PROGRAMME GUIDE

PHILOSOPHY OF SCIENCE, TECHNOLOGY & SOCIETY

MASTER OF SCIENCE

UNIVERSITY OF TWENTE.

Programme Guide 2024-2025

Master of Science (MSc) Programme
Philosophy of Science, Technology & Society

Information for staff and current students

Information for prospective students

The information in this programme guide is based on information available prior to the start of the academic year. While the programme guide has been compiled with utmost care, the authors are not responsible for any changes, omissions or inaccuracies. The formal rules as stipulated in the Education and Examination Regulations shall prevail. The reader cannot derive any rights from the contents of this programme guide.

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Preface

Thank you for choosing Philosophy of Science, Technology & Society (PSTS), an interdisciplinary MSc programme at the University of Twente. In this two-year programme, you will learn to study, evaluate, and shape the complex interactions between science and technology as well as technology, identity, values, and norms. You will become familiar with various approaches, perspectives, and styles of doing Philosophy, History of Technology, and Science and Technology Studies (STS).

The programme's orientation is partly analytical and interpretative (understanding how science and technologies shape and are shaped by society and culture) and partly normative (evaluating scientific and technological developments, technologies and their social and cultural impacts). Both analysis and evaluation are always rooted in concrete scientific and technological practices. The insights gained can help (re-)shape these practices via design, implementation guidelines, or policy-making, among others. Most courses are designed with a specific perspective in mind but will be brought to life by the expertise of our teaching staff about concrete scientific and technological developments.

PSTS offers a rich mixture of different elements. As you will see in this programme guide, there is a range of possibilities to develop your personal trajectory within the programme. Each year we welcome students from a wide variety of backgrounds and nationalities, adding to the richness of the experience when you study with us. At the same time, students and staff share a sense of urgency and commitment: we all want to build the reflective capacity to better understand and responsibly shape our highly technological society.

This programme guide shows what you can expect from the programme as a student and clarifies what we expect from you when you embark on this interdisciplinary adventure. We look forward to meeting and working with you!

Dr. Michael Nagenborg,
Programme Director PSTS

Reading cues

Part A: Programme information
This part provides information about the profile and objectives of the programme, the structure of the curriculum and special curriculum variants, the study methods and examination formats used, and the programme's connection to the professional field, including a few personal stories from PSTS alumni.

Part B: Organisation and quality assurance
This part describes the roles and entities involved in the organisation of the programme and explains how the quality assurance of the programme is organised, also covering the crucial role students play in this.

Part C: Practical information
This part presents information needed to get started and find your way in the programme and the University of Twente more generally, including how to enrol in courses and register for re-sits, where to find information about timetables, computer facilities ad student guidance and counselling.

Part D: Appendices
The appendices include some more formal aspects of the PSTS curriculum design.

Part A: Programme information

1. PSTS: A philosophical approach of science, technology and society

1.1 Why Philosophy of Science, Technology & Society?

Technology is transforming everyday life all over the globe, changing practices of work, love and friendship, education, health care, citizenship – in brief, shaping the way we live. New technologies like robotics, machine learning, bioplastics or gene editing promise great benefits, but achieving these requires active human steering. The two-year, international Master of Science (MSc) programme *Philosophy of Science, Technology & Society* (PSTS) provides students with the mindset, conceptual tools, and skills to better understand, evaluate and improve the interaction between science, technology and society. We train students in philosophical concepts and approaches, as well as in insights and empirical methods from the field of Science and Technology Studies (STS). PSTS graduates are able to identify and analyse emerging developments and to critically assess the way these may impact societies and social practices around the world. Moreover, they can help actors in the field to creatively shape and design emerging developments in a way that fits ethical values and human and societal needs. These competences are in high demand in academia, as well as among policy makers, consultancies, companies and other organisations working at the interface of technology and society.

1.2 The PSTS domain

The PSTS programme combines two scientific domains: Philosophy of Science and Technology, and the interdisciplinary field of Science, Technology and Innovation Studies (STIS). Teaching staff is provided by two sections of the Faculty of Behavioural, Management and Social Sciences (BMS): the section of Philosophy and the section of Knowledge, Transformation & Society (KiTeS).

“It feels like the most important study of this moment. You are at the core, the biggest thing in the world, the thing that is going to influence everyone (tech) and we analyse that, interrogate it, are working closely with it.”

(PSTS student)

1.3 Philosophy of technology and technoscience

"Our programme enables students to build bridges between technology and society."

(PSTS lecturer)

Philosophy, as it is practiced at the section of Philosophy at the University of Twente, is essentially philosophy of technology and technoscience. *Philosophy of technology* aims to understand and assess the pervasive role of technology in society. Every major activity in our lives, such as work, play, learning, communication, and travel, depends on technology. All major institutions of society, such as government, healthcare, defence, education, religion, and law, are increasingly fixated around technology, and changes in them are to a large extent driven by technology. Science today is actually technoscience: our view of what is reliable knowledge is highly mediated by the technologies used to access the world. The central role of technology in modern societies has brought along many benefits for humanity, enhancing welfare and individual freedom, but it has also brought harms, ranging from environmental problems to issues of rationalisation and alienation.

In view of the ambiguous role of technology in society, the philosophy of technology and technoscience has both an interpretive and a normative aim. Its interpretive aim is to understand the way in which technological artefacts and practices give shape to, and are themselves shaped by, core aspects of modern culture and society, including science. Its normative aim is to provide evaluations and assessments of technologies and their social and cultural impacts.

A core characteristic of philosophy of technology and technoscience at the University of Twente is its empirical orientation. Rather than studying the philosophical tradition ("what did Plato really mean with X?") or aiming to understand technology as such ("Technology with a capital T"), research usually starts from specific technologies and technological or techno-scientific practices and discourses. And rather than applying existing philosophical theories to analyse science and technology, the ambition is to understand how technologies encourage us to expand existing philosophical concepts and frameworks. On the one hand, this orientation utilises ideas and theories from the philosophical tradition, and on the other, it aims to contribute to mainstream discussions in philosophy. It does so by investigating how technology alters the concepts and realities traditionally studied by philosophy (how, for instance, medical technologies and human enhancement technologies change our notion of the subject and of the body, or how big data research challenges notions of reliable knowledge) and by studying how technology uncovers and provides new perspectives on old philosophical issues (how, for example, a study of virtual reality may help shed light on general issues in ontology).

Another characteristic feature of philosophy of technology at the University of Twente is its focus on the social impacts and cultural meanings of technology. Moreover, it seeks close collaboration with the engineering sciences and with design practices. Research frequently involves case analysis, using hermeneutic, ethnographic and/or discourse analytic methods, and develops and tests philosophical notions and theories in close interaction with these empirical cases.

Technological domains studied range from information- and communication technology, algorithms and artificial intelligence, neurotechnologies, persuasive and augmented reality devices, smart cities, robotics, military technologies to systems biology and biomedical technologies.

1.4 Science, Technology and Innovation Studies (STIS)

The dynamics and governance of science, technology and innovation is central to the domain of Science, Technology and Innovation Studies (STIS). The section Knowledge, Transformation & Society (called KiTeS, at the Faculty of Behavioural, Management and Social Sciences, or BMS) at the University of Twente studies the interactions between science, technology and society as social processes. In this multidisciplinary domain phenomena such as the dynamics of techno-scientific developments, anticipation of the future, and social attempts to stimulate and shape innovation are investigated through various disciplines, including history, sociology and policy science.

Three dimensions of the field of STIS play a particular role in the PSTS programme: Technology dynamics and assessment; History of science, technology and society; and Governance of science, technology and innovation.

1. Technology dynamics and assessment

Understanding the dynamics of technological practices and socio-technical change is of great relevance to societal actors and audiences in modern societies, ranging from scientists and technologists to government agencies, business firms, non-profit organisations, and the general public. A nuanced understanding of these practices and processes is also crucial for the ways in which socio-technological change can be assessed, shaped and governed. Learning about the concepts, theories and methods that help understand and assess technological practices and socio-technical change is therefore an important element of the PSTS master programme.

2. History of science, technology and society

When reflecting on contemporary issues in the interaction between science, technology and society, it is important to keep in mind that these take place against the background of long-term developments. Studying the social, cultural, intellectual and institutional history of these interactions provides an important basis and context for understanding contemporary and future-oriented challenges.

3. Governance of science, technology and innovation

For anyone wondering whether and how technological and scientific processes can be shaped, understanding the (changing) governance of science, technology and innovation is key. The PSTS programme therefore teaches students how to study transformation processes of the research and innovation system, the role of governance and policy making in this transformation and the processes by which scientific knowledge contributes to policy making and innovation. Such understanding is relevant not only in relation to policy making, but also for actors in industry and innovation more generally.

“I have learned a lot about new, emerging technologies. I love it. You can engage in discussions on a very high level, from a really broad view of the world.”

(PSTS student)

1.5 Characteristics and highlights of the PSTS programme

If you ask students, alumni and staff what characterises the PSTS programme, here are a few of the highlights they often mention:

Unique focus on the philosophy of technology

PSTS is worldwide the only two-year Master’s programme in philosophy of science, technology and society. Among all programmes focusing on the role of technology and society, our programme stands out because it is clearly rooted in the philosophy of technology and technoscience. The unique approach of philosophy in PSTS has, moreover, a strong empirical orientation, often taking its cue from specific scientific and/or technological practices and developments. This means concepts, approaches and methods from the interdisciplinary field of Science and Technology Studies (STS) play an important role. It is precisely the combination of philosophy and STS that helps students to develop the reflective capacities the programme aims to foster.

Strong international orientation

“I enjoy the deep and thoughtful exchanges with students.”

(PSTS lecturer)

PSTS has a very strong international orientation. All courses are taught in English and a substantial part of the teaching staff is from abroad. The programme attracts students from all over the world. Students who want to expand their international outlook even further can spend part of the second year abroad (either via an internship and/or by taking courses, although the latter may cause some study delay).

High quality teaching staff

All staff members have proven capabilities in both teaching and research. Both students and alumni in the past indicated they highly appreciated the teaching qualities as well as the expertise of the teachers involved in the programme. Their intellectual passion when teaching is often considered infectious. Students also value the open, informal character of student-staff relations.

Close link between teaching and research
The PSTS programme is – especially in the second year – strongly related to the research activities and academic expertise of the teaching staff. Both sections involved in PSTS (the sections of Philosophy and the section of Knowledge, Transformation & Society [KiTeS]), are internationally acknowledged and active, hold a leading position in philosophy and Ethics of Technology, and in Science, Technology and Innovation Studies. The research conducted by these sections has received excellent evaluations from QANU (Quality Assurance Netherlands Universities). PSTS students therefore have the benefit of being initiated into the field by and to collaborate with researchers at the forefront of current academic work in the field. In addition, students join the research colloquia organised by the sections of Philosophy and KiTeS. These colloquia often host international guest speakers and help students to become familiar with the academic community and culture.

Academic and professional skills training
While dealing with a variety of topics and approaches, PSTS explicitly trains a large number of academic and professional skills. Students learn how to read and argue in a critical way, how to quickly get an overview of a new domain and arrive at a meaningful analysis of that domain. You are trained in doing research with different types of methods (literature research and qualitative empirical research), first in small groups, later on your own. You also learn how to present and write for different audiences. These skills are highly relevant for an academic, but also for any professional career. Students work on their Skills Portfolio from the beginning of the programme.

Section 2.3.3 gives an overview of the academic skills trained in the programme. For more information about career perspectives, see section 2.4.

Fellow students
Odd as it may sound, students often mention their fellow students as one of the assets of PSTS. They appreciate the diversity of the student group in our programme. Since we welcome students with backgrounds in natural or engineering sciences, social sciences and humanities, a wealth of expertise and perspectives is available in class. The PSTS classroom is a living lab, enabling you to experience and practice the multidisciplinary communication and collaboration skills that belong to the core competences of a PSTS alumnus/a. In group assignments we actively use this variety in backgrounds, training you how to learn from each other.

High degree of academic freedom
This master's programme has been designed in such a way that students can take responsibility for their own course of study and academic progress. Even though the curriculum of the first year is more or less the same for all students, you have quite some freedom to pursue your own interests, for example when choosing which technologies or domains to focus on for a course assignment. In the second year you decide which combination of elective courses to take, whether or not to do an internship and what topic to focus on in your final project. Moreover, the programme offers several opportunities for pursuing a specific profile, as presented below.

PSTS Link: pursuing two MSc degrees in two years
Under the label 'PSTS Link' we offer two Joint Education Programmes in collaboration with other (one year) master programmes at the University of Twente. By combining courses from both programmes in a smart way and writing a combined thesis, you can attain two MSc diplomas in two years. Currently it is possible to combine PSTS with the MSc programmes in Public

Administration (PA) and in Business Administration (BA). Since you have to be admitted to both MSc programmes, you may - in case of not satisfying the admission criteria of the partner programme - be required to first take a pre-master in that programme. More information on the PSTS Link is provided in section 2.2.1.

Special 4TU Ethics and Technology track *and PhD programme in Ethics and Technology*
Students in the PSTS programme interested in ethics and aiming for an academic career can, at the end of their first year, apply for the special *4TU Ethics and Technology track,* offered in collaboration with the 4TU.Centre of Excellence for Ethics and Technology. This track is closely linked to the PhD programme in Ethics and Technology, which is offered by the 4TU.Centre. If you are admitted to the 4TU.Ethics and Technology track your second-year programme will consist of external, PhD level courses in ethics of technology, in addition to ethics-oriented PSTS courses. In the final project you can specialise in your preferred area of research and thus focus already on the subject of a possible future PhD dissertation. For more information about this track and the PhD programme Ethics and Technology, see section 2.2.2.

Special AI in Science and Society track
PSTS students can also choose to enter a special one-year *AI in Science and Society track* at the end of their first year. This is a one-year track consisting of 25 EC of advanced courses in the specific domain and a MSc thesis supervised by a staff member with research expertise in AI. Note that the *AI in Science and Society* track and the above *4TU Ethics and Technology track* are mutually exclusive. For more information about this track, see section 2.2.3.

Internship
PSTS offers the option to do an internship in the second year. This is very helpful to assess the level and relevance of your competences in a non-academic setting, to become familiar with an external organisation in a relevant field, and to explore what kind of career you would like to pursue. You may also take an internship as an opportunity to learn more about a domain and to get access to the field for our final project. The programme has contacts with a variety of organisations outside academia that welcome interns, both in the Netherlands and abroad. More information on internships can be found in the PSTS programme's Internship Guide on the PSTS website for current students: https://www.utwente.nl/en/psts/master/internship/

Excellent student guidance
If you have a hard time deciding which opportunities in PSTS to pursue, or encounter obstacles, excellent student guidance is available to help you make the right choices during your studies. The study adviser of the PSTS programme can always assist.

Encouraging students to take an active role in university life
The PSTS programme, partly in collaboration with the PSTS study association Ideefiks, also offers extra-curricular activities, inviting you to become even more actively engaged in university life. You are encouraged to become an active member of Ideefiks and join their board. In past years, groups of students have organised study trips abroad, testing their competences and exploring job market opportunities in Stockholm (2017), Dublin (2019), Vienna (2022), and Berlin (2023). See https://ideefiks.utwente.nl/.

You may also apply to become a student member of the PSTS programme committee (see section 5.3).

The PSTS community

Finally, students value the feeling of community they experience in the programme. Students do not just happen to have a common set of interests; they share a sense of urgency and commitment to think through the relations between technology and society and help improve these. Moreover, they recognise in each other a critical mindset. Needless to say, these dispositions are also shared by the PSTS teaching staff.

2. The PSTS programme

2.1 The PSTS-curriculum

2.1.1 General structure

An academic year at the University of Twente is divided into two semesters. Each semester consists of two 'blocks' (1A and 1B, and 2A and 2B) also referred to as quartiles 1 to 4. During each quartile, several courses are taken in parallel. Classes (lectures, seminars) usually take place in the first eight weeks of the quartile, after which there are two more weeks for examination. The full Master's degree programme PSTS consists of 120 EC, which amounts to 2 years/4 semesters/8 quartiles. 'EC' stands for European Credit and indicates the workload for a student. 1 EC corresponds to 28 hours of study, regardless of whether these are class hours or hours for group work or individual self-study.

The PSTS programme has a well-elaborated four-semester structure, in which each semester builds upon the knowledge and skills obtained in the previous one.

Semester 1: Introduction to the relevant sub-disciplines
In the first semester you are introduced to the relevant sub-disciplines: philosophical theories and methods, philosophy of technology and the multidisciplinary field of science, technology and innovation studies, as well as ethics, history of science and technology and philosophy of science. For those students who do not have a background in philosophy, philosophical skills and knowledge are developed to an advanced bachelor level. In all courses, basic academic skills such as reading, reasoning and argumentation, writing, and presenting are intensively trained. Courses are completed by written examinations and short papers in which you have to reproduce some basic knowledge.

Semester 2: Reflection on technology and technoscience
The main objective of the second semester is to deepen the skills and knowledge acquired in the first semester. Content wise, the focus is now directed towards the philosophical analysis of technology and technoscience in society. Argumentation, presentation, reading and writing skills are deepened by targeted exercises. You write more substantial papers in which the literature is critically examined in a comparative way and in which you formulate arguments to develop your own position. You also give presentations and practice your oral discussion skills in seminars. Moreover, this semester starts the training of professional and research skills. The course TechnoLab invites you to actively put your theoretical and practical skills to use in a project focusing on a technology in development. This course also helps you to understand how (social) scientists and engineers approach questions and problems related to technology and technoscience, and to use different backgrounds as a resource in multidisciplinary collaboration. The Research Methods course introduces you to what it means to do research in the field of PSTS and thus prepares you for the more research-oriented courses in the second year. This course also gives you a preview of the research activities of staff members of the sections of Philosophy and KiTes and thus serves as a first orientation on possibilities for the final project.

Semester 3: Specialisation

The third semester offers a variety of elective courses that familiarise you with the state of the art in different research domains in the field of PSTS. Courses focus on different kinds of topics and questions; by making your personal selection, you develop your own PSTS trajectory. You can, for example, opt for those courses dealing with interpretative rather than normative questions, or for those courses focusing on theoretical controversies rather than practical challenges, or find a midway by combining these. Regardless of the topic and approaches discussed, all courses are closely connected to the research activities and interests of teaching staff. You thus acquire knowledge of the latest developments in academic research. The courses also aim to develop research skills to a level preparing you to conduct your own independent research for the final thesis. The obligatory course MasterLab will guide you towards a thesis topic, a supervisor and a research question for your final project. This supervisor coaches you to develop a research proposal for the final project, while additional feedback and research skills training is offered by the graduation coordinators and fellow students in MasterLab.

Semester 4: Final thesis

In this semester you work on your final thesis project, under the continued guidance of your supervisor. In the final thesis you provide a proof of your competence to plan and carry out a research project in the field of PSTS at a junior academic level. Optionally, in this semester you can also explore possibilities for a professional career outside academia by doing an internship with an external organisation. During the second semester meetings of MasterLab you discuss your progress with other students working on their final theses and the graduation coordinators.

Year 1 and year 2: Skills Portfolio

During the first 1,5 year in the programme, students engage in a dedicated *skills learning line*. By the end of the third semester students can exercise all core PSTS skills (as described in final qualifications S1-S10 of the PSTS programme and translated into the skills line checklist C1-C9, see sections 2.3.1 and 2.3.3) at a sufficient level and are able to take responsibility for their own learning and personal development. This way they are well prepared for their final thesis project. The final assessment is made at the end of quartile one of the second year.

2.1.2 First year curriculum PSTS (2024-2025, full-time)

The curriculum of the first year is depicted below. Detailed course information can be found on the PSTS-programme page in Canvas and in the online course catalogue; see *https://osiris.utwente.nl/student/OnderwijsCatalogus.do*

PSTS curriculum year 1, semester 1:

Semester 1	
Block 1A	**Block 1B**
Philosophy of Technology (201200063) 5 EC	Philosophy of Science in Practice (201400573) 5 EC
Science and Technology Studies (201200064) 5 EC	History of Science and Technology (201400574) 5 EC
Philosophical Theories and Methods (201200059)	Ethics and Technology I (202300302)

5 EC	5 EC
PSTS Skills Portfolio (202000102) 0 EC	
8 attended colloquia (202200273) 0 EC	

PSTS curriculum year 1, semester 2:

Semester 2	
Block 2A	**Block 2B**
TechnoLab (202000252) 5 EC	Research Methods (202400551) 5 EC
Philosophical Anthropology and Technology (191612550) 5 EC	Technology and Social Order (191622510) 5 EC
Society, Politics and Technology (191612560) 5 EC	Ethics and Technology II (202300264) 5 EC
PSTS Skills Portfolio (202000102) 0 EC	
8 attended colloquia (202200273) 0 EC	

With regard to the year #1 courses, the following course-specific pre-requisites apply:

Course	**Prerequisite**
202000252 TechnoLab (2A)	• 201200063 Philosophy of Technology • 201200059 Philosophical Theories and Methods • 201200064 Science and Technology Studies
202400551 Research Methods (2B)	• 201200063 Philosophy of Technology • 201200059 Philosophical Theories and Methods • 201200064 Science and Technology Studies • 202000252 TechnoLab
202300264 Ethics and Technology II (2B)	• 202300302 Ethics and Technology I
191622510 Technology and Social Order (2B)	• 201200064 Science and Technology Studies • 201400574 History of Science and Technology

Additional requirement: colloquia attendance

At European universities colloquia are part of the academic culture. During such colloquia academics present recent and ongoing work and discuss it with colleagues. Attending such colloquia and participating in the debates are thus good ways to become familiar with actual topics and trends in research and with academic culture in general. In the PSTS programme there are several types of colloquia:

a. Section level: both the sections of Philosophy and KiTeS organise a series of lectures and presentations, often featuring guest speakers honouring the UT with a visit.

b. Research group level: within the sections, there are theme-oriented research groups, focusing for example on Technology & Values, or on Human-Technology Relations. During these meetings, UT staff members present their work in progress and discuss it with colleagues and students.
c. Graduation colloquia: graduating PSTS students present their Master's thesis during a meeting that is open to all.

All colloquia are announced on the PSTS Canvas site. Students in PSTS are required to attend *at least 8 colloquia* during their two years of studies. Ideally, you have already attended eight colloquia at the end of Q1 of the 2nd year. Attendance is monitored and registered. You have to sign the attendance form at the colloquium. In case there is no attendance list present, students have to make their own list with all attendees (incl. date, name of the speaker and topic of the colloquium), and have this list signed by the coordinator of the colloquium (and hand it in at the Educational Affairs Office "BOZ" PSTS). The Educational Affairs Office PSTS keeps record of the colloquia that you attended.

2.1.3 Second year curriculum PSTS (2024-2025, full-time)

The second year of the PSTS programme offers you the opportunity to develop your own trajectory in a variety of directions. The courses during the first semester of the second year acquaint you with specialist knowledge and insights, often discussing the state of the art in research on a specific theme or in a specific subfield. In addition, your research skills are trained, and you develop a final project research proposal. In the second semester you conduct your own research under regular (individual and collective) supervision.

Detailed course information can be found on the PSTS-programme site in canvas and in the online course catalogue at: *https://osiris.utwente.nl/student/OnderwijsCatalogus.do*

Please note that for students taking one of the PSTS Link (Joint Education) programmes or who are accepted for the 4TU Ethics & Technology track, the second-year programme has a different structure. See section 2.2.1 and 2.2.2 for these special variants.

Also note that we are in the process of revising some of the 2nd year courses. The new curriculum will be announced in Spring 2025.

Note*:*
Before starting the year # 2 electives, you have to meet a number of general entry requirements:

- You need to have completed at least 40 EC from the year #1 courses.
- Depending on the electives chosen, you are advised to have completed specific first year courses (please check the Advised Completed Courses below).
- Before starting MasterLab, you need to have completed at least 50 EC from the year #1 courses, and in any case TechnoLab (202000252) and Research Methods (202400551).
- Before starting the programme's Final Project / Master's Thesis (possibly with an Internship) you need to have completed at least 75 EC of all PSTS courses, and in any case TechnoLab (202000252), Research Methods (202400551) and MasterLab 1st semester (202000254).

In addition, the following *advised completed courses* apply to PSTS year #2 electives:

PSTS Year #2 Elective	Advised Completed Courses
201800145 Technologies in Use (1A)	*No additional requirements*
201800146 Transformation of Knowledge in a Digital Age (1A)	*No formal requirement, but advised:* • 201200064 Science and Technology Studies • 201400573 Philosophy of Science in Practice • 201400574 History of Science and Technology • 202000252 TechnoLab
202100093 Technologies and Discourse (1A)	*No formal requirement, but advised:* • 201200064 Science and Technology Studies • 191622510 Technology and Social Order
201800148 Good Technology for Users and Society (1A)	*No formal requirement, but advised:* • 202300302 Ethics and Technology I • 191612560 Society, Politics and Technology • 202300264 Ethics and Technology II
201800149 Anticipation and Evaluation of Emerging Technologies (1B)	*No formal requirement, but advised:* • 191612540 Ethics and Technology I • 202000252 TechnoLab • 202300264 Ethics and Technology II
201800150 Minds, Bodies and Technologies (1B)	*No formal requirement, but advised:* • 191612550 Philosophical Anthropology and Technology
202200010 Ethics and Epistemology of AI and Robotics(1B) & 201800151 Rethinking Science-Technology Relations (1B)	*No additional requirements*

Semester 1

For the first semester, you make your own selection of five courses from the eight elective PSTS courses available. Optionally, you can substitute one or maximum two PSTS elective(s) by one or two relevant “external” course(s) from another master’s programme, provided this is approved by PSTS Programme Management for courses at the UT and the Examination Board for courses outside of the UT. The Examination Board has already approved two alternative courses from other UT programmes (20110077 Policy Analysis in Public and Technological Domains, and 201600012 Management and Governance of Innovation and Creativity), so you can also opt for taking (one of) these as elective(s). (Note: pay attention to the schedule as it may conflict with PSTS courses.)

All elective courses offered by the PSTS programme focus on topics and themes that are addressed in research activities of staff members. These courses make you familiar with ongoing research and academic discussion on these themes and in specific subfields, and train the skills needed to contribute to such research. Several courses also explicitly train professional skills, like report writing and collaboration with other disciplines

During the first semester, in the course MasterLab, you are also guided towards the choice of a thesis topic and a thesis supervisor and supported in developing a research proposal for the final thesis project. This course is obligatory for all students. MasterLab is supervised by a team of two graduation coordinators, who monitor and facilitate students' progress throughout the graduation trajectory.

Finally, during the first quartile of the second year you finalise the Skills Portfolio.

PSTS curriculum year 2, semester 1:

<table>
<tr><th colspan="3">Semester 1</th></tr>
<tr><td colspan="2">Block 1A (typically 3 out of 4 electives)</td><td>Block 1B (typically 2 out of 4 electives)</td></tr>
<tr><td colspan="2">Technologies in Use
(201800145)
5 EC, elective</td><td>Anticipation and Evaluation of Emerging Technologies
(201800149)
5 EC, elective</td></tr>
<tr><td colspan="2">Transformation of Knowledge in a Digital Age
(201800146)
5 EC, elective</td><td>Minds, Bodies and Technologies
(201800150)
5 EC, elective</td></tr>
<tr><td colspan="2">Technologies and Discourse
(202100093)
5 EC, elective</td><td>Rethinking Science-Technology Relations
(201800151)
5 EC, elective</td></tr>
<tr><td colspan="2">Good Technology for Users and Society
(201800148)
5 EC, elective</td><td>Ethics and Epistemology of AI and Robotics
(202200010)
5 EC, elective</td></tr>
<tr><td colspan="3">MasterLab (202000254)
5 EC, obligatory</td></tr>
<tr><td>PSTS Skills Portfolio
(202000102) 0 EC</td><td></td><td></td></tr>
<tr><td>8 attended colloquia
(202200273) 0 EC</td><td></td><td></td></tr>
</table>

Semester 2

In the second semester you work on your final project with your thesis supervisor. You carry out the research planned in the research proposal. During the process, you also attend the meetings of MasterLab, in which you give presentations about the status and progress of your final thesis project and give feedback on the work of your peers. The two graduation coordinators facilitate this peer-feedback process and support the learning experience.

You may opt for an internship of 10 EC with an external organisation, which can, but need not be related to the topic of the final project. The internship usually takes place in the third quarter of the second year, and if it is included, the final thesis project is less extensive (20 instead of 30 EC).

For a description of the procedures regarding an internship, see the PSTS Internship Guide **https://www.utwente.nl/en/psts/master/internship/psts-internship-guide.pdf**

The final examination at the end of the second year includes an oral exam on the thesis as well as a public presentation about and discussion of the thesis during a graduation colloquium. See the Final Project Guide on the PSTS website **https://www.utwente.nl/en/psts/master/** for detailed information about graduation.

PSTS curriculum year 2, semester 2:

<table>
<tr><th colspan="2">Semester 2</th></tr>
<tr><th>Block 2A</th><th>Block 2B</th></tr>
<tr><td colspan="2">Master's Thesis 30 EC (201300088)

OR

Internship 10 EC (201300090) and
Master's Thesis 20 EC (201300089)</td></tr>
<tr><td colspan="2">MasterLab
(202000254)
obligatory</td></tr>
</table>

2.1.4 Part-time programme

The PSTS programme can be done part-time, usually taking 4 instead of 2 years. However, since all courses are offered only once a year and three parallel courses of the fulltime variant cannot be neatly divided into two equal parts, doing the programme part-time requires careful planning. The most optimal plan, taking pre-requisites within the programme into account, is presented in the 4-year part-time schedule below. In case you want to deviate from this because of your individual situation, you need to develop a feasible and personal plan, in consultation with the study adviser.

In the part-time structure, both years of the regular full-time programme are divided into two parts, each with a study load equivalent to 30 EC (European Credits; 1 EC corresponds with 28 hours of study). Part-time students take the same courses and participate in the same classes as full-time students but take 1 or 2 (instead of 3) courses per quartile. Moreover, if needed they are allowed to complete some of these courses in the next quarter, often using the second opportunity for an exam or the second submission date for papers to complete a course.

If you are formally registered as a part-time student at the UT (and pay the correspondingly lower tuition fee), you may take and obtain a maximum of 40 EC per year. If more credits are obtained, you must register and pay as a full-time student. (Please note: as a part-time student you normally have a different legal position and are not entitled to every student facility.)

Curriculum of the part-time programme (2024-2027)

Academic Year	Block 1A	Block 1B	Block 2A	Block 2B	
M1 – a Year 1	**Philosophy of Technology** (201200063, 5EC) **Science and Technology Studies** (201200064, 5EC) *10 EC*	**Philosophy of Science in Practice** (201400573, 5EC) *5 EC*	**Philosophical Anthropology and Technology** (191612550, 5 EC) **Society, Politics and Technology** (191612560, 5EC) *10 EC*	**Technology and Social Order** (191622510, 5 EC) *5 EC*	
M1 – b Year 2	**Philosophical Theories and Methods** (201200059, 5 EC) *5 EC*	**History of Science and Technology** (201400574, 5 EC) **Ethics and Technology I** (202300302, 5 EC) *10 EC*	**TechnoLab** (202000252, 5 EC) *5 EC*	**Ethics and Technology II** (202300264, 5 EC) **Research Methods** (202400551, 5 EC) *10 EC*	
M2 – a Year 3	Elective 1 (5 EC) Elective 2 (5 EC) *10 EC*	Elective 3 (5 EC) Elective 4 (5 EC) *10 EC*	(Elective elsewhere??) orientation Master's Thesis (individually) + start writing research proposal	(Elective elsewhere??) orientation Master's Thesis (individually) + start writing research proposal	
M2 – b Year 4	Elective 5 (5EC) MasterLab_sem1 Master's Thesis	MasterLab_sem1 Master's Thesis	Master's Thesis incl. MasterLab_sem2	Master's Thesis incl. MasterLab_sem2	*Possible extension completing thesis*

Note 1: Apart from this offered part-time plan, part-time students need to follow courses the same way as full-time students, so all the same requirement, deadlines, etc. apply.
Note 2: In addition to completing these courses, part-time students, as all other students, need to successfully complete the Skills Portfolio and to attend at least eight colloquia.

2.2 Special opportunities in PSTS

2.2.1 PSTS Link Joint Education Programme trajectories

The PSTS programme offers two so-called PSTS *Link trajectories* that lead to two MSc degrees:

- PSTS Link with the UT master's degree programme Business Administration (PSTS-Link BA, 2 years)

- PSTS Link with the UT master's degree programme Public Administration (PSTS-Link PA, 2 years)

In these joint education programme trajectories, you acquire *two master of science (MSc) diplomas in two years*, issued by the examination boards of each of the two participating programmes.

Admission
To enrol in the joint education programme, you have to be admitted to the MSc PSTS, as well as to the partner programme. This means that if you are interested in a joint education programme trajectory, you have to apply to each programme separately.

For students already enrolled in PSTS this implies that you *are not automatically eligible* for a specific joint education programme. A specific type of bachelor's diploma or a pre-master in the relevant domain may be required. Conversely, students already enrolled in one of the partner programmes (BA or PA) will have to provide evidence of (among others) their interest in reflection on issues of science, technology and society, and of sufficient critical thinking skills to be admitted to PSTS.

You can decide to switch to the PSTS Link, provided you are accepted as student by the partner programme as well. This choice ultimately has to be made at the end of quartile two of year #1 in the regular PSTS programme. Switching at a later stage is possible, but in that case the combined curriculum will take more than two years.

For more information and discussion of the PSTS Link joint education programmes, please contact the PSTS study adviser (for contact details see paragraph 5.1).

Generic PSTS-Link structure and curriculum overview
The basic structure of these PSTS-Link joint education programmes is as follows:

- In **year 1** students dominantly take the full, regular PSTS year #1 programme, plus – depending on the specific joint programme – one other course from the partner programme. This gives you a robust basis in the PSTS domain, and enables you to take the 1st year, obligatory PSTS courses in the advised order.
- In **year 2**, students take a pre-defined package of obligatory (and optionally elective) courses in the partner programme, giving you a strong basis in the other domain, plus at least two PSTS year #2 elective courses. In addition, you take a course preparing you for the final project (in either one of the two programmes involved) and you may complete a joint final project (i.e. you may write one master's thesis valid for both programmes).

2.2.1.1 PSTS Link Business Administration

In case of combining PSTS with Business Administration (BA), students use insights from the conceptual, empirical and/or normative analysis of the interaction between science, technology and society to reflect on the role and activities of business and management in innovation processes, as well as help improve the strategies used in those processes. Moreover, insights from Business Administration could enhance the practical orientation of philosophical and STS work focusing on innovation processes and their management. Overall, the PSTS-BA double

degree graduate would be able to offer reflective, critical as well as practice-based contributions to the domain of management and change processes in high tech human touch (HTHT) contexts.

Curriculum double degree programme PSTS-Business Administration (2023-2024)

YEAR 1			
Semester 1		*Semester 2*	
Q1	**Q2**	**Q3**	**Q4**
Philosophical Theories & Methods (201200059, 5 EC)	Ethics & Technology I (202300302, 5 EC)	TechnoLab 202000252, 5 EC)	Research Methods (202400551, 5EC)
Science & Technology Studies (201200064, 5 EC)	History of Science & Technology (201400574, 5 EC)	Society, Politics & Technology (191612560, 5 EC)	Technology & Social Order (191622510, 5 EC)
Philosophy of Technology (201200063, 5 EC)	Philosophy of Science in Practice (201400573, 5 EC)	Strategic Technology, Management & Innovation (2016000015, BA profile, 5 EC)	Ethics & Technology II (202300264, 5 EC)
PSTS Skills Portfolio (202000102) 0 EC			
8 attended colloquia (202200273) 0 EC			

YEAR 2			
Semester 1		*Semester 2*	
Q1	**Q2**	**Q3**	**Q4**
Entrepreneurial Leadership and Responsible Design (201600002, BA core, 5 EC)	Anticipation and Evaluation of Emerging Technologies (201800149, PSTS, 5 EC)	Masterclass BA (201400018, 5 EC)	
International Entrepreneurship – a Strategic Technology Perspective (201600011, BA profile, 5 EC)		Combined Final Thesis Project* (201900178, 25 EC)	
Management and Governance of Innovation and Creativity (201600012, BA profile & PSTS elective, 5 EC)	Business Valuation and Corporate Governance (201800089, BA core, 5 EC)		
PSTS MasterLab (202000254) 5 EC			
PSTS Skills Portfolio (202000102) 0 EC	8 attended colloquia (202200273) 0 EC		

2.2.1.2 PSTS Link Public Administration

In the case of combining PSTS with Public Administration, students use insights from the conceptual, empirical and/or normative analysis of the interaction between science, technology and society to think through and design ways to manage and govern societal challenges related to science and technology. In addition, insights from the theories, models, empirical analyses and methods in the field of Public Administration could be used to translate philosophical and STS work into the practices of policy making, governance and management. Overall, the PSTS-PA graduate would be able to offer reflective, critical as well as practice-based contributions to the domain of policymaking, management and governance of the interactions between science, technology and societal challenges.

Curriculum double degree programme PSTS-Public Administration (2023-2024)

YEAR 1			
Semester 1		*Semester 2*	
Q1	**Q2**	**Q3**	**Q4**
Philosophical Theories & Methods (201200059, 5 EC)	Ethics & Technology I (202300302, 5 EC)	TechnoLab 202000252, 5 EC)	Research Methods (202400551, 5EC)
Science & Technology Studies (201200064, 5 EC)	History of Science &Technology (201400574, 5 EC)	Society, Politics & Technology (191612560, 5 EC)	Technology & Social Order (191622510, 5 EC)
Philosophy of Technology (201200063, 5 EC)	Philosophy of Science in Practice (201400573, 5 EC)	Public Governance and Legitimacy (194101070**,** PA core, 5 EC)	Ethics & Technology II (202300264, 5 EC)
PSTS Skills Portfolio (202000102) 0 EC			
8 attended colloquia (202200273) 0 EC			

YEAR 2			
Semester 1		*Semester 2*	
Q1	**Q2**	**Q3**	**Q4**
Policy-making for complex problems (PA core, 202201391, 5 EC)	Anticipation and Evaluation of Emerging Technologies (PSTS 201800149, 5 EC)	Deliberative Governance of Knowledge & Innovation (201100076**,** PA S&T profile, 5 EC)	
Technologies and Discourse (PSTS 202100093, 5 EC) OR Policy Analysis in Public & Technological Domains (201100077**,** PA S&T profile, 5 EC)	PA Academic Research (201500145, 5 EC) OR	Public Governance and Policy Networks (194111240**,** PA Core, 5 EC)	
Crisis management in technological domains (202100089 PA Core, 5 EC)		Combined Final Thesis Project * (201900179, 25 EC)	
PSTS MasterLab (202000254) (5 EC)			
PSTS Skills Portfolio			
8 attended colloquia			

*Students who take the PSTS-PA programme are encouraged to take PSTS MasterLab as well during their thesis project in semester 2, but arrangements may depend on what is feasible and most useful for the student.

2.2.2 The 4TU Ethics & Technology track

The 4TU.Centre for Ethics and Technology (4TU.Ethics) was founded in 2007 by the board of the federation of the three technical universities in the Netherlands (Delft, Eindhoven, and Twente) and later joined by the Wageningen University, to study ethical issues in the development, use and regulation of technology. The Centre currently has seventy senior and junior researchers as members, which makes 4TU.Ethics worldwide *the* major research centre addressing societally relevant and philosophically challenging issues at the interface between ethics and technology. Most of the members of 4TU.Ethics are members of the philosophy departments at TU Delft, TU Eindhoven, University of Twente and Wageningen University. For more information on the Centre,

see http://www.ethicsandtechnology.eu. The Centre offers a PhD programme in Ethics and Technology [1], as well as a specialisation track in Ethics and Technology within the PSTS master programme. At the end of the first year of the PSTS programme you can opt for the Ethics and Technology track offered by 4TU.Ethics. Students taking the Ethics and Technology track graduate as regular PSTS students, but with the distinction of having taken the 4TU.Ethics-approved Ethics & Technology track. The track is also preparatory for the PhD programme in Ethics and Technology, and PSTS students who have completed the track have an increased chance of being accepted into the PhD programme. Several courses in the track will be taken together with PhD students in the 4TU.Ethics programme.

Some of the central research questions in both the Master track and the PhD programme are: How can we see to it that newly emerging and converging technologies and infrastructures express our considered moral judgments and widely endorsed public values? How can we assess our technology in the light of public moral values like sustainability, user autonomy, safety, privacy, accountability, democracy and quality of life? What role should public actors play in decision making about technological risks in design? And how are our norms and values affected by technological developments? Research themes include the requirements for responsible innovation, the possibility of value-sensitive design, ethical parallel research (ethical investigations in close collaboration with programmes of technological development), ethical technology assessment, the ethics of technological risks, the anthropology and ethics of human-technology relations, and many others. Technologies covered include information and communication technology, biomedical technology, nanotechnology, industrial design, environmental technology, architecture and urban planning, neuro- and cognitive technology, military technology, and others.

Admission and Exit

You can choose for the Ethics & Technology track at the end of the first year of PSTS, when a choice is made for your studies in the second year. The Ethics & Technology track has the following admission requirements:

Entry Criteria

- At the start of the track, you should have completed at least 55 EC from the first year of PSTS, including the courses 'Ethics and Technology I', 'Ethics and Technology II', and 'Society, Politics and Technology'.
- An average grade of ≥7.5 for the three courses 'Ethics and Technology I', 'Ethics and Technology II', and Society, Politics and Technology'. If the grade for 'Ethics and Technology II' is not available in time for admission, admission can also be granted on the basis of an average grade of ≥7.5 for 'Ethics and Technology I' and 'Society, Politics and Technology' plus an average grade of ≥7.5 for all completed PSTS courses, or an average grade of ≥8.0 for 'Ethics and Technology I' and 'Society, Politics and Technology'.

[1] The four-year structured PhD programme in Ethics & Technology is organised at the Twente Graduate School (TGS) in collaboration with the Philosophy Departments at the TU Delft, TU Eindhoven and Wageningen University. PhD candidates will follow the same courses, while not formally becoming a member of the TGS. Students who have completed the Ethics & Technology track or who have completed other courses in ethics and technology at the graduate level can ask for an exemption by which some or all course requirements in the four-year programme are waived. For more information on the PhD programme, please refer to the 4TU.Ethics website: https://www.4tu.nl/ethics/education/phd-graduate-school-programme/

You can apply for admission to the Ethics and Technology track at the end of the first year of the PSTS programme by sending a motivational letter to the track daily coordinator (with CC to the PSTS study adviser), requesting to be admitted to the track before June 30. This e-mail should include an official Osiris Study Progress Report from PSTS that contains a listing of completed courses and grades received. Decisions about admission and exit are taken by the 4TU Ethics & Technology track daily coordinator and coordinator.

Exit Criteria
Once being admitted to the 4TU Ethics & Technology track, you have to be aware that your academic achievement has to meet specific standards. In case you do not meet these standards, you will have to leave the track (and proceed in the regular PSTS programme). These standards are:

- Having completed the course 'Good Technologies for Users and Society' (201800148) before the start of quartile 1B.
- Having completed the courses 'Anticipation and Evaluation of Emerging Technologies' (201800149), and 'Minds, Bodies and Technologies' (201800150) before the start of quartile 2A.
- When these three above mentioned courses have been completed, their average score should be at least a 7.5.

The first and second semesters of the 4TU Ethics & Technology track

The course curriculum in the first semester of the track consists of graduate courses offered by University of Twente, TU Eindhoven, TU Delft, Wageningen University & Research (WUR) in collaboration with the Dutch Research School of Philosophy (OZSW). These external courses are usually compressed into one week, after which an individual assignment is made. Students are responsible for arranging their own transportation. In addition, students in this track are expected to attend the meetings and workshops organised by the 4TU.Ethics staff at the UT Philosophy section (the so-called "Technology & Values meetings").

The second semester is devoted to writing a master's thesis, which will be supervised by University of Twente ethicists from the 4TU Centre for Ethics and Technology (plus - optionally – an external adviser from TU Delft, TU Eindhoven or Wageningen University).

Finally, students of the 4TU track are obliged to take both MasterLab courses in semester one and two respectively. If they cannot attend classes because of their external obligations, alternative arrangements must be made with the MasterLab coordinators.

Curriculum of the 4TU Ethics & Technology track (2024-2025)

<table>
<tr><th colspan="4">4TU Ethics & Technology Track</th></tr>
<tr><td colspan="2">Semester 1 Elective UT courses – Choose three from:</td><td colspan="2">Semester 2</td></tr>
<tr><th>Block 1A</th><th>Block 1B</th><th>Block 2A</th><th>Block 2B</th></tr>
<tr><td>Good Technology for Users and Society (UT)
(201800148)
5 EC</td><td>Anticipation and Evaluation of Emerging Technologies (UT)
(201800149)
5 EC</td><td colspan="2">Master's Thesis in Ethics & Technology, (201300283)
30 EC</td></tr>
</table>

<table>
<tr><td>Ethics and Epistemology of AI and Robotics (UT)
(202200010)
5 EC</td><td>Minds, Bodies and Technologies (UT)
(201800150)
5 EC</td><td rowspan="2">Supervisors are members of 4TU.Ethics from UT, TU Delft, TU Eindhoven or WUR

If you have been accepted into the 2+3 PhD programme in Ethics of Technology, you write a combined Master's thesis and PhD thesis proposal of 30 EC. The master's thesis is either a stand-alone study on which the PhD thesis builds or a chapter of the future dissertation.</td></tr>
<tr><td colspan="2">Elective 4TU Courses – Choose two from:

Philosophy of Risk (TU/e)
5 EC Q1

Design for Justice / Human Autonomy (TUD) Q1
5 EC Q2

Continental Philosophy of Technoscience (WUR) Q1
5 EC Q1</td></tr>
<tr><td colspan="2">Upon approval by the Director of the PhD graduate programme and the PSTS Programme Director, other relevant courses, e.g. offered by OZSW in the 1st semester</td><td></td></tr>
<tr><td colspan="3">PSTS MasterLab, (202000254),
5 EC</td></tr>
<tr><td>PSTS Skills Portfolio
(202000102) 0 EC</td><td colspan="2"></td></tr>
<tr><td>8 attended colloquia
(202200273) 0 EC</td><td colspan="2"></td></tr>
</table>

2.2.3 The AI in Science and Society track

This is a new one-year track consisting of 25 EC of advanced courses in the specific domain and a MSc thesis supervised by a staff member with research expertise in AI. Students taking the *AI in Science and Society* track graduate as regular PSTS students but with the distinction of having taken the track. AI-related job opportunities (both academic and non-academic) now abound due to the increasingly significant role of AI-based technologies in societal domains such as healthcare, finance, education, and governance. As a result, both private and non-private organizations are now hiring for AI-related positions, such as AI ethics consultants and AI policymakers, in addition to technical AI experts. Academic job opportunities, especially at the level of PhD positions in both Philosophy and STS, are also increasing due to the increasing allocation of grant funding to AI-related projects, especially in the Netherlands

Curriculum of the AI in Science and Society track (2024-2025)

<table>
<tr><th colspan="4">AI in Science and Society track</th></tr>
<tr><td colspan="2">Semester 1 Obligatory courses</td><td colspan="2">Semester 2</td></tr>
<tr><td>Block 1A</td><td>Block 1B</td><td>Block 2A</td><td>Block 2B</td></tr>
</table>

<table>
<tr><td>Transformation of Knowledge in a Digital Age (201800146)
5 EC</td><td>Rethinking Science-Technology Relations
(201800151) 5 EC</td><td rowspan="3">Master's Thesis relating to AI, (201300088)
30 EC</td></tr>
<tr><td>Good Technology for Users and Society (201800148)
5 EC</td><td>Ethics and Epistemology of AI and Robotics (202200010)
5 EC</td></tr>
<tr><td colspan="2">PLUS

One elective of your own choice from the PSTS 2 curriculum
5 EC</td></tr>
<tr><td colspan="3">PSTS MasterLab, (202000254),
5 EC</td></tr>
<tr><td>PSTS Skills Portfolio
(202000102) 0 EC</td><td colspan="2"></td></tr>
<tr><td>8 attended colloquia
(202200273) 0 EC</td><td colspan="2"></td></tr>
</table>

2.3 Objectives and coherence of the programme

2.3.1 Final qualifications PSTS

The objectives of the PSTS programme are summarised in a set of final qualifications, which is listed below. These indicate what knowledge and skills a PSTS student should have attained at the moment of graduation. A PSTS graduate has:

Knowledge

K1	Extensive knowledge of the philosophy of technology, including its philosophical and STS approaches, and the ability to relate these approaches to each other.
K2	Good knowledge of the various philosophical subfields, including ethics of technology, social and political philosophy of technology, philosophical anthropology of technology, epistemology and metaphysics of technology, and philosophy and history of (engineering) science and technology.
K3	Good knowledge of approaches and themes in STS.
K4	Good knowledge of empirical research methods in STS and philosophical research methods.
K5	A basic understanding of the relation between the philosophy of technology, including its various subfields, methods and history, to general philosophy, including its various subfields, methods and history.
K6	Specialist knowledge of a sub-domain or specialised topic within the philosophy of technology.

Skills

S1	Writing and verbal communication skills.
S2	Skills in reasoning and arguing and in the analysis of arguments.

S3	Skills in locating, reading and analysing scientific texts from various disciplines in philosophy and STS, as well as professional and popular texts, that reflect on technology, engineering sciences, technological developments, and the relationship between technology and society.
S4	Skills in the identification and analysis of problems related to the role of technology and science in society, and the ability to formulate a position with regard to these problems from a philosophical and/or STS perspective.
S5	The ability to perform original scientific research in the field of philosophy of technology, using philosophical and/or STS methods. This includes the ability to arrive at a well-considered problem formulation, the selection and development of appropriate theories and (empirical) methodologies, and the proper execution of a research.
S6	Skills in the comparison of differing scientific approaches or paradigms in a sub-domain or specialised topic, the application of these approaches, and the ability to critically analyse them.
S7	The ability to generate philosophical and/or STS research results that are relevant for scientific, technological, and/or social practices.
S8	The capacity to collaborate with and communicate research results and solutions to scientists in- and outside one's own academic field, as well as professionals from societal domains, and the ability to generate learning processes from that interaction and collaboration.
S9	Reflective capacity pertaining to one's own work, selecting or altering course, and the ability to translate learning trajectories into the development of more general knowledge and methods.
S10	Capable to endeavour a career inside or outside of academia wherein philosophical and STS knowledge and skills are required.

These final qualifications are well aligned with the Dublin descriptors (an international benchmark for what completion of master level should entail, see Appendix 1). This implies that PSTS graduates should be capable to function on a master's level.

2.3.2 Alignment between programme objectives and curriculum

The PSTS curriculum has been designed in such a way that all courses clearly contribute to the realisation of the final qualifications. Appendix 2 shows how the objectives of the different courses align with the programme objectives. Together, they cover the whole set of final qualifications.

2.3.3 Skills learning line, mentoring and portfolio

The PSTS curriculum includes a learning line that aims to develop a variety of skills in students, in line with PSTS Final Qualifications S 1-S10 (see 2.3.1). These cover *basic skills* like reading, argumentation, writing and presenting; *research skills* like locating literature, identifying research questions, designing and conducting research with appropriate methodologies; and *professional skills* like giving and receiving feedback, interdisciplinary collaboration, self-reflection and career development.
The skills learning line is largely embedded in the different courses, so skills training is integrated with learning about content. Whereas the courses in the first three quartiles of year one focus mainly on basic skills, from Q4 onwards attention shifts to research and professional skills. Additionally, through the Skills Portfolio (202000102) the programme features a mentoring system and a personal Canvas page, with the aim to help students

(1) to become aware of and reflect on the level of skills they have achieved
(2) to develop a good sense of what needs and preferences they have for further skills development, and

(3) to actively pursue learning activities that help them achieve both the programme's and their personal skills objectives.

To this end, the student and the mentor (typically a PSTS teaching staff member) schedule a number of *mentor meetings* (typically one meeting per quartile) to reflect on the development of their skills. Mentors are assigned at the beginning of the first year. In addition, each student gets access to a *personal Canvas page*, where material on specific skills, gathered from coursework and corresponding to the skills learning line checklist, can be uploaded and serve as basis for the discussion in the mentor meetings. During the meetings, the mentor and the student will reflect on the student's development, take stock of what has been achieved, and diagnose where and how the student needs to work on specific skills.
Participation in (and preparation for) the mentor meetings is obligatory for all students. At the end of quartile one in year two, the mentor will assess a student's performance in a formative way (pass/fail for the Skills Portfolio). In case of a fail, omissions must be supplemented in quartile two.

2.3.4 Teaching methods and examination formats

Teaching methods and examination formats in the PSTS master programme are aligned with the learning goals of the relevant semester and its courses. They build on the growing capacities and independence of students, who are gradually initiated in the academic profession. The constructive alignment of objectives (regarding knowledge as well as skills), teaching methods and examination formats is summarised in the table below.

Sem	Main knowledge and *skills* objectives	Teaching methods include	Examination formats include
1	Introduction to subdisciplines relevant to PSTS; *Training skills in academic reading, writing, argumentation*	Interactive lectures; teacher guided study of texts; supervised discussion; group discussion; participation in academic colloquia	Open question exams, writing assignments
2	Application of analytical perspectives to issues regarding science, technology and society; *Expanding reading, writing, and argumentation skills; oral communication skills; basic analytic and research skills; systematic and collaborative problem solving*	Interactive lectures; seminars; group discussions with teacher; peer feedback; student-driven group work; participation in academic seminars and colloquia	Assignments, presentations and essays, including limited amount of group work
3	Initiation into PSTS research domains; *Expanding analytical and; research skills*	Research seminars, partly driven by teachers' and students' research interests; group discussions, peer feedback;	Assignments (written & oral, including limited amount of group work), class participation, essays

		participation in academic colloquia	
4	Individual specialisation; *Acquiring skills to conduct independent PSTS research (and, optionally, to function in a non-academic setting)*	Individual, expert supervision, and group coaching; participation in sectional research groups and in academic colloquia	Thesis, oral exam, colloquium

2.3.5 Examination in PSTS

Course assessment formats

Most course assessment formats in the PSTS programme are individual. A limited number of courses include one or more group assignments as part of the assessment. If so, these incorporate a mechanism to do justice to differences between individual contributions to the group work. Principal assessment modes are written examinations, essays and research papers. An examiner may use several additional assessment tools to keep track of your progress in accordance with the course's objectives. These tools may have a different weight in different course assessments. They include oral presentations, active class participation, keeping a journal, reviewing other students' work, and other assignments. More information about the assessment format used in a course is provided in a separate document called 'course descriptions' and on the Canvas site of the courses.

You receive feedback on the assessments you make in multiple ways. In class sessions, feedback about assignments is typically given collectively. Corrections of the written exams are available for inspection on request. You receive individual, written feedback on the papers you submit. Moreover, you can ask the assessor for individual oral feedback on these papers. In the course of the second year, the process of receiving feedback develops into an apprenticeship model. You participate in seminars, discuss state-of-the art literature in the relevant field, and present and receive feedback on outlines or drafts of papers.

Assessment final project

The final project culminates in a written thesis. This thesis is evaluated according to academic standards like sound problem formulation, comprehension of relevant theories, command of research methods, quality of argumentation, discussion and presentation skills, but also on your development during the research process, looking for example at initiative, perseverance, self-management and reflective learning capacities. At least two staff members are involved in the assessment: the supervisor, who guides you throughout the final project, and an examiner, who checks the quality of your work before the start and at the end of the final project. Before thesis work can start, both need to approve the research proposal. During the final thesis project, you receive regular feedback on your work from your supervisor. Towards the end, during the so-called 'green light meeting', both supervisor and examiner have to approve your draft thesis (giving the green light for graduation). At this point, you also learn how your draft can be further improved. The final examination consists of an oral exam (with supervisor and examiner) and a graduation colloquium for a general audience, during which you present and defend your thesis. At graduation, the committee not only scores your performance, but also completes a form with written feedback on the thesis and the graduation process. For more detailed information about the graduation process, consult the Final Thesis Project Guide PSTS that is available online: https://www.utwente.nl/en/psts/master/

2.4 PSTS and the employment sector

2.4.1 Connections with the professional context

The PSTS programme makes an explicit effort to prepare you for positions in both the academic and the non-academic domain. Connections between the programme and the employment sector are fostered in the following ways:

- The final qualifications of the programme have been approved by a committee of representatives from relevant non-academic organisations (and possible employers), the Employment Sector Committee. This committee also advises the Programme director how to develop the curriculum to ensure it aligns with the needs and concerns of the professional field.
- You can do an internship to explore what it means to work in a non-academic organisation. The programme offers a list of potential organisations and contacts, both in the Netherlands and abroad, but you can also initiate new contacts.
- The programme interviewed a number of alumni about their experiences after PSTS. These interviews are made available on the programme's Canvas site.
- In collaboration with student association Ideefiks an annual 'PSTS career day' is organised.
- Representatives of external organisations, including alumni, are regularly invited for guest lectures.

2.4.2 Career perspectives and alumni stories

The PSTS programme aims to prepare students for roughly two types of professional roles:

- Academic scholar (usually starting with a PhD position at a university, in the Netherlands or abroad)
- Professional 'knowledge broker' (including positions in consultancy, technology assessment, policy making and advice, design; in general, societal roles in which one acts as a go-between/mediator to bring together different types of expertise and stakeholders regarding the development of science and technology in society).

There is clearly a demand for both sets of professionals. The most recent alumni monitor showed that 75% of the PSTS alumni found a job within 6 months after graduation. PSTS graduates even earn somewhat more than the average scientist or engineer.

To give examples of what our alumni do and how they look back on the PSTS programme, we include a few testimonials below.

Verna Jans (BSc in Philosophy; MSc PSTS, PhD):

Verna Jans currently is assistant professor in Ethics and Philosophy of Healthcare at Radboud UMC, Nijmegen. She is a former PhD student at the Department of Health, Ethics and Society at Maastricht University: "My research focuses on the ethical issues associated with a new biomedical technology in development called 'stem cell-derived gametes'. This technology promises to help people with fertility problems by creating sperm and egg cells from skin cells. However, as you can imagine, it raises a lot of

ethical controversies as well. During my studies in philosophy (bachelor) and PSTS (master), I was already interested in ethics of biotechnologies. I therefore decided to pick a thesis topic in that field. In my current position I profit from certain approaches and skills trained in the PSTS programme, such as how to ethically analyse concrete case studies, but also how to write more precisely. Finally, I learnt that if you show a lot of enthusiasm and interest in a position or a project, this may sometimes do more to further your career than working towards a certain job during your whole life. Don't think too quickly that there is just one road to a certain position or job!"

Wouter Versluijs (BSc and MSc in Industrial Engineering and Management; MSc PSTS):

"I work for a Dutch consultancy firm. We help the largest companies and organisations of the world to think about questions with the greatest uncertainty, such as: which market to start approaching, or how to profile yourself. The two most important skills PSTS taught me - which are incredibly useful for long-term thinking in companies and organisations - are to understand that there always is a bigger picture, and how to structure a problem, story or output. I have learned to approach issues from different perspectives and to use logical reasoning. In addition, PSTS skills like writing and debating in English have tremendous added value in my current job. PSTS has also helped me during the hiring process, as I noticed that the recruiters found the philosophical addition to my background very interesting! So, it had added value in that sense as well, as a relevant addition to my other master."

Maaike van der Horst (BSc in Media Studies; MSc PSTS):

"I have thoroughly enjoyed the two years I have been studying PSTS. The program is highly international and interdisciplinary, which allows for valuable exchanges with teachers and fellow students alike. You will participate in courses on (amongst others): philosophy of technology, the ethics of technology, philosophical anthropology and the ethics of artificial intelligence. The courses allow for quite some freedom to write your essays on the specific technologies or philosophical perspectives that you are interested in. After graduation in PSTS I have first worked as a junior researcher for a project on the ethics of biotechnology research at Wageningen University. I am currently pursuing my PhD project (that follows up on my master thesis) on sex robots and psychoanalysis at the University of Twente. Fellow alumni from my year have ended up at a variety of places: some have also acquired PhD positions at Dutch universities, a few are working in technology ethics consulting and others are working at governmental organisations. If you are broadly interested in philosophy and in the way technologies impact society and vice versa, I would recommend you to see PSTS as a serious option for your master's degree!"

Part B: Organisation and Quality Assurance

5. Organisation of the PSTS programme

5.1 Programme management and support

Programme director
Michael Nagenborg

The programme director bears final responsibility for the scientific quality, organisation, development, and promotion of the master programme PSTS. Together with the support staff he manages the practical organisation of the programme. In collaboration with the teaching staff, the Programme Committee and the Examination Board he takes care of the continuous improvement of the programme's quality.

Ravelijn Room 4216
E-mail: m.h.nagenborg@utwente.nl
Phone: 053 489 3428

Programme coordinator
Marlies Tijhuis

As programme coordinator, Marlies Tijhuis supports the programme director of PSTS in policy matters and shared responsibility for the organisational, procedural and intrinsic coordination and harmonisation of the PSTS programme. If students have questions related to the programme or certain subjects of the programme, the programme co-ordinator is the first person to see.

Ravelijn, Room 3278
E-mail: m.e.tijhuis@utwente.nl
Phone: 053 489 8604
Office hours: Monday, Tuesday, Wednesday and Thursday

Study adviser
Joe Beukes

As study adviser, Joe Beukes offers advice on study-related issues and practical matters. Students can consult him about individual problems related to the programme, studying in general, complaints, study choice, planning, delay, graduation support, legal status, exemption, and course and examination regulations. If necessary, he can refer students to other support bodies in- or outside the university.

Ravelijn, Room 3276
E-mail: c.j.beukes@utwente.nl
Phone: 053 489 4010
Office hours: Monday, Tuesday, Wednesday and Thursday

Educational Affairs staff member

Huub Engbers

Huub Engbers is the Educational Affairs Officer of the PSTS programme. He is responsible for information provision to students and all administrative tasks related to the programme, such as questions about grades registration and course enrolment in Osiris, and questions concerning your graduation procedure.

Citadel H428
E-mail: BOZ-PSTS@utwente.nl
Phone: 053 489 4122
Office hours: Monday, Tuesday, Thursday, Friday, between 10.00 – 14.00

International student support officer

Annemieke van der Grijspaarde

For International Students the Faculty of BMS has its own *Office for International Affairs*.
You may best contact Ms. Annemieke van der Grijspaarde via:
internationalstudentsupport-bms@utwente.nl
Phone: 053 489 4633
Ravelijn 3121
Office hours: Monday, Tuesday morning, Wednesday morning, Thursday

5.2 PSTS teaching staff

Teaching staff in PSTS is provided by two sections: Philosophy and Knowledge, Transformation & Society (KiTeS). An overview of names and contact details can be found via the websites of the two sections:

https://www.utwente.nl/en/bms/wijsb/staff/
https://www.utwente.nl/en/bms/kites/people/
Via their 'Personal Page' you can read more information about their expertise, research activities and interests.

5.3 Advisory committees and Examination Board

Institutional embedding of the PSTS programme

The PSTS master's programme is embedded in the Faculty of Behavioural, Management and Social Sciences (BMS), University of Twente.

Admission Committee PSTS

The programme's Admission Committee assesses whether a student applying for admission to the programme satisfies the admission criteria. This Committee consists of two staff members from the sections of Philosophy (PHIL) and Knowledge, Transformation & Society (KiTeS), who are examiners in the programme. They are assisted by an employee from the Faculty's Educational Service Centre. Members of the committee are academic staff and are appointed by the programme director.

PSTS Programme Committee

The PSTS Programme Committee advises the programme director on all matters regarding the curriculum, organisation and quality of the PSTS programme. It has the legal right of consent to the method of evaluating the education in the programme, and the right to advise the Programme director on enhancing and safeguarding of the quality of the programme. The committee consists of 3 PSTS teaching staff and 3 PSTS students. Vacancies for student positions are announced to all students, indicating how they can apply for a position. If there are more candidates than positions, elections may be organised. The members of the committee are formally appointed by the dean of the Faculty.
For more information: https://www.utwente.nl/en/psts/programme-committee/

Examination Board for Interdisciplinary Sciences

The Examination Board for Interdisciplinary Sciences is responsible for safeguarding the quality of examination and assessment, and for the validity of the MSc degree PSTS. Members of the Examination Board are appointed by the dean of the Faculty. One of the competences of the Examination Board is to make exceptions to the rules for students, such as exemptions, individual curriculum adjustments and extra exam opportunities. Students can submit a request to the examination board via its website. Before you do so, it is often helpful to consult the study adviser how best to formulate a request.
For more information: https://www.utwente.nl/en/bms/examboard/

Employment sector committee

The employment sector committee advises the PSTS programme director about the connections between the curriculum and the professional context of students. Members of the committee are representatives of external organisations in the domain of PSTS, including alumni and (potential) employers of PSTS alumni. These members are appointed by the dean.

5.4 *Other organisations and institutes relevant to PSTS*

Study association Ideefiks

The PSTS programme has an active study association, called Ideefiks. Ideefiks organises (among others) social activities, additional evaluations of the programme, book sales. In the recent past it also organised a career day and study trips abroad. All PSTS students can become member; all members annually elect a board from their midst.
For more information: http://www.ideefiks.utwente.nl/

Alumni association Nestorix

The alumni association (Nestorix) is a network for alumni to keep in touch with each other and with the PSTS programme and current PSTS students. All PSTS students will automatically be included in the alumni mailing list after they graduate (using their alumnus.utwente.nl e-mail

account or any alternative address provided by the student. The association has a LinkedIn-group to exchange information, ideas and opportunities. For more information: https://www.utwente.nl/nl/bms/vwi/.

Research institutes
Most research at the University of Twente is embedded in research institutes, like the TechMed Centre, the MESA+ Institute for Nanotechnology and the Digital Society Institute. For more information: https://www.utwente.nl/en/bms/research/departments-institutes/#four-departments

4TU.Centre for Ethics and Technology
The 4TU.Centre for Ethics and Technology (4TU.Ethics) brings together the expertise of the philosophy departments of the four technical universities in the Netherlands (Delft, Eindhoven, Twente and Wageningen) in the field of ethics of science, technology and engineering. 4TU.Ethics builds upon the excellent international reputation of the three participating universities in this field. The joint venture allows for close collaboration in research as well as teaching, outreach and contract research in both the private and public sector.

More specifically the mission of 4TU.Ethics is:

- To stimulate and undertake interdisciplinary and applied research in the field of ethics and technology
- To stimulate and undertake fundamental research in ethics relevant for the field of ethics and technology;
- To stimulate and undertake activities in the field of teaching in ethics and technology;
- To act as an intermediary between the philosophy departments involved in 4TU.Ethics on the one hand and public debates and the media on the other.

For more information: https://ethicsandtechnology.eu/

6. Quality Assurance

The Faculty of Behavioural, Management and Social Sciences (BMS) sets great store by the quality of its education. Students are generally appreciative of the study programmes offered by the faculty, yet critical of certain specific aspects. The programmes are very responsive to this and do their utmost to improve quality.

Quality education requires the firm commitment of lecturers and students as well as proper communication. The core of the internal quality assurance system is formed by the course evaluations, and the annual systematic feedback from students. The quality cycle comprises the following internal quality assurance instruments

6.1 Internal quality assurance

Student Feedback Meetings (StuFM)
PSTS students have a tradition of organising feedback meetings themselves, both halfway and at the end of each quartile. Ideefiks takes the lead here. Both the separate courses and the quartile as a whole are discussed. On the basis of the feedback of the students a report is written that is communicated to the teaching staff involved and submitted to PSTS management. PSTS management and the Programme Committee take these reports into consideration when discussing ways to improve the quality of the programme and identifying possible problems.

"The feedback sessions with students I have as an education commissioner give me a chance to understand how a diverse group perceives the same content and instructional method from different perspectives. Through debate we, as a group, overcome these differences and provide the teacher with a set of thought-out recommendations that hopefully polish the course, to increase its brilliance. At the same time being a programme committee member gives me an opportunity to discuss and understand why certain things or policies are designed or adjusted in a certain way, bringing in a complete picture of PSTS. As a committee member you are involved in the programme's future and get a glimpse of the academic world. In the end I am developing myself as a philosopher of technology, who recognises the fact that PSTS concerns society."

Stefan Weijers, former student PSTS

Course evaluation

When students have completed a course, they are supposed to give their opinion on it by means of an anonymous survey. The lecturer will integrate the results of this survey in preparing for the next cycle of the course and curriculum. The contribution of the students is essential, which is why a lot of effort is put into gathering their feedback.

Both the lecturer and the PSTS programme director receive the results of the course evaluations, which, if necessary, also can be discussed by the Programme Committee or Examination Board. The results of the course evaluation and improvement actions for next year's cycle are published on the intranet website (therefore only accessible for UT students and staff): https://www.utwente.nl/en/bms/intranet/evaluation/master/m-psts/

Guaranteeing the quality of the lecturers

The UT follows the rule that both novice and newly appointed lecturers must pass the *Basic Qualification in Education* within three years. For more experienced lecturers a *Senior Teaching Qualification* is offered, which challenges lecturers to develop even further. Furthermore, the programme management always discusses the results of the course evaluations with the lecturer(s) concerned.

Internal and external evaluation

Once per five years, as with all university programmes, the programme is evaluated by an external committee (see: section 6.2). Hence this is called the educational review. Items to be evaluated are e.g. the objectives of the programme, the curriculum, the deployment of staff, the facilities, the internal quality assurance, the testing policy, and academic achievements of the students.

More information can be found on:
https://www.utwente.nl/en/organization/structure/faculties/bms/education/quality-assurance-map/

6.2 External quality assurance

Educational review

With its accreditation the NVAO (the Dutch-Flemish Accreditation Organisation) gives official approval to a programme that has stated that it has met all specified quality requirements. In connection with this, the NVAO reviews each programme in the Netherlands and Flanders once every six years. Both in the Netherlands and in Flanders, an accreditation is a condition for the government's funding/financing of a bachelor's or Master's degree programme and for the

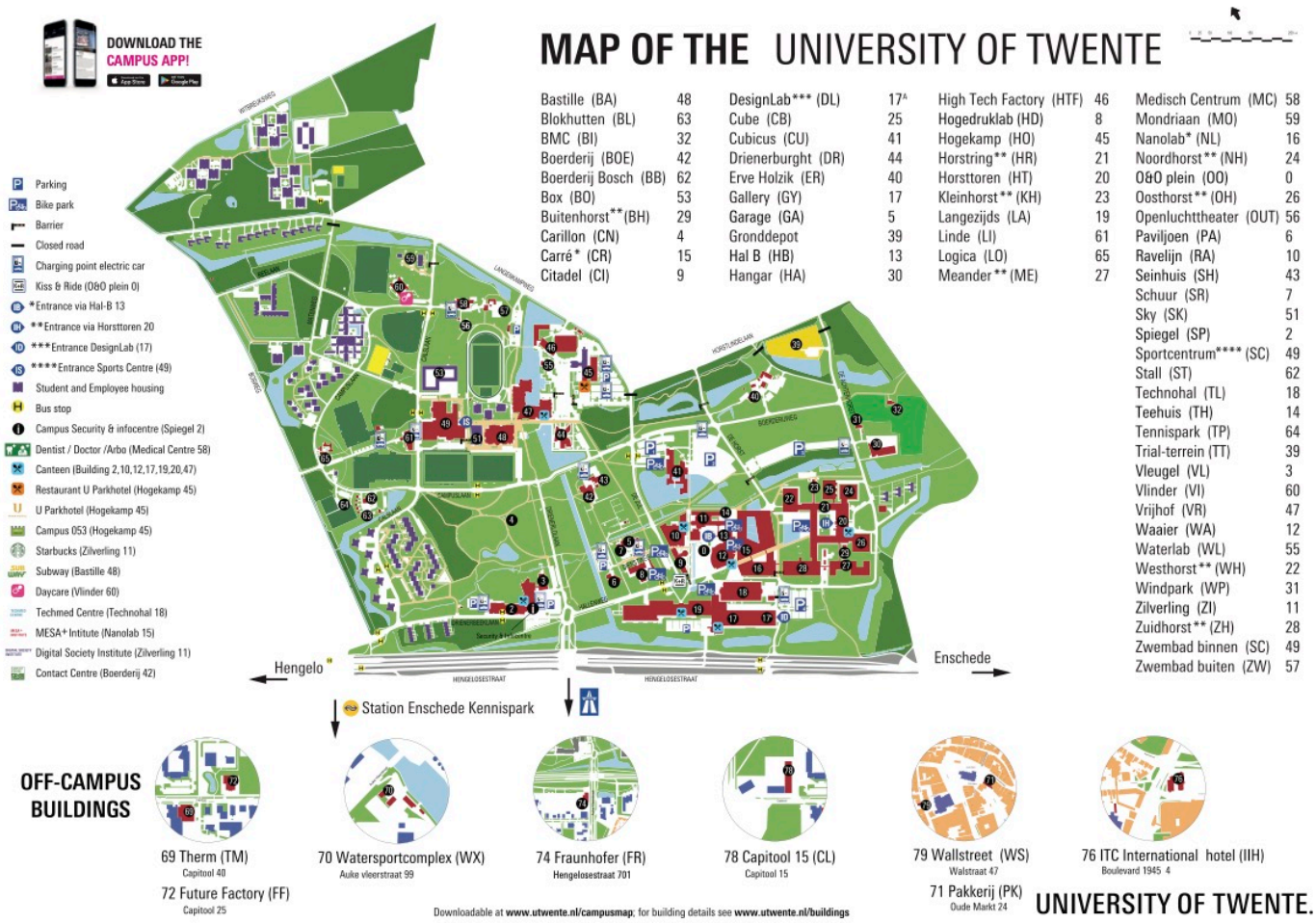
entitlement to award recognised/validated diplomas. In the Netherlands it is also a prerequisite for issuing student grants and loans. The Master's degree programme PSTS was re-accredited by the NVAO in September 2023 and the conclusion was that the programme met all the criteria.

Part C: Practical information

NOTE:
The information provided in this section may be subject to changes. Therefore, please check the websites of the university's Centre for Educational Support (Student Services) - https://www.utwente.nl/en/ces/ - for the most up-to-date information.

7. Practical issues

7.1 Finding your way at the University of Twente



7.2 Study materials

Books

You can order your textbooks via any bookstore or online. You may also consider to place your order with study association Ideefiks http://www.ideefiks.utwente.nl/ (in that case a discount price applies).

Study association Ideefiks

Ideefiks is the study association of PSTS. It brings together technical students interested in philosophy and philosophy students interested in technology. Ideefiks members have a broad interest ranging from current (technological) affairs to the history of philosophy and science.

Ideefiks is a pleasantly organised, friendly place where everyone is welcome to engage in discussions over a cup of coffee or tea.
Ideefiks does a number of things for its members. It organises field trips, a study trip abroad, lectures and colloquia, sells textbooks at a discount and arranges social activities like drinks, parties or movie nights. It also co-organises the introduction day in August to welcome new PSTS students.

For more information, please feel free to drop by the Ideefiks office in the Langezijds building. Usually, one of the board members is present. However, you can send us an email beforehand to make sure not to find a locked door.
Email: board@ideefiks.utwente.nl Website: **www.ideefiks.utwente.nl**
Telephone: + 31 (0)53 489 3284

The books that teachers have designated as “mandatory literature” can be found in an especially reserved part of the university’s library.

Other study materials
Most other study material is made available via the Canvas site of each course

7.3 Student Card

The student card of the University of Twente is a proof identity for the University of Twente and a proof of enrolment. You have to show the student card on request when using university facilities, like attending lectures, taking exams, visiting the libraries, etc.

When will you get a student card?
As soon as your enrolment is finalised by the Central Student Administration (CSA), and you have uploaded your digital passport photo in *Osiris Student*, you will receive your student card by post. Make sure that CSA has your correct address.

Uploading digital passport photo in *Osiris Student*
In *Osiris Student* you can upload your digital passport photo as follows.

- Go to Osiris Student, and log in with your login name and password
- Choose the option ‘upload passport photo’
- Choose the option ’Browse’ in order to select a file
- Your digital passport photo is uploaded

The student card can be used as

- Proof of enrolment as a UT student (An additional declaration of enrolment that can be used to prove for which programme and for which period you are enrolled (for example at an Insurance company), can be obtained separately on request, from Student Services.)
- Library card.
- So-called Union Card (if you indicated that you want to use the sports and/or culture facilities of Enschede, the card will also function as Union Card. See the website https://su.utwente.nl/en/union-services/student/unioncard/ for more information about the Union Card.

For details on how to use the student card, what to do in case of loss or theft, transfer to another degree programme, or termination of your studies, please visit the Student Services website.
https://www.utwente.nl/en/student-services/

You also may visit , call or email the Student Services office:

Location	Vrijhof, room 239 B
Opening hours	Monday – Friday from 10:00 – 12.00 and 13.00 - 16:00 hours
Telephone	053 - 489 2124
Mail	studentservices@utwente.nl

7.4 Communication and information

One of the things you will notice when you decide to study at the University of Twente is the multitude of means of communication the university, the faculty and your programme use to communicate with you, be it directly or indirectly. It starts as soon as you pre-enrol for the University of Twente. As an early registrant, you will be given your own UT e-mail address, user name and password that allow you to surf the net via the university. The internet and e-mail are by far the most important means of communication for both the programme and the faculty.

E-mail
E-mail is used for rapid communication between the programme or an individual lecturer and an individual student or small group of students. Only if absolutely necessary e-mail is used to communicate with large groups of students, for instance if a lecture is suddenly cancelled or in case an examination is postponed. In that case, the Educational Service Centre (in Dutch abbreviated as: OSC = Onderwijs Service Centrum) will not be able to reach all students in time via the usual means of communication, i.e. the educational announcement. *All e-mail sent by the OSC should be read immediately.*

UT students generally have <studentname>@student.utwente.nl as their e-mail address, e.g. h.j.pieters@student.utwente.nl (exceptions can be made for students with the same initials and last name).

You can find a list of e-mail addresses of UT staff via the home page of the UT:
https://people.utwente.nl/

Canvas: the digital learning environment of the UT
Canvas is the digital learning environment of the University of Twente and can be found at https://www.utwente.nl/canvas

On Canvas you also will find the PSTS programme site that serves as the ***PSTS info channel.*** This Canvas site publishes programme-related announcements, colloquia, vacancies, the overview PSTS staff research expertise, and a number of alumni testimonials:
https://canvas.utwente.nl/courses/3280

If you want to be kept updated about job and future opportunities for PSTS students, you can join our dedicated Canvas site at https://canvas.utwente.nl/courses/11948

Osiris: the student information system
In Osiris students can consult a wealth of information: the list of addresses, grades, the teaching catalogue with information on e.g. courses and minors, and information regarding tutors or study advisers.

Last but not least: via Osiris you have to register for courses and exams: https://osiris.utwente.nl/student/StartPagina.do.

MS Teams: the online communication and co-operation platform
Teams is used for easy communication, chatting, video meetings, sharing documents, etc. by both students and staff of the UT.

Faculty's and programme's websites
The website of the Faculty of Behavioural, Management and Social Sciences (BMS) is: https://www.utwente.nl/en/bms/

The website of the PSTS programme is: http://www.utwente.nl/psts/

7.5 Timetable

The Faculty of Behavioural, Management and Social Sciences (BMS) operates with a term (semester) system, whereby each academic year is divided into two terms (semesters). Each term consists of two blocks (quartiles). A block is usually divided into eight weeks of lectures, and two exam weeks.

For the timetables: https://auth.timeedit.net/. The timetable for a block (quartile) will be online a couple of weeks prior to the start of each block (quartile). You can select your own study programme's timetable per quartile.

7.6 Lectures

A typical lecture day has 9 periods. The 5th period, from 12.45 - 13.30 hrs. is the lunch break (when no lectures are scheduled).

1st period:	08:45 - 09:30 hrs.
2nd period:	09:45 - 10:30 hrs.
3rd period:	10:45 - 11:30 hrs.
4th period:	11:45 - 12:30 hrs.
5th period = lunch break:	*12:45 - 13:30 hrs.*
6th period:	13:45 - 14:30 hrs.
7th period:	14:45 - 15:30 hrs.
8th period:	15:45 - 16:30 hrs.
9th period:	16:45 - 17:30 hrs.

7.7 Enrolling in courses

Enrolment for the courses via Osiris
You must enrol for each study unit (i.e. course) on:

https://osiris.utwente.nl/student/StartPagina.do

Each course is listed into Osiris well in advance to allow you to register for it. You will need to register in time in order to get access to the course's Canvas site, where you can see the course's details and to read optional announcements from the involved teacher prior to the actual start of the course. So, register in time and don't wait until the very last moment!
See when registration periods are open: https://www.utwente.nl/en/education/student-services/education/courses-and-modules/

Should you not be able to register or de-register for a course yourself, inform your Educational Affairs Office (BOZ) as soon as possible, by e-mail (BOZ-PSTS@utwente.nl). This will allow them to take action if necessary.

You will need an account to access the courses. Prior to the start of your studies at the University of Twente, the university's Department for Information Technology (ICT) will provide you with a username and password. The password will be the same as the one you originally received for accessing the UT network. You were informed about this in a letter.

If you are still having difficulties, contact the ICT Helpdesk (phone: 053 4895577). Only in case where (de-)enrolling yourself in a course via Osiris is impossible, you may contact the Educational Affairs Office (for PSTS: Huub Engbers):

BOZ-PSTS@utwente.nl
telephone: (+31) (0)53 489 4122
room: Citadel H428

7.8 Examinations (including final – papers)

Compulsory registration for exams (Osiris)
If you want to sit an exam (or part of an exam), you need to register via Osiris. You can consult Osiris from four days prior to the date of the exam for the exact location of the exam.

- Please note that if you are registered for a course via Osiris, you are automatically registered for the first attempt and the resit of the course's exam(s).

- In case you pass the first attempt, you will be automatically deregistered for the resit.

- In case you decide NOT to use an attempt, you should de-register from the exam via Osiris. De-register timely, i.e. till one day before the exam date (read: till 24:00h. of the day prior to the exam date).

Enrolment Periods (2024-2025)	
1st quartile	01 August 2024 up to and including 28 August 2024
2nd quartile	14 October 2024 up to and including 06 November 2024
3rd quartile	06 January 2025 up to and including 29 January 2025
4th quartile	24 March 2025 up to and including 16 April 2025

Please also check: https://www.utwente.nl/en/education/student-services/education/courses-and-modules/

When you encounter problems with (de-)registering for a course yourself, please contact the Educational Affairs Office via BOZ-PSTS@utwente.nl.

All regulations concerning registration, cancellation and *force majeure* (i.e. circumstances beyond one's control) go via the Educational Affairs Office (BOZ) and **not** via the lecturer responsible for that specific exam.

Rules during the actual examination

With respect to written tests, there is a set of detailed procedures and rules of order that have to be followed. Detailed information on this can be obtained from the rules and guidelines as stipulated by the Faculty's Examination Boards: https://www.utwente.nl/en/bms/examboard/

Rules after the examination

Period for marking exams	Except in instances of force majeure, examination results are announced within fifteen (15) working days after the examination. If the results are not known within one week before you are to re-sit an examination, you may request the Examination Board to arrange the possibility to re-sit an examination at a later point in time. If you have been graded more than once for the same part of an examination, the highest grade applies.
Requesting to see your exam paper	In principle your exam paper remains in the possession of your lecturer.
Inspection of your exam	For a period of twenty (20) working days, starting on the day on which the results are announced, you may, upon request, inspect your own graded work. In case the teacher organises a scheduled, joint inspection session, you should attend that meeting to see your work.
Period of storage of exams	The examiner sees to it that written examinations are kept for at least two years after the examination date.

Oral examinations

An examiner may decide to hold oral examinations at a time to be determined by the examiner or examiners in consultation with you. Normally this will be arranged within one month following completion of the course (holiday months not included). An oral examination will not exceed two hours. The examiner is allowed to examine more than one student simultaneously, provided none

of the involved students raises objections. An oral examination is a public event unless the Examination Board or the examiner has decided otherwise, or the student raises objections against publicity.

Overview of grades
Via Osiris you can get an overview of e.g. all your exam marks or grades in a specific academic year. Once an exam has been marked and processed by the Examinations Office, the results are made known to you as soon as possible. If you passed a subject but you detect that the mark has not been processed in Osiris, please contact the Examinations Office as soon as possible.

Re-sit exams
The programme offers to sit for an exam **once** per academic year at the end of the block/quartile during which the course was offered, with one 2nd chance to re-sit it, usually scheduled during the exam period of the following block/quartile. For exams in the last (4th) block/quartile of the academic year, the programme offers you a resit opportunity before the end of July.
Note: Passing grades are final and therefore a student cannot re-sit an exam once a passing grade has been obtained.
If a study unit has been completed successfully (final grade 6 or more) then this grade is final. If a student feels that there are exceptional circumstances that justify an exemption from this rule (and thus justify an extra exam opportunity), he/she has to send a motivated written request to the Examination Board. Such an exemption can only be granted once per student.
Please note that if you want to graduate with distinction (cum laude) each mark needs to be obtained at each course's first attempt [Exception: after approval from the Examination Board a student may re-sit for an exam or re-submit an assignment once when having obtained a 6.0 or 6.5 for that course at the first attempt].

Period of validity of examination results
In case the final assessment of a course (unit of study) is composed of more than one element, the grades of these partial exam elements are valid until the end of the subsequent academic year, counting from the moment the exam element started.

Note: in case divergent conditions of validity apply in a course, then the involved teacher will publish these special conditions prior to the start of the course on the concerned Canvas environment.

The periods of validity also apply to assignments or papers.
In case the validity of your grades has expired, you may submit a motivated request at the Examination Board to extend the validity.

7.9 Student Charter and EER

Just like all higher education institutes, the University of Twente has its own Student Charter. This has its statutory basis in Art. 7.59 of the Higher Education and Research Act (WHW). The charter is law-making, which means that you can invoke the Student Charter in case of problems or conflicts. The Charter's is kept up to date and is available online via the UT's website:
https://www.utwente.nl/en/ces/sacc/regulations/charter/

The programme-specific part of the Student Charter (OSS), which includes the Education and Examination Regulations (EER), comprises a general section applicable to all Behavioural Sciences Master's programmes and a section with appendices drafted for each individual programme. The Education and Examination Regulations and Programme Specific Appendix (PSA) can be found on https://www.utwente.nl/en/bms/education/regulations/

7.10 Computer facilities

For every student, a notebook is indispensable nowadays. The University of Twente uses the so-called "Bring your own device" concept. This means that you will use your own notebook/laptop to get access to the computer facilities of the university by using the wireless network Eduroam:

https://www.utwente.nl/en/service-portal/hardware-software-network/network-eduroam-vpn-etc

This "Bring your own device" concept does mean that you need to have a notebook/laptop during your studies at the University of Twente.

"What applies if…"

- "I do not have a notebook": In this case, you will need to buy a notebook prior to your studies at the University of Twente. (A notebook using Windows is most easy to use with UT applications). Please, visit the website of the university Notebook Service Centre (http://www.utwente.nl/lisa/nsc/) for two very attractive notebook offers. Both notebooks are suitable for your study activities at the university (also, read more info below on "Notebook arrangement for UT students").
- "I do have a notebook". In case you already have a notebook, it is advised that the notebook is no older than 3 years and uses Windows 10.
- "I do have a MacBook or another type of notebook": You can very well use a MacBook or another type of notebook but is some case you may have to use special Windows software.

How to download computer programmes on your notebook?
You can download various software programmes on your personal notebook via the Notebook Service Centre with your UT ICT-account (http://www.utwente.nl/lisa/nsc/).
Various manuals are available through the site LISA: University Library, ICT Services & Archive (http://www.utwente.nl/lisa/).

7.11 UT Library

The UT Library is housed in building Vrijhof. Students can find a place to study here as well as borrow books and study materials.
For more information (e.g. opening hours) and online access to the university's library, see their website: https://www.utwente.nl/en/service-portal/university-library

There is a special section in the UT library for PSTS: https://www.utwente.nl/en/service-portal/university-library/find-access-literature/guides-per-discipline/philosophy#

8. Study guidance and counselling services

8.1 Study guidance

Dedicated student guidance is one of the hallmarks of the PSTS programme. At the Faculty of Behavioural, Management and Social Sciences (BMS), student guidance is the responsibility of the student services staff member (BOZ-PSTS), the study adviser, and the programme co-ordinator. With the UT also offering additional student supervision and counselling, you can, if necessary, go to a student psychologist or a UT student.
The PSTS programme has its own programme coordinator, study adviser and a student services staff member. More information and contact details are provided in section 5.1.

8.2 UT Language Centre

The UT Language Centre offers professional language support in English, Dutch or other languages to everyone at the University of Twente: students, PhDs, academic staff and support staff. Improving your English language skills will help you perform better in your work or study. Besides language courses the UT Language centre also offers courses or individual support on academic writing and study skills.
For the complete overview of their offering, see:
https://www.utwente.nl/en/ces/language-centre/

8.3 Additional UT student support

Various services have been organised for students and they have been combined to form the Centre for Educational Support (CES). The most important services are the following:

Student Services Desk
The Student Services Desk provides all kind of services. You can go there to have your digital passport photograph taken for your student card, to register or to cancel UT enrolment, or to ask for a transcript of your records. You will find the Student Services Desk in the Vrijhof, room 239.
See also: https://www.utwente.nl/en/student-services/
Opening hours: Monday - Friday from 10:00 – 16:00h.
You can contact the Student Information Desk as well via (+31) (0)53 489 2124 or StudentServices@utwente.nl

University's Student Affairs, Coaching & Counselling (SACC)
The Student Affairs, Coaching & Counselling service is in charge of individual and collective care for and supervision of UT students at the co-ordinating level, supplementary to the programme's obligations of supporting their own students in this area. Student Affairs, Coaching & Counselling

Desk provides such services as the student counsellors, student psychologists, and various training courses (like: 'self-management', graduating, job interviews).

Student counsellors: You may contact them for questions on financial support (in case of study delay due to exceptional circumstances), changing your studies, admission exams, (general) complaints procedures, studying with a handicap, personal circumstances, etc.
For further information, go to: http://www.utwente.nl/ces/sacc/en/

Student psychologists: You can go to the student psychologist if you need to talk about a personal problem, such as an issue with your parents, friends or fellow students, or about anxieties or when you are feeling down or lost. You do not need a referral to see a student psychologist; you can make the appointment yourself. You can register for a first appointment with a student psychologist by filling out their online application form, after which you will be contacted through your student mail.

For appointments with student counsellor or psychologist:
Contact (053 489) 2035 / E-mail: sacc@utwente.nl

Confidential advisor for students: The University of Twente wants to offer students and staff a socially safe environment. In such an environment, respect, integrity, honesty and attention to the other person are normal manners. Nevertheless, it may happen that students are approached by a fellow student or an employee of the UT in a way that is unacceptable to them. Or you may have witnessed such a situation. Examples of unacceptable behaviour are intimidation or sexual harassment, discrimination, aggression, violence or bullying. Such unacceptable behaviours can reduce your sense of security and pleasure in your studies. It can lead to stress and mental or physical complaints. Therefore, do not ignore such behaviour and please talk to someone about it. The confidential counsellor for students lends a listening ear in situations of unacceptable behaviour or unequal treatment, is independent and has a duty of confidentiality towards others, such as lecturers and university institutions.

For an appointment with a Confidential advisor:
Contact SACC secretariat (+31 53 489 2035)
or e-mail to: confidential-advisor-students@utwente.nl.

SACC training courses: Have a look on: https://www.utwente.nl/ces/sacc/en/personal-development/ to see what courses are offered by SACC.

Office hours secretary SACC:
Monday-Thursday: 8:30 – 12:30 and 13:00 – 16:45
Friday: 8.30 – 12:30 and 13:00 – 15:45
The UT student counsellors and psychologists are located in building **'Vrijhof' 3rd floor.**
Information desk Student Affairs, Coaching & Counselling, Vrijhof 3rd floor (room 311)

Part D: Appendices

1. *Relationship between the Dublin descriptors and the PSTS final qualifications*

Aspect	Dublin-descriptor	PSTS Final qualifications
Knowledge and understanding	Have demonstrated knowledge and understanding that is founded upon and extends and/or enhances that typically associated with bachelor's level, and that provides a basis or opportunity for originality in developing and/or applying ideas, often within a research context	K1-6, S3-6
Applying knowledge and understanding	Can apply their knowledge and understanding and problem-solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study; have the ability to integrate knowledge and handle complexity.	S4-6
Making judgements	Can formulate judgements with incomplete or limited information, that rather include reflection on social and ethical responsibilities linked to the application of their knowledge and judgements.	S4, S6, S9
Communication	Can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously.	S1, S2, S7, S8
Learning skills	Have the learning skills to allow them to continue to study in manner that may be largely self-directed or autonomous.	S9, S10

2. Contribution of courses to the PSTS final qualifications

The MSc programme PSTS is designed in such a way that the different courses help students gradually develop the knowledge, insights and skills to achieve the programme's final qualifications. The tables below show how, respectively, each quartile and each course, contribute to realisation of the final qualifications.
The full set of descriptions of the final qualifications can be found in section 2.3.1 of this programme guide.

Knowledge and skills emphasised in each quartile of the PSTS programme

	K1	K2	K3	K4	K5	K6	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Semester 1, Quartile 1A	x	x	x	x	x	x	x	x	x	x	x	x			x	
Semester 1, Quartile 1B	x	x	x		x		x	x	x	x						
Semester 2, Quartile 2A	x	x	x	x	x		x	x	x	x				x		
Semester 2, Quartile 2B	x	x	x	x		x	x	x	x	x	x	x	x			
Semester 3 Quartile 1A&1B	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Semester 4 Quartile 2A&2B	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Knowledge and skills emphasised in courses in relation to PSTS final qualifications

	K1	K2	K3	K4	K5	K6	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Semester 1, Q 1A	x	x	x	x	x		x	X	x	x	x	x				
Philosophy of Technology	x	x			x		x	X	x							
Science and Technology Studies		x	x	x			x	X	x			x			x	
Philosophical Theories and Methods		x			x		x	X	x							
Semester 1, Q 1B	x	x	x		x		x	X	x	x						
Philosophy of Science in Practice		x	x		x		x	X	x	x						
History of Science and Technology	x	x	x		x		x	X								
Ethics and Technology I	x				x		x	X	x							
Semester 2, Q 2A	x	x	x	x	x		x	X	x	x				x		
TechnoLab	x		x	x			x	X	x	x				x		
Philosophical Anthropology and Technology	x	x			x		x	X	x	x						
Society, Politics and Technology	x	x			x		x	X	x	x						
Semester 2, Q 2B	x	x	x		x		x	X	x	x	x	x	x			
Technology and Social Order	x	x	x				x	X	x	x	x	x				
Ethics and Technology II	x	x			x		x	X	x	x	x	x	x			

Research Methods		x			x	x	x				x				x	
Semester 3 Q 1A & 1B	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**X**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**X**
Technologies in Use			x			x	x	X		x		x			x	
Transformations of knowledge in a digital age						x	x				x	x	x			x
Perspectives on govern of socio-tec change	x		x			x	x	X	x	x	x	x				
Good technologies for users and society		x			x		x				x	x			x	
Anticipation and evaluation of emerging technology		x	x	x		x	x		x	x	x	x	x	x	x	x
Minds, bodies & technology		x			x	x	x					x			x	
Rethinking science-techn relations		x			x	x	x	X	x	x						
Ethics and epistemology of AI and Robotics		x			x	x		x	x			x		x		
MasterLab		x	x	x	x	x	x	X	x	x	x	x	x	x	x	x
Semester 4 Q 2A & 2B	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**X**
MasterLab		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Final Thesis Project	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Internship	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x