ( ), started in 2020

<table>
<thead>
<tr>
<th>Y1</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Add Year | Validate | Save Planning | Add other department course | Add course outside TU/e

Search
Quartile:

Timeslot:
- FREE ELECTIVE
- CORE COURSE
- PROFESSIONAL DEVELOPMENT
- SPECIALIZATION
- OTHER COURSES

Feedback

Master Kick-off 2020
# Master Market Place – Course Planner filled in

## Course Planner

*from BSc EE TU/e, started in 2019*

Specialization path: SPS in 2019-2020

<table>
<thead>
<tr>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y1</td>
<td>SST10 - Statistical signal processing</td>
<td>SLS05 - Convolutional neural networks</td>
<td>SLSF0 - Applications of information theory</td>
</tr>
<tr>
<td></td>
<td>Z0002 - Non-linear optimization</td>
<td>SLSH0 - Computer vision and 3D</td>
<td>SLSL0 - Machine learning for signal</td>
</tr>
<tr>
<td></td>
<td>SCPA0 - Numerical methods in</td>
<td>image processing</td>
<td>processing</td>
</tr>
<tr>
<td></td>
<td>electrical engineering</td>
<td>SLSB0 - Monitoring of respiration and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>circulation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SCKB0 - Tutoring and coaching</td>
<td></td>
</tr>
<tr>
<td>Y2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Back to registrations*

**Search**

**Quarter:**

**Timeslot:**

- FREE ELECTIVE
- CORE COURSE
- PROFESSIONAL DEVELOPMENT
- SPECIALIZATION
- OTHER COURSES

---

Master Kick-off 2020
Master Market Place

• Submit for preliminary approval to academic advisor before 11 October 2020 (deadline Q2)
Master Market Place – Request approval

Register For Specialization Path

Approval Status: 

Course Planner  Download Filled Approval Form  Request Approval

Student: 

Cohort: 2020

Origin: * Other institute

Institute (if not TU/e): 

Specialization Path: *

Save

Fields marked with * are required.

Master Kick-off 2020
Master Market Place

- After approval, download your study program as an Excel file, check and complete it and send it to SPC.EE@tue.nl for official approval by the Examination Committee.
## Approval form of the study package EE master program

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Student name:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>47</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>52</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>57</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>58</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Master Kick-off 2020

**MMP Excel file**
## Published Graduation Projects

<table>
<thead>
<tr>
<th>Name</th>
<th>Research group</th>
<th>Responsible staff</th>
<th>Assistants</th>
<th>Specialization Path</th>
<th>End date visible</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data-driven modelling of interconnected systems for separable controller synthesis</td>
<td>CS</td>
<td>m. Lazar</td>
<td>Tom Steenjes</td>
<td>Any</td>
<td>None</td>
<td>Project is being executed</td>
</tr>
<tr>
<td>Modeling of EV emission in the range 2-150 kHz (Elaad)</td>
<td>EES</td>
<td>Vladimir Cuk</td>
<td></td>
<td>Any</td>
<td>None</td>
<td>Project is being executed</td>
</tr>
<tr>
<td>Controller Synthesis for Switched Systems</td>
<td>CS</td>
<td>Tijs Donkers</td>
<td></td>
<td>Any</td>
<td>None</td>
<td>Not yet started</td>
</tr>
<tr>
<td>Uterine electrophysiological monitoring outside pregnancy</td>
<td>SPS</td>
<td>Chiara Rabotti</td>
<td>Massimo Mischi, Lin Xu</td>
<td>SPS in 2018-2019</td>
<td>None</td>
<td>Not yet started</td>
</tr>
<tr>
<td>Integrated Optical Alignment sensor for Electronic IC production (1/2)</td>
<td>PHI</td>
<td>Erwin Bente</td>
<td>Yuqing Jiao</td>
<td>PHI in 2018-2019</td>
<td>None</td>
<td>Not yet started</td>
</tr>
<tr>
<td>Ageing modeling of lithium-ion batteries</td>
<td>CS</td>
<td>Tijs Donkers</td>
<td></td>
<td>Any</td>
<td>None</td>
<td>Not yet started</td>
</tr>
<tr>
<td>Eco-driving algorithm</td>
<td>CS</td>
<td>Tijs Donkers</td>
<td>Diana Heijneman - Douma</td>
<td></td>
<td>None</td>
<td>Project is being executed</td>
</tr>
</tbody>
</table>
Low Cost Two-Dimensional Optical Pressure Sensor For Patient Monitoring

By Henrie Van Den Boom

General description

Currently, people suffering from serious sleeping disorders are monitored using expensive camera equipment. Because this equipment cannot be placed in a patient's home, the patient has to spend one or more nights at a sleep clinic. To reduce costs and increase patients comfort, a system has to be designed which can easily be taken home. A possible implementation is a two-dimensional optical sensor system which can be placed under a mattress which uses a grid of Polymer Optical Fibres.

Polymer or Plastic Optical Fibre (POF) is commonly used for low-speed, short-distance optical data communication. Due to their relatively large diameters of about 1 mm, POFs are easy to handle and allow the use of low precision connectors. Its chief advantage over the glass optical fibre, is its robustness under bending and stretching. Polymer optical fibres can also be used for sensing. Systems based on detecting attenuation variation when pressure or bending is applied to the POF are already studied extensively and commercial products are available for various applications. However, a two dimensional pressure detection system using a grid of POF based on only attenuation detection is in principle not possible.

The goal is to design and realise a two-dimensional pressure detection system using a grid of POF and is based on detection of the coupling of optical signals at the crossings of a POF grid. Based on this principle, low cost pressure detection can be achieved at each crossing of the fibre grid individually. A proof of principle system has been realised with encouraging results, but further research and development has to be done to obtain a real time and optimised system.

Moreover, this principle can be used for many other applications. For instance it can be used under (or woven into) a carpet to detect walking and falling of elderly persons, which is more privacy-friendly than using for instance video cameras.

We already presented a paper at a conference on this promising subject, see attachment or https://pure.tue.nl/ws/files/88738840/2D_POF_sensor_POF2017_full_paper_final.pdf.

This research is in collaboration with Sleep Medicine Centre Kempenhaeghe, Heeze, www.kempenhaeghe.nl.

Students task description

Within this research project you can work on:

- Pressure sensitive optical coupling between crossing fibres
- Design and realising a real time data acquisition and control system
- Design and realising the optoelectronics of the system.
Mentoring

Mentor

• All master students are assigned a mentor

• The mentor is a lecturer from the scientific staff of Electrical Engineering

• The mentor guides you from the start of the master until the beginning of the internship

• The mentor belongs to the research group of your chosen specialization.

• You must contact your mentor yourself before **26 September 2020**. Actual meeting can be later but before **11 October 2020** (registration deadline for second quarter Q2)
Mentoring

Before you plan a meeting

1. Write your Personal Development Plan (PDP) on how to (further) develop your professional skills

2. Sign the TU/e Code of Scientific Conduct

3. Setup your preliminary study program including all core courses, specialization electives and free electives for discussion with the mentor
Mentoring – Personal Development Plan

Write your Personal Development Plan

• Write your own Personal Development Plan (PDP) containing:
  • Choices within the curriculum, like courses, internship and graduation
  • Professional skills in academic writing, presenting and teamwork you want to improve
  • Other (academic) skills you want to develop
  • [https://educationguide.tue.nl/programs/graduate-school/masters-programs/electrical-engineering/coaching-and-professional-skills/](https://educationguide.tue.nl/programs/graduate-school/masters-programs/electrical-engineering/coaching-and-professional-skills/)

• Use your PDP to discuss in the mentor meeting

• A template of a PDP is shown on the online education guide:
  [https://educationguide.tue.nl/programs/graduate-school/masters-programs/electrical-engineering/mentoring/](https://educationguide.tue.nl/programs/graduate-school/masters-programs/electrical-engineering/mentoring/)
Mentoring – Scientific Integrity

Scientific Integrity

• Read the webpage on scientific integrity, see https://www.tue.nl/en/our-university/about-the-university/integrity/scientific-integrity/

• Sign the Code of Scientific Conduct, see https://educationguide.tue.nl/programs/graduate-school/masters-programs/electrical-engineering/mentoring/

• Send a digital copy to CSA.EE@tue.nl
Mentoring – Preliminary study program

Setup your preliminary study program

• Use the online education guide for more information about the curriculum and available core courses, specialization courses and electives, see: https://educationguide.tue.nl/programs/graduate-school/masters-programs/electrical-engineering/curriculum/?L=2
Mentoring – Meeting

With your mentor, you

• Discuss your Personal Development Plan on how to (further) develop your professional skills

• Discuss your study program. The mentor only gives advice on your choice of specialized electives and free electives

• Discuss your choice for international experience
Mentoring - Who is who?

<table>
<thead>
<tr>
<th>Research group</th>
<th>Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>Siep Weiland / Paul van den Hof / Roland Toth / Mircea Lazar</td>
</tr>
<tr>
<td>ECO</td>
<td>Oded Raz</td>
</tr>
<tr>
<td>EES</td>
<td>Nikos Paterakis</td>
</tr>
<tr>
<td>EM</td>
<td>Bas de Hon</td>
</tr>
<tr>
<td>EPE</td>
<td>Naila Nasibulina</td>
</tr>
<tr>
<td>ES</td>
<td>Marc Geilen</td>
</tr>
<tr>
<td>IC</td>
<td>Eugenio Cantatore</td>
</tr>
<tr>
<td>PhI</td>
<td>Erwin Bente</td>
</tr>
<tr>
<td>SPS</td>
<td>Sveta Zinger / Alex Alvarado</td>
</tr>
</tbody>
</table>
Broadening - international experience

• For Dutch students: get at least 15 EC of international experience abroad by
  • Follow courses abroad
  • Internship abroad
  • Graduation project abroad

• BUT: it all depends on Corona
Broadening – Internal double diploma

Joint Master’s degree program

• 165 EC ≤ #credits ≤ 195 EC

• Two diplomas with a minimum of 45 EC extra

• Combined graduation project

• For those who are interested: as of September 2020, information on the online education guide will be available
Broadening – Honors program

Honors program

• For motivated students who look for an additional challenge
• Focus: Personal Leadership (5 EC) and Professional Development (15 EC)
• 20 EC ‘on top of’ Master’s degree program
• Information session on 7 September 2020 from 12:45h till 13:20h via MS Teams (see: https://educationguide.tue.nl/programs/tue-honors-academy/master-students/application/)
• Application deadline (draft plan for professional development, motivation, proof of excellence) 14 September 2020
• More information about the Honors program can be found here: https://educationguide.tue.nl/programs/graduate-school/masters-programs/electrical-engineering/tue-honors-academy/
IND Study Progress Check with a residence permit for study

• Students with a *residence permit for study* have to pass at least 50% of the maximum number of credits per *each* academic year to retain their residence permit.

• A study progress check takes place next year (November 2021), based on the results of this year 2020.

• But: a preliminary check will be carried out this academic year in February/March 2021 to see if you are on track.

• The academic advisor will also check your study progress regularly (e.g. after Q1).

• In case of study problems or insufficient study progress, contact your academic advisor in time.

Master Kick-off 2020
Registration for courses and exams

Courses

• Register for courses via OSIRIS in time. Check the deadlines (education guide and ESA emails) and AKR/ACR (Administrative Costs Regulation) procedure!

• Course registration also includes exam registration (only if you are officially enrolled as master student)

• Register for maximum 20 EC per quarter

• For re-sits, no need to register for courses, unless you want to follow the course again

• After registration, check confirmation emails
Registration for courses and exams

Exams

• With an exam registration, allowed to take the exam

• Withdrawal is possible until 5 working days prior to the exam period

• Register for re-sits separately (not automatically done)

• After registration, check confirmation emails
Registration for courses and exams

Deadlines

• Registration deadline: register in time for the deadline
  - Register for courses for the next quarter, e.g. 11 October 2020 for courses Q2
  - Check for exam registration for the same quarter, e.g. 11 October 2020 for exams Q1

• Missed the registration deadline? Register by paying €20 (ACR) with deadline

• Missed the ACR deadline as well? Registration not possible

• Possible changes due to Corona situation. Check the emails

• See the online education guide for more information: https://educationguide.tue.nl/studying/planning/enrolling-courses-and-examinations/registration-courses-and-examinations-graduate-school/
Registration for courses and exams

Not officially a master student yet?

• You can still register for master courses but **NOT** for master exams

• After enrolling as a master student, do not forget to register for master exams from Q1 before the next deadline for Q2 (11 October 2020)
Health and Safety Risk Management Training

For all new students

• Practical information about the buildings and learn how to avoid hazards and risks
• How to act in case of an emergency
• How to prevent physical complaints caused by computer work
• Online training; you will receive an invitation with timeslot
• Presence is mandatory for all new students
• Training counts as a practical exercise within the Master’s program
• Presence will be registered
• If you do not attend, you will not be able to complete your programs
Online education guide Electrical Engineering

All information presented here can be found on the online education guide:

• Curriculum: courses, internship, graduation project, Master’s tracks
• Coaching and Professional Skills
• Regulations: Program and Examination Regulations (PER/OER)
• Examination Committee and Program Committee
• Forms: all forms used within the Master’s program
• Quality Assurance
• A to Z
Online education guide: https://educationguide.tue.nl
Online education guide: [https://educationguide.tue.nl](https://educationguide.tue.nl)
Online education guide: https://educationguide.tue.nl
Online education guide: [https://educationguide.tue.nl](https://educationguide.tue.nl)
Academic advisor

Academic advisor advises and helps you

• To improve your study progress
• With practical questions about the Master’s program
• With study-related questions and problems
• With study skills
• With your planning,
• In case of personal circumstances
Academic advisor

Academic advisor refers to

- Study choice advisor: problems related to doubts about study choice
- Student counsellor: study grants, financial support, functional impairment or chronic illness, top-level sports
- Study management advisor: improve study progress and study output
- Student psychologist: depression, anxiety, autism, ADHD, stress, assertiveness, personal circumstances
- Confidential counsellor: conflicts between student(s), teacher(s), staff, supervisors, or in case of undesirable or unwelcome behaviour
- [https://educationguide.tue.nl/organization/advisors-and-tutors/](https://educationguide.tue.nl/organization/advisors-and-tutors/)
Academic advisor

Academic advisor works according to AVG/GDPR regulations

• Meetings and correspondence are always STRICTLY CONFIDENTIAL. Notes are being made and stored in your digital file to keep track of your situation. Personal information will not be shared with lecturers and other staff unless there is an acute danger for you and/or others. [https://educationguide.tue.nl/organization/advisors-and-tutors/](https://educationguide.tue.nl/organization/advisors-and-tutors/)

• Study progress check after Q1, just to check how you are doing after the first quarter

• Communities at TU/e: see [https://www.tue.nl/en/our-university/community/overview/](https://www.tue.nl/en/our-university/community/overview/)
Academic advisor

Example of community Lighthouse

• For everyone at TU/e dealing with mental problems
• For students and employees

Goals:
• Connect together and have fun
• Creating better circumstances, anti-stigmatizing, better understanding
• Support network with buddy system,
Academic advisor

If you have any questions, “come and visit me in Flux 0.120" or send me an email:

Academic.Advisor.MEE@tue.nl
A diverse community requires inclusiveness

• The TU/e is built on inclusiveness

• Diversity is key in gender, origin, religion, sexual orientation

• If you see something, say something. Doing nothing is a signal of silent condonement

• Do not be the one who gives a silent okay

• Or else contact your academic advisor
TU/e in Corona times

• Most of the courses are offered online

• Some courses can be followed partially on-campus.

• Check MyTimeTable for the location and other relevant information.

• Updates about the Covid-19 measures:
  - online education guide
  - TU/e Corona page
Questions?
Study Association e.t.s.v. Thor

- Study material
- Symposia
- Workshops
- Excursions

- Lunch lectures
- Study trips
- Parties
What is a Master Association?

• Goal: help (master) students to explore educational and job opportunities in a specific area.

• Organizing activities
  • Excursions
  • Lunch lectures
  • Study trips
<table>
<thead>
<tr>
<th>EE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Care</strong></td>
</tr>
<tr>
<td><strong>&amp;</strong></td>
</tr>
<tr>
<td><strong>Cure</strong></td>
</tr>
<tr>
<td><strong>Smart and Sustainable Society</strong></td>
</tr>
<tr>
<td><strong>Connected World</strong></td>
</tr>
</tbody>
</table>
What is Eir?

- Care & Cure
- Started in 2016
- +- 50 members

Expertise

- Electromagnetics
- Image Processing
- Bio-Electronics
- Control Systems
- Signal Processing
Master Association ODIN

Founded: 10 March 1980
Members: +/- 60
Own alumni society: IORD

Purpose: Introduce (pre-)master students into the field of telecommunications and information technology (Connected world). Promote research in these fields.
Excursions, lectures, trips, symposia, workshops and more...
Purpose of Waldur?

Linking students and companies in the field of the specializations:

• Electricity Network / Smart Grids
• Sustainability
• Power Conversion / Power electronics
• Electromechanics
• Automotive
• Control Systems

• Groups: EPE/EES/CS
Organization of Waldur?

• Situated in Flux

• Board

• Activity committee

Communication

• Website

• Facebook

• LinkedIn group

• Magazine Gjallar
How do we connect?

• Company visits
• Lunch lectures
• Study tours
• Network events
• Symposium
• Informal Drinks
What do we do for students?

• Vacancies
  • (part-time) Jobs
  • Internships
  • Graduation projects
• Contacts
  • Universities
  • Companies
  • Beneficiaries
Also connecting students
• Coffee hour & cake (once a month)
• Social activities
• Beer and our ‘worstenbakker’
Symposium

- 5 speakers
- Maximum of 75 participants
- Students and people from industry
Study Trips
Become an Active member!
+ Networking
+ Improve your non-educational skills
+ Boost your CV
+ Active members day
+ Priority with busy events
+ Its part-time

Positions:
• Board, 2hr / wk
• Activities, 1hr / wk
• Gjallar 0.5hr / wk
If you want to receive updates of all our events, then BECOME A (active) MEMBER!

- Subscribe at our website (€2.50/year)
- Ask for Waldur at Flux 6.184
- Mail Waldur@tue.nl
More information?

www.waldur.nl

www.ma-eir.nl

www.odin.tue.nl
STUDENTBODY

MASTER KICK-OFF 2020

CONTACT: SB@TUE.NL
STUDENTBODY.NL
THE STUDENTBODY

• The educational feedback body of the Department of Electrical Engineering

• By students, for students
THE STUDENTBODY TEAM

Daan  
Bram  
Thijs  
Mandy
THE STUDENTBODY TEAM (FROM SEPTEMBER)

Bram

Thijs

Mandy

Jos

STUDENTBODY | INTRODUCTION WEEK 2020 | SB@TUE.NL

19th of August 2020
WHAT DO WE DO?

• Year Councils
• Panel of Education
• BBQ
• Dinner with the Dean
• Best Teacher Awards
• Xplore Your Master
• Contact us with educational problems
YEAR COUNCILS AND PANEL OF EDUCATION

• Year Councils with Commissioner of Education

• Panel of Education with Commissioner of Education, Program Directors and student-member of Department Council

• Setup unique within TU/e

• Short feedback loop

• Problems can be fixed a.s.a.p.
Who are we?

Quinten

Max

Stan

Luca
What is IEEE?

Institute of Electrical and Electronics Engineers
International organization, originally from the United States
Involved in Standards & Regulations, Educational Activities and Publications & Conferences
What does our student branch do?

Organize a range of activities for members of the faculty EE.
Manage IEEE memberships for faculty members.
Activities
Committees

WIE (Women In Engineering)
SailCo
Capricorn
ReLCo
BOCo
LuCo
More information

ieee.tue.nl

Contact us at ieee@tue.nl

Find us in Flux on the 6th floor, directly opposite of the stairs.
Master’s program of Electrical Engineering

Master Kick-off 2020 25 August 2020

Marion Matters, Graduate Program Director Electrical Engineering
Harald van den Meerendonk, Academic Advisor Electrical Engineering
## Master’s program of Electrical Engineering

<table>
<thead>
<tr>
<th>Year 1: 60 EC</th>
<th># EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core courses</td>
<td>15</td>
</tr>
<tr>
<td>Specialization electives</td>
<td>10</td>
</tr>
<tr>
<td>Free electives</td>
<td>30</td>
</tr>
<tr>
<td>Professional development</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 2: 60 EC</th>
<th># EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internship</td>
<td>15</td>
</tr>
<tr>
<td>Graduation project</td>
<td>45</td>
</tr>
</tbody>
</table>
Core courses

• Select three core courses from set of eight in Q1

<table>
<thead>
<tr>
<th>Code</th>
<th>Core course</th>
</tr>
</thead>
<tbody>
<tr>
<td>2DME10</td>
<td>Discrete Mathematics</td>
</tr>
<tr>
<td>2DME20</td>
<td>Non-linear Optimization</td>
</tr>
<tr>
<td>2DME30</td>
<td>Complex Analysis</td>
</tr>
<tr>
<td>5CCA0</td>
<td>Semiconductor Physics and Materials</td>
</tr>
<tr>
<td>5CHA0</td>
<td>Classical and Modern Physics</td>
</tr>
<tr>
<td>5CPA0</td>
<td>Numerical Methods in Electrical Engineering</td>
</tr>
<tr>
<td>5CSA0</td>
<td>Modeling Dynamics</td>
</tr>
<tr>
<td>5CTA0</td>
<td>Statistical Signal Processing</td>
</tr>
</tbody>
</table>
Core courses

- Research groups require specific core courses for their specialization

<table>
<thead>
<tr>
<th>Core course preferences versus research groups 2020-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complex analysis (2DME30)</td>
</tr>
<tr>
<td>--------------------------</td>
</tr>
<tr>
<td>CS</td>
</tr>
<tr>
<td>ECO</td>
</tr>
<tr>
<td>PHI</td>
</tr>
<tr>
<td>EES</td>
</tr>
<tr>
<td>EPE</td>
</tr>
<tr>
<td>EM</td>
</tr>
<tr>
<td>ES</td>
</tr>
<tr>
<td>IC</td>
</tr>
<tr>
<td>SPS</td>
</tr>
</tbody>
</table>

♦ = Important
✓ = Preferred
## Research groups

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Research group</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>Control Systems</td>
</tr>
<tr>
<td>ECO</td>
<td>Electro-Optical Communication</td>
</tr>
<tr>
<td>EES</td>
<td>Electrical Energy Systems</td>
</tr>
<tr>
<td>EM</td>
<td>Electromagnetics</td>
</tr>
<tr>
<td>EPE</td>
<td>Electromechanics and Power Electronics</td>
</tr>
<tr>
<td>ES</td>
<td>Electronic Systems</td>
</tr>
<tr>
<td>IC</td>
<td>Integrated Circuits</td>
</tr>
<tr>
<td>Phi</td>
<td>Photonic Integration</td>
</tr>
<tr>
<td>SPS</td>
<td>Signal Processing Systems</td>
</tr>
</tbody>
</table>
### Specialization courses

- Two specialization courses from your preferred research group in Q2 and Q3

<table>
<thead>
<tr>
<th>Path</th>
<th>Code</th>
<th>Course</th>
<th>Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>5SMC0</td>
<td>Control Principles for Engineered Systems</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>5SMB0</td>
<td>System Identification</td>
<td>3</td>
</tr>
<tr>
<td>ECO</td>
<td>5SHA0</td>
<td>Photonic Integrated Devices</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>5STA0</td>
<td>Optical Fibre Communications Technology</td>
<td>3</td>
</tr>
<tr>
<td>EES-1</td>
<td>5SEB0</td>
<td>Decentral Power Generation and Active Networks</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>5SEC0</td>
<td>Planning and Operation of Power Systems</td>
<td>2-3</td>
</tr>
<tr>
<td>EES-2</td>
<td>5SVA0</td>
<td>High Voltage Technology</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>5SVB0</td>
<td>Electromagnetic Compatibility</td>
<td>3</td>
</tr>
</tbody>
</table>
Specialization courses

- Some research groups have two specialization paths

<table>
<thead>
<tr>
<th>Path</th>
<th>Code</th>
<th>Course</th>
<th>Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM</td>
<td>5SPB0</td>
<td>Microwave Engineering and Antennas</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>5SPD0</td>
<td>Electromagnetic Modeling Techniques</td>
<td>3</td>
</tr>
<tr>
<td>EPE-1</td>
<td>5SWA0</td>
<td>Rotary Permanent Magnet Machines</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>5SWB0</td>
<td>Advanced Power Electronics</td>
<td>3</td>
</tr>
<tr>
<td>EPE-2</td>
<td>5SWC0</td>
<td>Linear and Planar Motors for High-Precision Systems</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>5SWB0</td>
<td>Advanced Power Electronics</td>
<td>3</td>
</tr>
<tr>
<td>ES</td>
<td>5SIA0</td>
<td>Embedded Computer Architecture</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>5SIB0</td>
<td>Electronic Design Automation</td>
<td>3</td>
</tr>
</tbody>
</table>
## Specialization courses

<table>
<thead>
<tr>
<th>Path</th>
<th>Code</th>
<th>Course</th>
<th>Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>IC-1</td>
<td>5SFA0</td>
<td>Data Converters 1: Fundamentals</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>5SFD0</td>
<td>Data Converters 2: Design</td>
<td>3</td>
</tr>
<tr>
<td>IC-2</td>
<td>5SFB0</td>
<td>RF Transceivers 1: Fundamentals</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>5SFE0</td>
<td>RF Transceivers 2: Design</td>
<td>3</td>
</tr>
<tr>
<td>PhI</td>
<td>5SHA0</td>
<td>Photonic Integrated Devices</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>5SHB0</td>
<td>Photonic Integration: Technology and Characterization</td>
<td>3</td>
</tr>
<tr>
<td>SPS</td>
<td>5SSD0</td>
<td>Bayesian Machine Learning and Information Processing</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>5SSC0</td>
<td>Adaptive Array Signal Processing</td>
<td>3</td>
</tr>
</tbody>
</table>
Elective courses

• Choose a total of 30 EC of elective courses, core courses and specialization electives are also valid electives

• Choose from about 70 EE master courses, other TU/e master courses, or master courses from other universities (always to be approved by Examination Committee). Level 3 (Advanced) bachelor courses from EE are allowed for homologation purposes

• Electives can be found via the online education guide: https://educationguide.tue.nl/programs/graduate-school/masters-programs/electrical-engineering/curriculum/elective-courses/

• Mentor advises on specialized and free electives

• Examination Committee approves your study program
Professional Development

Main targets

• Tutoring and coaching an DBL group of Bachelor students:
  • coaching and motivating students, contact with technical experts, give and receive feedback to/from students and peers
• Formulating a research question and conducting literature review
• Improving skills of academic writing and presenting scientific information:
  • using feedback moments at the end of the internship and halfway through the graduation project

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>5CKB0</td>
<td>Tutoring and Coaching</td>
<td>2,4</td>
</tr>
<tr>
<td>5CKF0</td>
<td>Research set-up</td>
<td>1,3</td>
</tr>
</tbody>
</table>
Internship

- Research project of 15 EC (course code: 5I015 Internship 15 ects)
- Possibility to extend with 5 EC (course 5I005 instead of an elective course)
- Choose internship abroad to obtain international experience
- Always under the responsibility of an EE staff member
Internship

• Fill in the internship contract (see online education guide) before starting

• Assessment is done by internship assessment form

• Based on results of Reporting and Presenting, extra training via SkillsLab or courses

• Check the online education guide:
  https://educationguide.tue.nl/programs/graduate-school/masters-programs/electrical-engineering/curriculum/internship/?L=2
Graduation project

- Graduation project of 45 EC (32 weeks, course code: 5G045)
- Project contributes to the research of the supervising research group
- Can be done inside and outside the department of EE
- Always under the responsibility of an EE staff member
- Allowed to start when your study program is complete except for at most two electives (10 EC)
- Ask the Examination Committee for a concept graduation contract
Graduation project

- Fill in the graduation contract before you start the graduation project

- Half way through graduation: composition of the graduation committee halfway presentation and report -> evaluation/feedback

- Based on feedback of Reporting and Presenting, extra training via SkillsLab or courses
Graduation project

• At the end of the graduation: final presentation (defense) and graduation paper

• Assessment is done by graduation committee

• Check the online education guide for more information:
  https://educationguide.tue.nl/programs/graduate-school/masters-programs/electrical-engineering/curriculum/graduation-project/
English language skills

SFC640, SFC630, SFC600

• As Master student, we expect you to have good language skills both in writing and presenting / speaking

• In case you think this is not the case, you can follow extra courses for improving:
  • SFC640 Academic writing in English (can also be used as a master elective)
  • SFC630 Pre-academic writing in English
  • SFC600 English Placement Test (entrance test for SFC630/SFC640)
  • SkillsLab: https://skillslab.tue.nl
  • English Language Toolbox, see: https://educationguide.tue.nl/broadening/language-courses/english-language-toolbox/

• Good language skills are also part of the assessment with internship and graduation
Afternoon program  
13:30h – 15:15h

• 13:30h – 14:15h  Information about the Master’s tracks
  - Artificial Intelligence Engineering Systems (AIES)
  - Care & Cure (C&C)
  - Connected World Technologies (CWT)

• 14:15h – 14:30h  Break

• 14:30h – 15:15h  Q&A
Questions?

• This presentation will be published on the online education guide
# Program Master Kick-off 2020

<table>
<thead>
<tr>
<th><strong>CHECK-IN DAY</strong></th>
<th><strong>DAY 1: UNIVERSITY DAY</strong></th>
<th><strong>DAY 2: CHALLENGE DAY</strong></th>
<th><strong>DAY 3: BUSINESS DAY</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>**Monday 24 Aug.</td>
<td><strong>Tuesday 25 Aug.</strong></td>
<td></td>
<td><strong>Thursday 27 Aug.</strong></td>
</tr>
<tr>
<td><strong>Online</strong></td>
<td><strong>Online</strong></td>
<td></td>
<td><strong>Online</strong></td>
</tr>
</tbody>
</table>

**09.00** | **09.00** | **11.00** | **10.00**
---|---|---|---
Start program, only for International Students | Meet and greet MKO group | Welcome at department | Plenary career lecture
Presentation and Q&A International office | Official opening (Dean Graduate School: Paul Koomen, Director TU/e Innovation Space: Isabella Ruyten) | Challenge in collaboration with TU/e Innovation Space | Career session 1
Presentation various TU/e organizations | Department program | Workshops by associations | Career session 2
End of morning program for International students | Chat session MKO group | Pitches & announcement of challenge winners | Time for lunch

**10.30** | **12.00** | **17.15** | **13.30**
---|---|---|---
Department program | Challenge in collaboration with TU/e Innovation Space | Workshops by associations | Career workshops
Time for lunch | Department program or workshops | Pitches & announcement of challenge winners | Career workshops

**15.30** | **20.00** | **21.00** | **16.00**
---|---|---|---
Talk show online education | Activity by study association | End of program | End of program
End of afternoon program | Pub quiz | End of program | End of program

**THE BEST WAY TO START YOUR MASTER**

**GREAT**

---

Master Kick-off 2020
Master’s tracks AIES, C&C and CWT

Master Kick-off 2020 25 August 2020

Marion Matters, Graduate Program Director Electrical Engineering
Harald van den Meerendonk, Academic Advisor Electrical Engineering
Afternoon program 13:30h – 15:15h

- 13:30h – 14:15h Information about the Master’s tracks
  - Artificial Intelligence Engineering Systems (AIES)
  - Care & Cure (C&C)
  - Connected World Technologies (CWT)
- 14:15h – 14:30h Break
- 14:30h – 15:15h Q&A
Three specialized master tracks

Care and Cure
The importance of the health field as a consumer of technological applications and, in particular, electrical engineering...

Groups: EM, SPS and IC

Connected World Technologies
Telecommunication technology is a dynamic area of expertise: math & IT, physics, chemistry technology and innovation sciences...

Groups: ECO, Phi, EM, SPS, IC

New track!
Artificial Intelligence Engineering Systems

AI & Electrical Engineering

Groups: CS, ES, SPS
Connected World technologies

Center for Wireless Technology

Institute for photonic integration

Special master track Connected world technologies

TU/e
Care & Cure

RESEARCH PROGRAM
Neurology
Our goal is to understand, repair, modulate, enhance, replace, or (otherwise) exploit properties of the neural system to advance diagnostics...

RESEARCH PROGRAM
Perinatology
Innovative technology improves healthcare during pregnancy, delivery and neonatal life

RESEARCH PROGRAM
Oncology
Technology will shape the future of cancer care: From computer-aided detection to nanomagnetic engineer for treatment and in silico models...

RESEARCH PROGRAM
Cardiology
Evolving medical technology and improvements in metrics transformed the field of cardiology

Center for Care and Cure technology Eindhoven (C3Te)

Master Kick-off 2020
Artificial Intelligence Engineering Systems (AIES)

Artificial Intelligence Systems Institute (EAISI)

AI Cafe | Second edition – DDW special
Interesting research pitches with Q&A on October 20th

Eindhoven Artificial Intelligence Systems Institute
Ai for the real world

AI Master’s programs
More information about the courses is now available! Read more

Master Kick-off 2020
Special career programs

TU/e honors program (application open)

[website](#) Honors program

NXP scholarship program: Millimeter Wave Wireless Technology
Only for bachelor students from Dutch universities, starting their master at Electrical Engineering at TU/e

[website](#) NXP scholarship

PhotonDelta fast career track program (application open)

[website](#) Photon Delta career program or send an email to photonicscareer@tue.nl
Master’s tracks

Three tracks within the Master’s program of Electrical Engineering

- Artificial Intelligence Engineering Systems (AIES)
- Care & Cure (C&C)
- Connected World Technologies (CWT)

Obtain certificate as proof of further specialization
Choosing a track is not mandatory

What to do?

- Denote on the approval study package Excel (after download via Master Market Place) your preferred Master’s track, if applicable
Master’s track AIES

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Research group</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>Control Systems</td>
</tr>
<tr>
<td>ES</td>
<td>Electronic Systems</td>
</tr>
<tr>
<td>SPS</td>
<td>Signal Processing Systems</td>
</tr>
</tbody>
</table>

Requirements for certificate AIES

- Follow the curriculum of the Master’s track AIES
- Graduation work in the field of AIES
# Master’s track AIES curriculum

<table>
<thead>
<tr>
<th>Year 1: 60 EC</th>
<th># EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core courses</td>
<td>15</td>
</tr>
<tr>
<td>Specialization electives</td>
<td>10</td>
</tr>
<tr>
<td>Elective courses</td>
<td>25</td>
</tr>
<tr>
<td>Free electives</td>
<td>5</td>
</tr>
<tr>
<td>Professional development</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 2: 60 EC</th>
<th># EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internship</td>
<td>15</td>
</tr>
<tr>
<td>Graduation project</td>
<td>45</td>
</tr>
</tbody>
</table>
# Master’s track AIES core courses

Select three AIES core courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>5SSD0</td>
<td>Bayesian Machine Learning and Information Processing</td>
<td>2</td>
</tr>
<tr>
<td>2DME10</td>
<td>Discrete Mathematics</td>
<td>1</td>
</tr>
<tr>
<td>5CTA0</td>
<td>Statistical Signal Processing</td>
<td>1</td>
</tr>
<tr>
<td>2DME30</td>
<td>Complex Analysis</td>
<td>1</td>
</tr>
<tr>
<td>2DME20</td>
<td>Non-linear Optimization</td>
<td>1</td>
</tr>
<tr>
<td>5CSA0</td>
<td>Modeling Dynamics</td>
<td>1</td>
</tr>
</tbody>
</table>
Master’s track AIES specialization electives

• Select two AIES specialization electives

• Compulsory

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>5LSL0</td>
<td>Machine learning for signal processing</td>
<td>4</td>
</tr>
</tbody>
</table>

• One from

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>5SMC0</td>
<td>Control principles for engineered systems</td>
</tr>
<tr>
<td>5LIL0</td>
<td>Intelligent architectures</td>
</tr>
</tbody>
</table>
Master’s track AIES elective courses

- Select 5 AIES elective courses (25 EC)

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>5ARA0</td>
<td>Programming for Artificial Engineering Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

- Compulsory

- One from

<table>
<thead>
<tr>
<th>Code</th>
<th>Set of courses</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Human Aspects of AI</td>
<td></td>
</tr>
</tbody>
</table>

- Two from

<table>
<thead>
<tr>
<th>Code</th>
<th>Set of courses</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AI &amp; Engineering Systems</td>
<td></td>
</tr>
</tbody>
</table>

- 5 EC from

<table>
<thead>
<tr>
<th>Code</th>
<th>Set of courses</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disciplinary deepening courses</td>
<td></td>
</tr>
</tbody>
</table>

- [https://educationguide.tue.nl/programs/graduate-school/masters-programs/electrical-engineering/master-track-aies/?L=2](https://educationguide.tue.nl/programs/graduate-school/masters-programs/electrical-engineering/master-track-aies/?L=2)
Master’s track AIES other study components

Study components from the Master’s program of Electrical Engineering

- Free elective (5 EC)
- Professional Development (5 EC)
- Internship (15 EC)
- Graduation project (45 EC)
Master’s tracks C&C and CWT

<table>
<thead>
<tr>
<th>Master’s tracks</th>
<th>Research groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connected World Technologies</td>
<td>ECO, PhI, EM, IC, SPS</td>
</tr>
<tr>
<td>Care &amp; Cure</td>
<td>EM, IC, SPS</td>
</tr>
</tbody>
</table>

Requirements for certificate C&C and CWT

- Two specialization electives from the specific group (main specialization), and
- Two extra specialization electives from other related groups (not main specialization), and
- Graduation work in the field of C&C or CWT
Master’s tracks C&C and CWT

Subtracks within C&C

• Neurology
• Oncology
• Cardiology
• Perinatology

Requirements for subcertificate C&C

• Meet the criteria for the C&C certificate
• Choose three master electives from a specific C&C subtrack, see [https://educationguide.tue.nl/programs/graduate-school/masters-programs/electrical-engineering/master-track-care-cure/](https://educationguide.tue.nl/programs/graduate-school/masters-programs/electrical-engineering/master-track-care-cure/)
• Courses from the C&C subtrack done in the Bachelor also count for the subcertificate

Master Kick-off 2020
Questions?
# Program Master Kick-off 2020

## CHECK-IN DAY
**Monday 24 Aug | Online**
- **09.00** Start program, only for International Students
- **09.00** Presentation and Q&A international office
- **11.00** Presentation various TU/e organizations
- **12.30** End of morning program for International students
- **13.00** Buddy check-in, for all participants
- **15.00** End of program

## DAY 1: UNIVERSITY DAY
**Tuesday 25 Aug | Online**
- **09.00** Meet and greet MKO group
- **09.30** Official opening
  - Dean Graduate School: Paul Kresneko
  - Director TU/e innovation Space: Isabelle Ruyven
- **10.30** Department program
- **12.00** Chat session MKO group
- **12.30** Time for lunch
- **13.30** Department program or workshops
- **15.30** Talk show online education
- **16.30** End of afternoon program
- **20.00** Pub quiz
- **21.30** End of program

## DAY 2: CHALLENGE DAY
**Wednesday 26 Aug | On campus**
- **11.00** Welcome at department
- **12.00** Challenge in collaboration with TU/e Innovation Space
- **17.15** Workshops by associations
- **18.30** Pitches & announcement of challenge winners
- **19.00** Dinner
- **20.00** Activity by study association
- **21.00** End of program

## DAY 3: BUSINESS DAY
**Thursday 27 Aug | Online**
- **10.00** Plenary career lecture
- **11.00** Career session 1
- **12.00** Career session 2
- **12.45** Time for lunch
- **13.30** Career workshops
- **14.30** Career workshops
- **15.30** Chat session MKO group and evaluation
- **16.00** End of program

---

**THE BEST WAY TO START YOUR MASTER**

---

Master Kick-off 2020