



MSc Robotics  
TU Delft

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## Summary

### Standard 1. Intended learning outcomes

TU Delft's MSc Robotics aims to equip its graduates with the necessary theory and technical skills to contribute to software, AI, and control mechanisms for physical robotic systems operating robustly in diverse human- and animal-inhabited environments. The programme stresses the importance of ethical and societal considerations in its reflective engineering practices. According to the panel, the MSc Robotics distinguishes itself nationally and internationally through this focus on cognitive robotics, which aligns with research expertise of staff and professional field developments, and through a focus on the connection to society and on reflective engineering. The panel considers the intended learning outcomes to be well-formulated, reflecting the intended academic master's level and the unique profile of the programme. It applauds the programme's solid connections to the professional field, particularly through its active and engaged Industrial Sounding Board, which ensures the programme is well-g geared towards the professional field.

### Standard 2. Teaching-learning environment

The panel is impressed with the well-designed and coherent curriculum of the MSc Robotics, which offers a good balance of varied and solid content as well as transferable skills suitable for the academic and the professional field. The curriculum stands out through its focus on ethics and reflection, which the panel considers an asset. The learning methods are well-designed and activating and the staff consists of prominent researchers with fitting didactical skills. Student guidance and information provision are done well, with a successful mentoring programme in the first year that enhances the sense of community among students. The choice for English as the language of instruction is logical given the academic and professional fields linked to the programme. Admission is done carefully to ensure the student influx matches staff expertise and numbers, which the panel appreciates. Finally, students and teachers form a real community and share top-notch lab facilities. The panel is pleased with the MIRTE educational robot developed in-house.

Student success rates are relatively low, with many taking 3 years or more to graduate. The panel ascertained that the curriculum in itself is feasible and that students often choose to prolong their studies, for instance by taking a longer internship. Nevertheless, the panel learnt that the MSc Thesis Research project and the preceding Literature Review may also contribute to delays. The panel recommends investigating the real causes for (long) study delays and taking action accordingly. It recommends preparing students better for the graduation project by making explicit where academic skills are acquired throughout the programme and enhancing these if necessary. It also thinks creating a more formal structure with deadlines and milestones for the graduation project would be helpful and it expects the newly introduced MyCase system to improve this. In addition, the panel was told by students that they would like a continuation of the mentor groups or a similar construction in year 2. The panel considers this a suggestion worth investigating.

### Standard 3. Student assessment

The panel is satisfied with student assessment in the master's programme Robotics. Assessment is done in a fitting and transparent way and assessment types are varied and match the learning goals they test. The assessment of the internship and the final project are done well. AI is a priority in the programme and is currently being addressed in regard to assessment. The Board of Examiners is fulfilling its legal duty in assuring test quality. However, the panel advises it to play a more proactive role in safeguarding assessment quality in the MSc Robotics.

#### Standard 4. Achieved learning outcomes

Based on the high level of the programme's theses and the success of its alumni in entering and functioning in the professional field, the panel concludes to its satisfaction that the programme's intended level is clearly met. The programme should keep an eye on thesis topics staying close enough to robotics.

#### Score table

The panel assesses the programme as follows:

##### *Master's programme Robotics*

Standard 1: Intended learning outcomes	meets the standard
Standard 2: Teaching-learning environment	meets the standard
Standard 3: Student assessment	meets the standard
Standard 4: Achieved learning outcomes	meets the standard

General conclusion positive

The assessment panel has reviewed the report and agrees with its contents. On behalf of the panel,

Prof. W.E.A. (Wim) Van Petegem, panel chair  
Date: 14 July 2025

Dr. F. (Fiona) Schouten, panel secretary

# Introduction

## Procedure

### Assessment

On 2 June 2025, the master's programme Robotics of the TU Delft was assessed by an independent peer review panel. The assessment followed the procedure and standards of the NVAO Assessment Framework for the Higher Education Accreditation System of the Netherlands (April 2024).

Quality assurance agency Academion coordinated the assessment upon request of TU Delft. Fiona Schouten acted as coordinator and panel secretary. She has been certified and registered by the NVAO.

### Preparation

Academion composed the peer review panel in cooperation with the institution and taking into account the expertise and independence of the members. On 24 March 2025, the NVAO approved the composition of the panel. The coordinator instructed the panel chair on his role in the site visit according to the Panel chair profile (NVAO 2016).

The programme composed a site visit schedule in consultation with the coordinator (see appendix 3). The programme selected representative partners for the various interviews. It also determined that the development dialogue would be made part of the site visit. A separate development report was made based on this dialogue.

The programme provided the coordinator with a list of graduates over the academic years 2022-2023 and 2023-2024. In consultation with the coordinator, the panel chair selected 15 theses of the programme. He took the diversity of final grades and examiners into account. Prior to the site visit, the programme provided the panel with the theses and the accompanying assessment forms. It also provided the panel with the self-evaluation report and additional materials (see appendix 4).

The panel members studied the information and sent their findings to the secretary. The secretary collected the panel's questions and remarks in a document and shared this with the panel members. In a preliminary meeting, the panel discussed the initial findings on the self-evaluation report and the theses, as well as the division of tasks during the site visit. The panel was also informed on the assessment framework, the working method, and the planning of the site visit and report.

### Site visit

During the site visit, the panel interviewed various programme representatives (see appendix 3). The panel also offered students and staff members an opportunity for confidential discussion during a consultation hour. No consultation was requested. The panel used the final part of the site visit to discuss its findings in an internal meeting. Afterwards, the panel chair publicly presented the preliminary findings.

### Report

The secretary wrote a draft report based on the panel's findings and submitted it to an Academion colleague for peer assessment. Subsequently, the secretary sent the report to the panel for feedback. After processing this feedback, the secretary sent the draft report to the programme's management in order to have it checked for factual irregularities. The secretary discussed the ensuing comments with the panel chair and

changes were implemented accordingly. The panel then finalized the report and the coordinator sent it to the programme management and TU Delft.

## Panel

The panel assessing the master's programme Robotics at TU Delft consisted of the following members:

- Prof. W.E.A. (Wim) Van Petegem, professor at the Faculty of Engineering Technology of the KU Leuven (Belgium) [panel chair];
- Prof. dr. M.J.G. (René) van de Molengraft, professor in Robotics at the Department of Mechanical Engineering of the TU Eindhoven;
- Prof. dr. R. (Raffaella) Carloni, professor of Robotics at the Bernoulli Institute for Mathematics, Computer Science, and Artificial Intelligence in the Faculty of Science and Engineering of the University of Groningen;
- P.E. (Pauline) Lettinga BSc., master's student in Robotics at the University of Twente [student member].

All panel members and the panel secretary have filled out the Statement of Impartiality and non disclosure agreement, as required by the NVAO. They can confirm that the assessment was carried out in complete independence.

## Information on the programme

Name of the institution:	TU Delft
Address:	Prometheusplein 1, 2628 ZC Delft
Website:	<a href="https://www.tudelft.nl/">https://www.tudelft.nl/</a>
BRIN-number:	21PF
Status of the institution:	Publicly funded institution
Result institutional quality assurance assessment:	Positive
Programme name:	Robotics
ISAT number:	60973
Orientation of the programme:	Academic
Level of the programme:	Master (NLQF7)
Number of credits:	120 EC
Professional requirements:	No
Language of instruction:	English
Location:	Delft
Mode(s) of study:	Fulltime
Awarded degree:	MSc
Submission date NVAO:	1 November 2025

## Description of the assessment

### Organization

The master's degree programme in Robotics is offered by the Faculty of Mechanical Engineering (ME) of the TU Delft. The programme is delivered by the Department of Cognitive Robotics (CoR), one of the faculty's seven departments. The faculty is led by a Faculty Dean, who is responsible for both research and education, as well as for operations and finance. The Dean is supported by a management team, which consists of the heads of all seven departments of the faculty, the HR manager, the Finance manager, the Faculty Secretary, the Director of Education, the Head of Education and Student Affairs, and the Faculty Diversity and Inclusion Officer. The faculty has two Boards of Examiners (BoE), one for the two Clinical Technology programmes and one for the nine other programmes of the faculty, including the MSc Robotics. The MSc Robotics has its own Board of Studies (programme committee).

### Recommendations previous panel

In its initial accreditation procedure, the MSc Robotics was accredited under conditions. These required clarification of the entry requirements and use of specializations or tracks. The panel concluded in a follow-up assessment in September 2022 that these conditions were met. The entry requirements were adapted to extend to other students beyond those coming from related Delft BSc programmes. The use of the terms specialization and track was dropped. Additionally, the previous panel recommended defining the professional profile of the graduates in more detail, improving programme alignment supported by feedback from students, staff and the professional field, and reconsidering the balance of assessments. The programme addressed these recommendations by clarifying the professional profile of graduates, ensuring stronger alignment of curriculum components and enhancing input from students, staff, and professional field (the latter with the help of a new Industrial Sounding Board). It also improved the balance in assessment types and frequency in as well as across various courses. The current panel concludes that all recommendations were followed up by the programme.

### Standard 1. Intended learning outcomes

The intended learning outcomes tie in with the level and orientation of the programme; they are geared to the expectations of the professional field, the discipline, and international requirements.

### Findings

#### *Profile*

TU Delft's MSc Robotics addresses the increasing demand for robotics engineers in the Netherlands and the EU. It teaches its students the necessary theory and technical skills to contribute to software, AI, and control mechanisms for physical robotics systems operating robustly in diverse human- and animal-inhabited environments, enabling them to lead the multidisciplinary development of these systems. The MSc Robotics stresses the importance of ethical and societal considerations in its reflective engineering practices, in line with EU ethics guidelines for trustworthy AI that underline the importance of ethical, safe, and robust robotics.

The MSc Robotics translated its profile and aims into a set of seven intended learning outcomes (ILOs, see appendix 1). The ILOs reflect the academic master level as they are verified according to the 4TU Criteria for Academic bachelor and master curricula, which are defined in terms of seven broad competence areas, the

Meijer's Criteria. These criteria match the Dublin descriptors for master's programmes and the corresponding level 7 of the Dutch qualification framework NLQF.

The programme ensures that its profile and aims are aligned with the demands of the professional field via its Industrial Sounding Board (ISB), which gives feedback on the structure of the programme, its graduates, and developments in the professional field. Further alignment with the professional field is ensured through the national and international industrial collaborations of the CoR department and the diverse industrial robotics networks around TU Delft and across the Netherlands. High-tech industry in the local area is reached through knowledge networks such as Technet Delft, AI-hub Zuid-Holland, Digitalzh, and HiDelta. Within TU Delft, CoR also connects to industry through the Robotics Institute, the Transport & Mobility Institute on intelligent vehicles and transport solutions, the AgTech institute on high-tech agriculture and food production, the TU Delft AI Initiative, and the transdisciplinary innovation centre FRAIM. Study association ASIMOV also actively maintains industry relations through events, invited presentations, and company visits organized for and by students.

The panel studied the profile and aims of the programme and discussed these with the management, staff, and students during the site visit. It noted that the programme distinguishes itself both nationally and internationally through a focus on cognitive robotics. The choice to focus on the perception and behaviour of robotics systems, rather than on the more engineering and mechatronics aspects, is a deliberate one. The programme believes that this choice is obvious considering the fast development of the professional field in specifically this direction. This was confirmed to the panel by the Industrial Sounding Board during the site visit. In addition, this choice matches the research expertise in the Cognitive Robotics department, allowing the programme to benefit from CoR's strengths and ensuring that it can offer scientifically informed education. The panel also found that the programme places a strong emphasis on reflective engineering and robotics in society. According to the panel, this can be considered a unique selling point that sets the programme's graduates apart in the professional field. The panel is pleased with the carefully chosen profile and focus of the programme.

According to the panel, the intended learning outcomes were formulated clearly and reflect the chosen profile. The outcomes describe in detail what is expected of an MSc Robotics graduate. The panel notes to its satisfaction that they clearly reflect the academic master's level expressed in the Dublin descriptors and the Meijers' criteria and therefore also match NLQF level 7. The outcomes also take into account the professional roles and fields that graduates may end up in as well as transferrable skills.

The panel was positively impressed with the programme's Industrial Sounding Board. The board consists of company representatives and meets twice a year with the MSc Robotics programme coordinators and various teachers. The Board's feedback helps the programme adapt to the evolving needs of the professional field and identify possible points of attention. Its members work in relevant companies where graduates end up and/or master's students do internships or do their thesis. Part of its members are alumni of the programme. According to the panel, the frequent contributions of the engaged and active Board allow the programme to finetune its profile and learning outcomes in relation to the demands of the professional field.

#### Considerations

TU Delft's MSc Robotics aims to equip its graduates with the necessary theory and technical skills to contribute to software, AI, and control mechanisms for physical robotics systems operating robustly in diverse human- and animal-inhabited environments. The programme stresses the importance of ethical and societal considerations in its reflective engineering practices. According to the panel, the MSc Robotics

distinguishes itself nationally and internationally through this focus on cognitive robotics, which aligns with research expertise of staff and professional field developments, and through a focus on the connection to society and on reflective engineering. The panel considers the intended learning outcomes to be well-formulated, reflecting the intended academic master's level and the unique profile of the programme. It applauds the programme's solid connections to the professional field, particularly through its active and engaged Industrial Sounding Board, which ensures the programme is well geared towards the professional field.

### Conclusion

The panel concludes that the programme meets standard 1.

## Standard 2. Teaching-learning environment

The curriculum, the teaching-learning environment and the quality of the teaching staff enable the incoming students to achieve the intended learning outcomes.

### Findings

#### *Curriculum*

The MSc Robotics' curriculum (120 EC) consists of two years divided into four quarters (Q1-4) each. The programme has three main components: core courses (40 EC), elective courses (35 EC), and the graduate research project (45 EC: 10 EC Literature Review + 35 EC Thesis Research). See appendix 2 for a curriculum overview. The curriculum was designed with four connected didactical goals in mind:

1. To familiarize students with the development of intelligent robots and vehicles with a firm root in the theory and wide focus on applications;
2. To train students to handle the entire process of innovative design, implementation, and operation of the sense-plan-act loop for robots in real-world interactive environments shared with others;
3. To coach students to perform research on robotics topics at an academic level;
4. To teach students to act in a complex and multidisciplinary environment in different roles and in developing transferable skills.

The first year consists of nine obligatory courses for a total of 40 EC. The obligatory core courses provide a solid understanding of the fundamental components in the robotics sense-plan-act loop and develop necessary research skills as well as development skills to implement and test such components. The courses also offer reflection on ethics and society, as well as personal reflection. The course Robots & Society is specifically dedicated to the societal and ethical implications of robotics and AI and is taught by an associate professor in Ethics from the Faculty of Technology, Policy, and Management. In the course Vision and Reflection, students discuss and reflect on what they want to achieve with their studies in groups of 10-15 persons led by mentors (see also the section on student guidance and information provision further on in this report). This course is linked with Human-Robot Interaction, where students work in groups on an assignment and receive peer-feedback and coaching on their group performance. In the Multidisciplinary Project in Q4, students work together in groups of five on an industry-based assignment, translating societal issues from different perspectives (human, sustainability, safety, ethics, economics, etc.) into intelligent robot solutions. Each team develops and tests a complete, integrated software package for a complex robot system in simulation and on a real MIRTE Master (educational) robot by the end of the course. Teams are asked to work beyond the individual expertise of each member to deepen their analytic and creative skills

and share their knowledge. The project further requires students to reflect individually on their roles as team members and the impact their robot may have on the envisioned customers and society.

As part of their Individual Study Programme (ISP), students select at least 20 EC of electives in Q3 and Q4 to gain more in-depth knowledge on topics of interest. At least 5 EC consist of recommended elective courses on Robotics provided by lecturers from the CoR department. Students also take between 3 and 6 EC in recommended elective courses that focus on transferable skills and deal with specific societal challenges, applied ethics, sustainability, financial markets, or entrepreneurship. Finally, they follow general elective courses, such as relevant technical (i.e., non-transferable skills) courses from other programmes at the faculty or at other faculties. Once students have made their choice in electives, each student's ISP is approved by the MSc Robotics Coordinator before submission to the Board of Examiners for final approval on the level and topic of the selected courses. Students submit their ISP before the start of the second semester.

In year 2, students work on complex research problems individually and in groups, apply the tools and methods taught in the first year, and develop new theories or design methods to address an applied robotics engineering challenge. At the start of the year, students choose between an internship in a company, a research assignment at TU Delft, or additional elective courses (15 EC). For the internship, an academic supervisor checks that the scope of the project relates to robotics and approves the project and an internship coordinator assists students with arranging forms and checks the procedures. For the research assignment, students can also opt for a Joint Interdisciplinary Project (JIP): a team project where students from different Delft master's programmes work together on a 'state of the art' Research & Development business case, guided by senior professionals in a real-life professional environment. MSc Robotics students can choose a JIP after verification that the selected project connects to the intended learning outcomes of the master's programme Robotics.

The programme ends with the graduation project (45 EC). The project consists of two individually assessed parts: the Literature Review (10 EC) and the MSc Thesis Research (35 EC). In the Literature Review, students evaluate the scientific literature and the state of the art related to the intended Thesis Research topic. The final thesis topic may still evolve based on the findings of this research. During this process, students receive feedback on their research and writing skills. Additionally, students have to present their findings to their peers in weekly student colloquia, which feature two to four student presentations per session. Robotics students are required to attend at least 10 colloquia over the course of the programme. During these sessions, students present their work and receive questions as well as constructive feedback from both their peers and the session's supervising staff member or PhD student. This experience helps students refine their presentation skills and discuss their thesis topic with a broader audience, preparing them for their final thesis defence.

Students perform the MSc Thesis Research (35 EC) under supervision of at least one academic CoR staff member (assistant, associate, or full professor), who acts as the thesis supervisor. Each student works individually on a complex research problem and develops new theory and/or designs new methods to solve a challenging robotics-related problem. The research can be carried out within the CoR department, in collaboration with another department of TU Delft, industry, or another research organization. The Thesis Research can also be (partially) performed at a company, where the company provides daily supervision and necessary resources. This setup requires an advance agreement between the academic supervisor at CoR and the company to ensure the project is realistic and suitable. Students have regular meetings with their

supervisor(s) and are expected to show their responsibility in work, writing, and time and project management.

It is possible for students to start the curriculum in February. This is done by a small group of students. The design of the programme has been adapted for these students. They follow the curriculum with the others and start in Q3, but are not yet allowed to do the 5 EC Multidisciplinary Project in Q4. This can only be done after they have completed Q1 and Q2. Since any student may start their MSc Thesis Research while still missing 6 EC of first year courses, students starting in February can do so as well, while they can follow the Multidisciplinary Project in their second year's Q4.

The programme uses a variety of teaching strategies in its courses, varying from lectures by scientific staff members supported by teaching assistants to practical assignments combining a range of tools used in industrial and academic practice, such as programming tools, robot simulations, etc. Other working methods are self-study, presentations, peer-review and peer-reflection, group projects, an internship or research assignment.

Since the start of the programme, it was adapted based on experience as well as feedback from students. Some larger adaptations include replacing the written Student Portfolio with the Vision and Reflection course that uses conversation to stimulate self-reflection. Also, the Multidisciplinary Project was redesigned. It now provides each student team with their own MIRTE Master mobile manipulator (see also 'Facilities') rather than having different teams work on different robotics platforms from diverse industrial clients. The new setup improves technical support and consistent evaluation and reduces teaching load. Industry-standard deliverables have been adopted, enhancing student motivation by aligning their work with real-world practices. The course's final presentation now challenges teams to demonstrate their solutions in a test environment, promoting collaboration, prioritization, and diagnostic skills.

The panel is pleased with the curriculum of the MSc Robotics, which is carefully designed and adapted well to new developments and insights gained in practice. The curriculum offers a good balance between engineering on the one hand and transferable skills on the other. The panel appreciates the way the programme caters to students starting in February, while at the same time ensuring they bring the necessary knowledge and skills to the Multidisciplinary Project. The working methods are varied and well-chosen, ranging from internships and presentations to group projects. During the site visit, the panel had the opportunity to talk with students working on the Multidisciplinary Project. It found that this course works well in its new design, promoting teamwork by having students divide up tasks while collaborating towards achieving a final goal. Students whom the panel talked to mentioned that the curriculum is packed in terms of content and courses, but that they consider it inspiring and doable. While some students would have liked stronger attention paid to hands-on hardware experience in the curriculum, others pointed out that other content would then have to be sacrificed, which would weaken the programme.

A positive and distinguishing aspect of the programme is the attention paid to reflection, in line with the aim to train reflective engineers. Students reflect on their own development as well as on ethical and societal implications of robotics engineering and research. This is a large component in the curriculum, consisting of the Vision and Reflection course as well as various dedicated courses and electives. The panel understood from students and alumni that not all students are immediately motivated for these reflective elements, but that they understand their use, also in determining their own choices and graduate profile. Alumni and the ISB mentioned that the resulting reflective attitude is of clear value upon entering the professional field. The

Vision and Reflection course, which is currently 0 EC, will become 1 EC to better reflect the effort required of students, which they appreciate.

The panel appreciates the many elective options students have, allowing them to shape the programme to their individual preferences. It did notice that the electives vary in EC, which makes it harder for students to achieve the exact amount of credits. Students told the panel that they often follow one or two EC more than the required 35 EC for that reason. The panel thinks standardizing credits as much as possible would help students here, but understands that the programme does not control the size of electives offered elsewhere at TU Delft. It learnt from students that this does not constitute an issue for them. Still, the programme should strive to avoid that this becomes too much of a puzzle for students.

At the start of year 2, students choose between an internship at a company, a research assignment at the TU Delft, or additional elective courses (15 EC). The panel was surprised to learn that in terms of learning experience, following more electives is offered as equivalent to the other options. The panel expects an internship or research project to offer a different and richer learning experience in a programme that already offers significant elective space. It was told that this component is designed according to a university-wide approach followed in all master's programmes at TU Delft and that the programme follows university policy in incorporating it in this manner. The panel was also told that only a limited number of students opts for the electives and that this is always a well-motivated choice approved by the programme management.

The panel ascertained that students acquire academic skills throughout the programme. However, it was also told by programme management, teachers, and students that starting the Graduation Project and Literature Review is experienced as difficult by many. The prospect of doing individual research is considered daunting and students often take time to adjust, which leads to study delays. The panel therefore recommends preparing students better by making explicit where the academic skills they need for embarking on such a project are acquired throughout the programme. In doing so, the programme should also check if the preparation for the Literature Review and Thesis Research should be strengthened in year 1.

#### *Language of instruction*

The Robotics programme is conducted in English and has an English name, as robotics research and industry covers an international field where English is the *lingua franca*. Robotics graduates will therefore typically end up working in an English-language environment. With a faculty composed of diverse nationalities, the programme not only reflects the globalized nature of the field, but also brings different perspectives and experiences to the classroom. Additionally, the presence of a diverse student body enriches the learning environment by fostering cross-cultural collaboration and expanding students' horizons beyond national borders. The programme ensures that the level of English of students and staff is adequate. The panel agrees that the choice for English is logical and necessary.

#### *Admission*

There are several routes that students can follow for admission to the Robotics programme. Three different categories of students are considered: Dutch students with a BSc degree from a research university (WO), Dutch students with a BSc degree from a University of Applied Sciences (HBO), and international students. Dutch BSc degrees in Mechanical Engineering and Aerospace Engineering from research universities are eligible for direct admission. Students with various other Dutch bachelor's degrees (WO or HBO) are only admissible after completing a suitable bridging programme. A bridging programme coordinator assists students in determining the contents of the best suited bridging programme. International students must have a bachelor's degree in mechanical or aerospace engineering, or one closely related, and adequate

English proficiency. A CoR scientific staff member assists the Director of Studies in checking the applications and advising the TU Delft's International Office. The advice considers the student's results in key subjects (e.g., mathematics, control theory, dynamics, and programming) and a motivation letter. Previous modules in robotics are desirable, but not essential.

The MSc Robotics has an admission capacity (CAP) for non-EU/EFTA students in accordance with faculty policy. The CAP is determined by the programme management in consultation with Education and Student Affairs and is based on expected intake numbers, previous application submission versus students starting in September ratios, and general capacity. If a non-EU/EFTA student meets the admission requirements, they will be considered for the programme until the CAP is reached.

The panel discussed the admission procedure with programme representatives. At present, the programme primarily targets students with BSc degrees in Mechanical Engineering and Aerospace Engineering who are eligible for direct admission. Students from related degrees enter into bridging programmes first, which vary in length depending on their previous studies. The programme purposefully limits the influx of students with more divergent backgrounds to ensure its staff is sufficiently equipped both in terms of expertise and in terms of numbers to teach the curriculum. If the programme were to open up more to other types of students, it would have to alter its curriculum and expand the staff to match the larger and more diverse inflow. The panel considers this an understandable choice. It was satisfied to hear that motivated students from other backgrounds can enter after following a bridging programme. The panel concludes that the programme's admission policy is sound and well-thought through.

#### *Feasibility, student guidance, and information provision*

Students are guided through the programme in various ways. The programme's Director of Studies, also its Master's Coordinator, is supported by an Assistant Master's Coordinator, who provides CoR management with statistics and updates. Together, they organize information meetings on the programme and are responsible for the study guide, the education website, and the information brochures. They also have meetings with individual students who need advice on their study programme. The Assistant Master's Coordinator facilitates questions through email and holds walk-in office hours two times per week. She also proactively calls students who incur significant delays to check in on them. Students struggling with severe personal challenges are forwarded to the faculty's academic counsellors. Students with a functional impairment are accommodated on an individual basis according to the TU Delft Note on Duty of Care, issued in 2023.

Enrolled students can consult the complete curriculum in the online StudyGuide. For each course, learning objectives, assessment methods, teaching and examination periods, etc. are listed. Brightspace is used to register for courses, to digitally distribute material, and to coordinate teaching activities once students are enrolled. There is a dedicated Brightspace page for the MSc Robotics specifically. The page contains an overview of all regulations, checklists to navigate the procedures during the first and second year, information on internships, available thesis topics within CoR, and other general information. Via Brightspace, announcements and a Weekly Event Agenda (email), students remain informed of upcoming student colloquia, important updates and reminders, and other upcoming events.

The MSc Robotics Introduction Week takes place in the first week of Q1. During this week, students visit various locations at the TU Delft campus, get to know their cohort, the coordinator team, and their future teachers. There are presentations with practical information, introduction pitches by the teachers, help sessions to set up robotics software on their laptops, practical team building activities, and activities

organised by student association ASIMOV. For international students, TU Delft organizes an additional introduction day the last Friday before the start of the academic year, providing contact with peers who are similarly new to TU Delft and learn about the cultural differences when living and studying in the Netherlands. As mentioned previously, students starting in February are offered a one-on-one introduction with programme management.

In year 1, the programme offers a mentorship programme based in the course Vision and Reflection, which runs in Q1 and Q2. In this course, students meet in smaller groups (10-15 students) facilitated by two mentors: a second-year MSc Robotics student and a PhD student from the department. This working method is inspired by the 'learning organizations' concept, where a team of senior and junior staff learn from each other. The mentor groups are used to discuss what students want to achieve with their studies and address their personal development, vision, and challenges. The mentors receive tailored training for their role. Students entering the programme in February are offered tailor-made introductory sessions with the Master's Coordinator at the start and then join in with the mentoring schedule per September.

At the start of Q2, a one-hour info session for all first-year Robotics students is arranged to revisit the programme's structure, procedures, and elective selection. A few second-year students share their personal insights on how to select electives after Q2 and on arranging internships. A CoR Thesis Market is organized in February, at the start of Q3, at the CoR lab. Standing at separate tables, the academic staff presents their current research projects to the master's students and answers student questions regarding potential thesis topics, company internships, and suitable electives. All CoR staff describes their research interests and topics in a yearly updated Thesis Supervisor Booklet, which students can find on Brightspace all year long. In year 2, students are supported by internship and thesis supervisors and helped by the dedicated internship coordinator, who supports students with internship procedures and checks whether contractual requirements between TU Delft and companies are fulfilled. Apart from these support mechanisms, students are guided in the courses by programme teaching staff.

For more informal advice, students also check with student association ASIMOV or ask their mentors about their personal experiences with the programme, its procedures, and how to approach practical challenges. ASIMOV supports students on their journey to becoming successful and connected members of the robotics community. It connects students and industry by organizing events, study trips abroad, invited presentations, and company visits. ASIMOV also has its own Inclusivity in Robotics (*Iro*) committee, which aims to make all students feel at home at the MSc Robotics and provokes thoughtful discussions on societal topics, inclusion, and diversity.

The panel is pleased with the strong system of support, guidance, and information provision offered to Robotics students. Students the panel met felt well-guided and were positive about the help they received in making curriculum choices, finding internship positions, and deciding on a thesis topic. The mentorship programme tied to the Vision and Reflection course is appreciated by the students. First- and second-year students get to know each other well through this initiative and the first-years find their mentors accessible and helpful. For second-year students, this is a valuable learning experience that connects them more to the programme's community.

In spite of the extensive amount of guidance offered, Robotics students often run into delays before graduating. In 2023, 75.3% of all awarded diplomas were completed within three years (nominal study duration + 1 year), meaning that the remaining quarter took more than three years. The panel discussed these delays with various programme representatives. It learned that they are not unique to the programme

and that an important cause for delay is the internship. While this is meant to take up a period of three months, many companies (particularly those abroad) prefer students to take six. The programme does not encourage such extensions, but allows them. As a majority of students (over 60%) choose to start year 2 with an internship, this type of delay is quite frequent.

Other known causes for study delay are the Literature Review and the MSc Thesis Research. Students typically take longer than scheduled for the review and also stretch the duration of their Thesis Research. The latter especially happens when students consider a PhD and try to turn their thesis into a published article to support a PhD application. At the same time, the panel was told by students, staff, and programme management that less ambitious students also often take longer doing their final project and Literature Review.

The panel advises the programme to further investigate the exact causes for delays, so that these can be addressed effectively. It understands that the internship delays will remain and finds that the programme is handling these well, not encouraging extensions but enabling students to opt for a longer period. However, the panel does think that progress can be booked by adapting the thesis trajectory. By introducing clear deadlines and milestones, the trajectory would be better paced and students' progress can be tracked more easily. The panel understood that a new system, MyCase, was just adopted by the programme to do just that and introduce clear milestones along the trajectory. In addition, the panel was told by students that they would like a continuation of the mentor groups or a similar construction in year 2, so that students can help and motivate each other by sharing experiences during their Literature Review and thesis writing processes. The panel considers this a suggestion worth investigating. Finally, the panel thinks that preparing students better for the Literature Review and the thesis through emphasizing academic skills more (see above) could also help getting them off to a fast start. In summary, the panel recommends reducing study delays by investigating the precise bottlenecks and making structural changes in the way the Literature Review and MSc Thesis Research are offered.

#### *Staff*

Teaching staff members in the Robotics programme have a background in Mechanical Engineering, Electrical Engineering, Computer Science, Artificial Intelligence, Aerospace Engineering, or Ethics. In accordance with faculty policy, all responsible instructors in the master's phase are academic staff members with a PhD degree. Furthermore, all staff members either hold a UTQ (university teaching qualification) or are in the process of obtaining one. The programme organizes M-ROB Teacher Events to align education, share experiences, and collectively review educational practices. In the past, such meetings were organized as part of a CoR staff summer event or ad-hoc when needed. In the new setup, these meetings occur twice a year. A special MS Teams environment for MSc Robotics lecturers and supervisors is used for collaboration and coordination regarding education-related matters, such as planning assistance for student colloquia or providing feedback on the Assessment Plan. Finally, TU Delft's Teaching Academy facilitates information sessions, workshops, and other events related to new and existing teaching methodology. Also, meetups are regularly organized by the faculty (ME Education Day) as well as special interest groups at the TU Delft.

The teaching staff contributes to scientific research in their respective fields with many directly and contract-funded research projects with national and international industrial and academic partners. These collaborations offer the potential for placement of master's students for internships and research projects, providing students with the scientific, professional, and transferable skills necessary to address industrial and societal challenges.

The panel finds that the Robotics staff consists of prominent experts in Robotics with a strong research profile and often strong connections to industry. They are also well-trained didactically, as the UTQ is now the standard among staff. Students benefit from the staff's excellent research profile and find their teachers to be approachable and inspiring. The panel noted that the Robotics programme is offered by a strong team that works together on continuously improving and updating the curriculum and its aims.

### *Facilities*

The CoR department has extensive state-of-the-art equipment, robots, lab space, and computational resources for teaching and research. These facilities are available for students during specific courses, research assignments at CoR, and/or the master's thesis projects. Notably, CoR has developed MIRTE, a family of modular, affordable, and open educational robots that can be adapted to all education levels. The introduction of MIRTE facilitates technical support and consistent evaluation by providing a standardized robotics platform for student teams in the MSc Robotics. CoR has 35+ MIRTE Master and 250+ MIRTE Pioneer kits.

In addition, the department allows students' access to a variety of other robots, from flying robots to mobile ground robots, mobile and soft manipulators, vehicles, etc. In the CoR department, students have access to various state-of-the-art facilities: the Mobile Robotics Lab, the Motor Learning and Neurorehabilitation Lab, the Test Area Mechanical Engineering, the Delft Advanced Vehicle Simulator (DAVSi), and the Robotic Manipulation Lab. External facilities include the Faculty Workshop, which offers support to students, lecturers, and researchers in the design, production, and validation of individual components, prototypes and (measurement) setups; the Maker Space @ Science Centre, that offers a large project room and a machine room including laser cutters and some woodworking machines, as well as 3D printers available; and computing resources such as High Performance Computing, a Virtual Machine, and TU Delft's internal Gitlab server.

Robotics students have access to the education facilities in the ME faculty and other locations on campus. The faculty has large theatre halls and lecture rooms, the latter normally suitable for the robotics courses. The faculty also has a considerable number of public self-study places all over the building. The CoR lab offers additional flex workplaces and dedicated workspaces for certain lab equipment that MSc Robotics students can use during their graduation project.

During the site visit, the panel was shown the facilities. It was established that these are impressive. Students have access to a variety of state of the art lab spaces and frequently encounter the teaching staff while working there. The panel also applauds the development of MIRTE as an educational robot. This allows students to familiarize themselves with one platform and then work with it throughout the courses. The panel thinks that facilitating students in this manner is a good thing. At the same time, working mostly with one platform has its limits and students should be challenged to work with state of the art platforms over the course of the programme. The panel was reassured that this is certainly also the case. It points out that the programme must be careful in striking the right balance here.

### *Considerations*

The panel is impressed with the well-designed and coherent curriculum of the MSc Robotics, which offers a good balance of varied and solid content as well as transferable skills suitable for the academic and the professional field. The curriculum stands out through its focus on ethics and reflection, which the panel considers an asset. The learning methods are well-designed and activating and the staff consists of prominent researchers with fitting didactical skills. Student guidance and information provision are done

well, with a successful mentoring programme in the first year that enhances the sense of community among students. The choice for English as the language of instruction is logical given the academic and professional fields linked to the programme. Admission is done carefully to ensure the student influx matches staff expertise and numbers, which the panel appreciates. Finally, students and teachers form a real community and share top-notch lab facilities. The panel is pleased with the MIRTE educational robot developed in-house.

Student success rates are relatively low, with many taking 3 years or more to graduate. The panel ascertained that the curriculum in itself is feasible and that students often choose to prolong their studies, for instance by taking a longer internship. Nevertheless, the panel learnt that the graduation project and the preceding Literature Review also contribute to delays. The panel recommends investigating the real causes for (long) study delays and taking action accordingly. It recommends preparing students better for the graduation project by making explicit where academic skills are acquired throughout the programme and enhancing these if necessary. It also thinks creating a more formal structure with deadlines and milestones for the graduation project would be helpful and it expects the newly introduced MyCase system to improve this. In addition, the panel was told by students that they would like a continuation of the mentor groups or a similar construction in year 2. The panel considers this a suggestion worth investigating.

### Conclusion

The panel concludes that the programme meets standard 2.

### Standard 3. Student assessment

The programme has an adequate system of student assessment in place.

### Findings

#### *Assessment policy*

Assessment in the programme takes place according to the Mechanical Engineering faculty's assessment policy. The MSc Robotics joins the faculty in embracing the constructive alignment principle of education, stating the desired congruence of the learning objectives, the teaching and the assessment activities. In the process of constructing tests, examiners should involve another colleague following the 'four-eyes' principle to safeguard the quality of assessment. This can vary from providing feedback to doing trial tests, discussing the answer model, and jointly determining the pass mark. Examiners make a test matrix in advance as a blueprint for their exams to guarantee constructive alignment. An educational advisor monitors quality of assessment and supports the Board of Examiners (BoE) and the lecturers to maintain high standards. The educational advisor evaluates assessment activities every semester. The evaluation includes information on individual assessments and assessment on programme and faculty level. The findings and recommendations are communicated in writing and shared with the BoE, the Director of Education, and the Head of Education and Student Affairs.

The programme requires its examiners to have or be in the process of obtaining their UTQ certificate, which includes a dedicated module on assessment. Examiners' competences should also include the ability to estimate the students' level in order to prepare a suitable test or exam and determine the pass mark. For this reason, lecturers are not appointed as examiners for major courses during the first three years of their appointment. In addition, new lecturers are linked with senior colleagues who function as a buddy.

Within the Robotics programme, several formative and summative assessment methods are used: written exams, oral exams, individual project work, group project work, and homework assignments. Aside from summative tests at the end of a course, low stake tests can take place during the teaching period. The most important goal of those low stake tests is a formative function to give the students feedback on their progress and prepare them for the final exam. Examiners ensure a good balance between assessment and study load.

Many students opt for an internship at the start of their second year. The students have a daily advisor on the work floor and an academic advisor from the programme, who checks in on their progress. The internship is assessed through an internship report and an evaluation by the daily advisor. The academic advisor then determines the final assessment, which is pass or fail.

The panel concludes that assessment policy and practice in the MSc Robotics are done well. There is a lot of variation in assessment and care is taken that students are tested in a valid and transparent way on the various learning goals. The panel understood from students that they are happy with the variation in assessment. According to the panel, the internship assessment is done in an adequate manner. The panel understands the use of a pass or fail grade. However, it did notice that this implies that the internship is not considered when determining graduation cum laude, whereas the grades obtained by students who choose the other options within the same module (courses or a research project) are taken into consideration. The panel points out that this discrepancy might be investigated further at the appropriate (faculty or university) level.

#### *Generative AI*

Recent advances in AI, such as ChatGPT, have led to discussion on their effect on the assessment methods of take-home written and coding assignments. Students nowadays commonly use ChatGPT to solve practical coding tasks, where they would in the past ask questions if they got stuck. This may help them complete assignments more quickly, but may also prevent them from properly learning the underlying concepts. Courses do not yet consistently communicate if and how the use of such AI tools is allowed and paid access to more advanced AI tools raises concerns regarding fairness when comparing student results.

The ME faculty formed a committee at the end of 2022, which organized multiple interaction sessions with many members of the educational staff at the TU Delft. Overall, the responsibility to adjust the course to the latest developments on AI is given to the course organizers. The MSc Robotics plans to use an upcoming M-ROB Teacher Event to discuss the complete assessment plan of all tests within the (obligatory) MSc Robotics curriculum, which will include the policy, communication, and assessment for assignments where AI tools could be (mis)used. The programme also thinks that such tools offer educational possibilities and that they are transforming the robotics engineering practice and therefore feels that its courses should teach students how to use such tools fairly and responsibly. Through a TU Delft Education Fellowship Grant, the programme is currently reviewing impact of AI tools on the Literature Review to recommend follow-up measures.

The panel discussed the place of AI in assessment with the Board of Examiners. It also had a conversation on AI and its longer-term implications with the programme management in the development session during the site visit. The panel is pleased to see that this topic is a priority in the programme and that actions are taken to ensure assessment is adapted to accommodate recent developments.

#### *Assessment of the final work*

The Literature Review, used to prepare the thesis, is closely connected to it, yet graded separately. The deliverables of the Literature Review are a written report (graded), a presentation at one of the student colloquia (pass/fail assessment), and attendance in at least ten other colloquia where students provide and receive peer-feedback on each other's presentations. The report is graded by the supervisor using the faculty's Literature Review Rubric.

To complete their MSc Thesis Research, students have to write a well-structured scientific report, present their work in a 20-minute public defence, and defend their thesis during a private one-hour defence with a graduation committee. The graduation committee contains at least one staff member from another section, department, or faculty. To ensure that the theses are assessed consistently across all master's programmes in the ME faculty, the committee uses the faculty-wide Master's Thesis Grading Rubric. The rubric contains grading items for the thesis content, for presentation (both thesis text, public presentation, and defence), and for the process. The process evaluation is only graded by the daily supervisors and includes items such as time management and critical attitude towards own results by the student.

The panel discussed the thesis assessment with programme stakeholders and studied the assessment forms of 15 theses. It concludes that thesis assessment is done in a well-designed manner. The forms were generally completed in a clear and thorough way, although some variation could be detected. Many final works were written outside of university, in an industry project, and in these cases supervision was done by the programme's staff with the project fulfilling all academic requirements. The panel concludes that the final level is assessed in a fitting manner.

#### *Board of Examiners*

The programme falls under a Board of Examiners (BoE) which consists of seven members of the departments of the Faculty of Mechanical Engineering and one external member from the faculty of Electric Engineering, Mathematics, and Computer Science. The BoE has two secretaries and an administrative assistant. The chair and the secretaries of the BoE have bi-monthly meetings with the Dean, the Director of Education, the Head of Education and Student Affairs, and the Quality Assurance department. The BoE also meets with other TUD BoEs to discuss common concerns and to improve assessment. The BoE monitors the quality of assessment and the correct application of the Teaching and Examination Regulations. They regularly conduct random sampling of exams and final projects. To safeguard the quality of the thesis work, the Board of Examiners inspects the thesis works and accompanying assessment forms once a year for several randomly chosen master's students and assesses whether the graduation committees made fair judgements leading to the final grades.

Based on the documentation and its conversation with the Board of Examiners, the panel concludes that the BoE fulfils its role in safeguarding quality of assessment, for example through checking tests and final theses. However, the panel also noted that the board is responsible for quality of assessment in multiple programmes with over 4000 students. As a result, the board operates on a faculty level in its feedback and control cycle. The panel points out that a smaller programme such as Robotics might benefit from some more specific attention, also because it is relatively new and under development. The panel therefore advises the BoE to be more proactive and hands-on in promoting assessment quality within the programme.

#### *Considerations*

The panel is satisfied with student assessment in the master's programme Robotics. Assessment is done in a fitting and transparent way and assessment types are varied and match the learning goals they test. The assessment of the internship and the final project are done well. AI is a priority in the programme and is

currently being addressed in regard to assessment. The Board of Examiners is fulfilling its legal duty in assuring test quality. However, the panel advises it to play a more proactive role in safeguarding assessment quality in the MSc Robotics.

#### Conclusion

The panel concludes that the programme meets standard 3.

#### Standard 4. Achieved learning outcomes

The programme demonstrates that the intended learning outcomes are achieved.

#### Findings

##### *Final level*

The panel studied 15 theses from the Robotics programme and considered them to be generally of a high level and clearly in line with the academic master's level. In a small number of theses, the panel noted that the theme veered away from robotics, focusing more on AI generally. The panel found the research was sufficiently in line with the programme's contents but advises the programme to pay attention to this and to determine what is acceptable in terms of thesis topics for a Robotics student.

##### *Alumni*

In 2023, the Robotics programme management conducted an Alumni Survey among its first cohort of graduated students who transitioned into the workforce. Graduates, on average, found jobs in under a month, with common job titles including Robotics Engineer and Software Engineer. Overall, the programme received strong positive feedback with 88% agreeing that it provided a comprehensive robotics education and 94% stating they would choose the programme again. A follow-up survey was conducted in September 2024, with 20 alumni responding, most of whom had graduated about a year earlier. Of these respondents, eight had found employment in companies focused on robotics development, four in the services and data science sector, and five pursued careers in science and academia. Respondents identified programming and AI/machine learning as the most frequently used technical skills in their current roles, while presenting was reported as the most commonly used transferable skill. During the site visit, the panel talked with alumni about the connection of the programme to the professional field. It learnt that alumni consider themselves quite well prepared by the programme. The panel concludes that alumni from the MSc Robotics easily find their way to a suitable professional environment and are happy with the way the programme equips them for a career.

#### Considerations

Based on the high level of the programme's theses and the success of its alumni in entering and functioning in the professional field, the panel concludes to its satisfaction that the programme's intended level is clearly met. The programme should keep an eye on thesis topics staying close enough to robotics.

#### Conclusion

The panel concludes that the programme meets standard 4.

#### General conclusion

The panel's assessment of the MSc Robotics is positive.

## Recommendations

1. Investigate the causes for (long) study delays and formulate actions accordingly.
2. Make explicit where academic skills are acquired throughout the programme and enhance this academic learning line if necessary.
3. Make sure that the Board of Examiners plays a more proactive role in safeguarding assessment quality in the MSc Robotics.

# Appendix 1. Intended learning outcomes

## 1. *Competent in the scientific discipline Robotics*

A graduate in Robotics is able to ...

- 1A. acquire and apply broad knowledge on Robotics on the multidisciplinary intersection of mechanical engineering, systems and control, and artificial intelligence, more particularly in dynamics, system identification, modelling, control, machine learning, machine perception, and human-robot interaction.
- 1B. model, design and control robotic systems.
- 1C. analyse, evaluate and validate robotic systems in complex environments.
- 1D. relate scientific knowledge to robotic systems, critically considering their interaction with societal aspects.

## 2. *Competent in doing research*

A graduate in Robotics is able to ...

- 2A. study a topic by critically selecting relevant scientific literature.
- 2B. generate innovative contributions in developing intelligent machines.
- 2C. write a scientific report about own research.
- 2D. measure, model, and explain the interaction between humans and intelligent machines.

## 3. *Competent in designing*

A graduate in Robotics is able to ...

- 3A. develop mathematical and physical systems using state-of-the-art knowledge.
- 3B. translate complex multidisciplinary research to working robotic designs.
- 3C. design algorithms and software for complex robots.
- 3D. design interfaces for human interaction so that a robotic system's functionality can be understood, taught and corrected by users.
- 3E. design robotic systems which can move safely and efficiently in human-inhabited environments.

## 4. *A scientific approach*

A graduate in Robotics is able to ...

- 4A. contribute novel techniques on the intersection between mechanical engineering, systems and control, and artificial intelligence.
- 4B. analyse and design multidisciplinary solutions using system identification, modelling, and simulation.
- 4C. solve technological problems in a changing environment, considering ethics, safety, ambiguity, incompleteness and limitations.
- 4D. effectively lead, co-create and collaborate with a research team.
- 4E. design and perform experiments to compare, investigate, evaluate and test different robotic solutions across disciplines.

## 5. *Basic intellectual skills*

A graduate in Robotics is able to ...

- 5A. develop a vision for applying robotics to address industrial and societal needs.
- 5B. consider the design of robotic systems from economic, social, cultural and ethical perspectives.
- 5C. critically reflect on own role in projects, in relation to that of others.
- 5D. remain professionally competent with an eye for the needs in the field.

*6. Competent in operating and communicating*

A graduate in Robotics is able to ...

- 6A. work both independently as well as in a multidisciplinary team
- 6B. operate and communicate in a responsible, ethical and transparent manner, with an open-minded attitude.
- 6C. explain and defend research activities and outcomes to academia and industry, both specialists and non-specialists.
- 6D. understand and explain robotic systems in relation to other fields.
- 6E. advise on technical steps towards integral robotic solutions in complex environments.

*7. Considering the temporal and social context*

A graduate in Robotics is able to ...

- 7A. consider the limitations and possibilities of applying robotics to solving safe technological and societal problems.
- 7B. evaluate and assess the technological, ethical and societal impact of one's work.
- 7C. act with vision in an interconnected and rapidly changing world.
- 7D. act with integrity and responsibility regarding sustainability, safety and privacy, and economic and social wellbeing.

## Appendix 2. Programme curriculum

FIRST YEAR				
Introduction Week	1ST QUARTER	2ND QUARTER	3RD QUARTER	4TH QUARTER
	RO47001 Robot Dynamics & Control 5 EC	RO47004 Machine Perception 5 EC	RO47008 Robot & Society 5 EC	RO47007 Multidisciplinary Project 5 EC
	RO47002 Machine Learning for Robotics 5 EC	RO47005 Planning & Decision Making 5 EC	Elective Courses (Robotics, Transferable skills, General) 20 EC	
	RO47003 Robot Software Practicals 5 EC	RO47006 Human-Robot Interaction 5 EC		
RO47000 Vision and Reflection 0 EC				

  

SECOND YEAR		
Choose: TUD4040 Joint Interdisciplinary Project RO57015 Internship / Assignment In-Depth Elective Courses 15 EC	RO57010 Literature Research 10 EC	RO57035 MSc Thesis 35 EC

  

<span style="display:inline-block; width:15px; height:15px; background-color:#0070C0; border:1px solid black;"></span> OBLIGATORY COURSES	<span style="display:inline-block; width:15px; height:15px; background-color:#00AEEF; border:1px solid black;"></span> PROJECTS	<span style="display:inline-block; width:15px; height:15px; background-color:#808080; border:1px solid black;"></span> ELECTIVE COURSES
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Figure 3. Schematic overview of the MSc Robotics programme and associated EC: note that RO47000 will receive 1 EC as of next year to better reflect the load that was previously attributed to courses in Q1-Q2.

## Appendix 3. Programme of the site visit

### Monday 2 June 2025

08.30	09.00	Arrival and welcome (incl. short presentation)
09.00	09.15	Internal panel meeting
09.15	10.00	Interview programme management
10.00	10.15	Internal panel meeting
10.15	11.00	Interview students & alumni (incl. members programme committee)
11.00	11.45	Interview teaching staff (incl. members programme committee)
11.45	12.00	Break
12.00	12.30	Interview board of examiners
12.30	13.15	Lunch
13.15	14.15	Tour Robotics Lab
14.15	14.45	Interview representatives professional field
14.45	15.45	Internal panel meeting
15.45	16.15	Concluding session programme management
16.15	16.45	Internal panel meeting / establishing findings
16.45	17.30	Development dialogue
17.30	18.00	Oral feedback

## Appendix 4. Materials

Prior to the site visit, the panel studied 15 theses of the master's programme Robotics. Information on the theses is available from Academion upon request.

The panel also studied other materials, which included:

- TU Delft vision
- ME Vision on Education
- Annual Reports RO 2022-2023 & 2023-2024
- Toetsing ME
- Teaching and Examination Regulations Engineering 2023-2024
- RRvE MSc 3ME 23-24 final
- Board of Examiners Annual Report 2023-2024
- Overview of Master's graduations presented on the last two years 2022-2024
- Selected thesis works and rubrics
- Master's Robotics checklists for students first and second year
- Introduction Week 2024 planning
- Midterm reflection report MSc Robotics
- ASIMOV Student Reflection Report