MASTER'S PROGRAMME EUROPEAN STUDIES ON SOCIETY, SCIENCE AND TECHNOLOGY

FACULTY OF ARTS AND SOCIAL SCIENCES

MAASTRICHT UNIVERSITY

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REPORT ON THE MASTER'S PROGRAMME EUROPEAN STUDIES ON SOCIETY, SCIENCE AND TECHNOLOGY OF MAASTRICHT UNIVERSITY

This report takes the NVAO's Assessment Framework for the Higher Education Accreditation System of the Netherlands for limited programme assessments as a starting point (September 2018).

ADMINISTRATIVE DATA REGARDING THE PROGRAMME

Master's programme European Studies on Society, Science and Technology

Name of the programme:	European Studies on Society, Science and Technology*
CROHO number:	60002
Level of the programme:	master's
Orientation of the programme:	academic
Number of credits:	60 EC
Specializations or tracks:	n.a.
Location(s):	Maastricht
Mode(s) of study:	full time
Language of instruction:	English
Submission deadline NVAO:	01/05/2020

*as of 22 May 2019, it was previously MA European Studies (old CROHO number 60284).

The visit of the assessment History and International Relations to the Faculty of Arts and Social sciences of Maastricht University took place from the 11th of December until the 13th of December 2019.

ADMINISTRATIVE DATA REGARDING THE INSTITUTION

Name of the institution:	Maastricht University
Status of the institution:	publicly funded institution
Result institutional quality assurance assessment:	positive

COMPOSITION OF THE ASSESSMENT PANEL

The NVAO has approved the composition of the panel on the 4th of February 2019. The panel that assessed the master's programme European Studies on Society, Science and Technology consisted of:

- Dr. J.W. (Jan Willem) Honig [chairman] is senior lecturer in War Studies, Department of War Studies, King's College London (United Kingdom) and visiting professor of Military Strategy at the Swedish Defence University in Stockholm (Sweden);
- Prof. dr. P. (Peter) Bursens is full professor of Political Sciences at the University of Antwerp (Belgium);
- V. (Vicky) Marissen LLM is partner at consultancy firm EPPA, a company specialised in connecting government and business, and visiting professor at the College of Europe;
- Prof. dr. C.A. (Claire) Dunlop is full professor of Politics and Public Policy and head of research at the Department of Politics at Exeter University (United Kingdom);
- Prof. dr. E.B.A. (Erik) van der Vleuten is professor and Chair of History of Technology and chair of the M.Sc. program Innovation Sciences at the Eindhoven University of Technology;

- R. (Rikst) van der Schoor BA, has started the master's programme Intellectual History at the University of St. Andrews (United Kingdom) in 2018 [student member].

The panel was supported by drs. E.G.M. (Mariette) Huisjes, who acted as secretary.

WORKING METHOD OF THE ASSESSMENT PANEL

The site visit to the master's programme European Studies on Society, Science and Technology at the Faculty of Arts and Social Sciences of Maastricht University was part of the cluster assessment History and International Relations. Between April 2019 and December 2019 the panel assessed 24 programmes at 8 universities. The following universities participated in this cluster assessment: Erasmus University Rotterdam, Maastricht University, Radboud University Nijmegen, University of Groningen, Leiden University, Utrecht University, University of Amsterdam and VU Amsterdam.

On behalf of the participating universities, quality assurance agency QANU was responsible for logistical support, panel guidance and the production of the reports. Dr. A.H.A.M. (Alexandra) Paffen was project coordinator for QANU. Dr. A.H.A.M. (Alexandra) Paffen, dr. F. (Floor) Meijer, J. (Jaïra) Azaria MA, V.L. (Victor) van Kleef MA, drs. R.L. (Renate) Prenen and drs M. (Mariette) Huisjes acted as secretary in the cluster assessment.

During the site visit at Maastricht University the panel was supported by drs. Mariette Huisjes, a certified NVAO secretary.

Panel members
The members of the assessment panel were selected based on their expertise, availability and independence. The panel consisted of the following members:

- Dr. J.W. (Jan Willem) Honig [chairman] is senior lecturer in War Studies, Department of War Studies, King's College London and visiting professor of Military Strategy at the Swedish Defence University in Stockholm;
- Prof. dr. I.B. (Inger) Leemans is professor Cultural History and director of the Graduate School of Humanities at Vrije Universiteit Amsterdam;
- Prof. dr. J.F.J. (Jeroen) Duindam is full professor of Early Modern History and programme director at Leiden University;
- Prof. dr. W.J.H. (Jan Hein) Furnée is full professor of European Cultural History at Radboud University;
- Prof. dr. P. (Peter) Bursens is full professor of Political Sciences at the University of Antwerp;
- Prof. dr. W.P. (Wim) van Meurs is full professor of European Political History and chairman of the department Political History at the Humanities Faculty of Radboud University;
- Prof. dr. E. (Eric) Vanhaute is full Professor of Economic and Social History and World History, as well as head of UGent Research Group Communities, Comparisons, Connections at Ghent University;
- V. (Vicky) Marissen LLM, is partner at consultancy firm EPPA, a company specialised in connecting government and business and Visiting Professor at the College of Europe;
- Dr. N. (Nico) Randeraad is Associate Professor at Maastricht University and Interim Director of the Social History Centre for Limburg History;
- Prof. dr. N. (Nanci) Adler is full professor Memory, History, and Transitional Justice at the University of Amsterdam (UvA) en research director Holocaust and Genocide studies at the Nederlands Instituut voor Oorlogsdocumentatie (NIOD);
- Prof. dr. K. (Koenraad) Verboven is professor of Ancient History and programme director for History at the University of Ghent;
- Prof. dr. V. (Violet) Soen is an Associate Professor in Early Modern History and chair of the research group Early Modern History at the University of Leuven;
- Prof. dr. C.A. (Claire) Dunlop is full professor of Politics and Public Policy and head of research at the Department of Politics at Exeter University;

- Prof. dr. E.B.A. (Erik) van der Vleuten is professor and chair of History of Technology and chair of the M.Sc. program innovation sciences at the Eindhoven University of Technology;
- R. (Rikst) van der Schoor BA, has started the master's programme Intellectual History at the University of St. Andrews in 2018 [student member];
- M. (Mel) Schickel MA, completed the master's programme History of Society at the Erasmus University Rotterdam in 2018 and is working as external relations officer at the Faculty of Science and Engineering of Maastricht University [student member];
- R. (Rico) Tjepkema is a third year bachelor's student International Relations & International Organization at the University of Groningen [student member].

Preparation
On 11 March 2019 the panel chair was briefed by QANU on his role, the assessment framework, the working method, and the planning of site visits and reports. A preparatory panel meeting was organised on 14 April 2019. During this meeting, the panel members received instruction on the use of the assessment framework(s). The panel also discussed their working method and the planning of the site visits and reports.

The project coordinator composed a schedule for the site visit in consultation with the Faculty. Prior to the site visit, the Faculty selected representative partners for the various interviews. See Appendix 3 for the final schedule.

Before the site visit to Maastricht University, QANU received the self-evaluation reports of the programmes and sent these to the panel. A thesis selection was made by the panel's chair and the project coordinator. The selection existed of 15 theses and their assessment forms for the programmes, based on a provided list of graduates between 2017-2019. A variety of topics and tracks and a diversity of examiners were included in the selection. The project coordinator and panel chair assured that the distribution of grades in the selection matched the distribution of grades of all available theses.

After studying the self-evaluation report, theses and assessment forms, the panel members formulated their preliminary findings. The secretary collected all initial questions and remarks and distributed these amongst all panel members.

At the start of the site visit, the panel discussed its initial findings on the self-evaluation reports and the theses, as well as the division of tasks during the site visit.

Site visit
The site visit to Maastricht University took place from the 11th until the 13th of December 2019. During the site visit, the panel studied the additional documents provided by the programmes. An overview of these materials can be found in Appendix 4. The panel conducted interviews with representatives of the programmes: students and staff members, the programme's management, alumni and representatives of the Board of Examiners. It also offered students and staff members an opportunity for confidential discussion during a consultation hour. No requests for private consultation were received.

The panel used the final part of the site visit to discuss its findings in an internal meeting. Afterwards, the panel chair publicly presented the panel's preliminary findings and general observations.

Consistency and calibration
In order to assure the consistency of assessment within the cluster, various measures were taken:
1. The panel composition ensured regular attendance of (key) panel members, including the chair;
2. The coordinator or her replacement was present at the panel discussion leading to the preliminary findings at all site visits.

Report
After the site visit, the secretary wrote a draft report based on the panel's findings and submitted it to the project coordinator for peer assessment. Subsequently, the secretary sent the report to the panel. After processing the panel members' feedback, the project coordinator sent the draft reports to the Faculty in order to have these checked for factual irregularities. The project coordinator discussed the ensuing comments with the panel's chair and changes were implemented accordingly. The report was then finalised and sent to the Faculty and University Board.

Definition of judgements standards
In accordance with the NVAO's Assessment framework for limited programme assessments, the panel used the following definitions for the assessment of the standards:

Generic quality
The quality that, from an international perspective, may reasonably be expected from a higher education Associate Degree, Bachelor's or Master's programme.

Meets the standard
The programme meets the generic quality standard.

Partially meets the standard
The programme meets the generic quality standard to a significant extent, but improvements are required in order to fully meet the standard.

Does not meet the standard
The programme does not meet the generic quality standard.

The panel used the following definitions for the assessment of the programme as a whole:

Positive
The programme meets all the standards.

Conditionally positive
The programme meets standard 1 and partially meets a maximum of two standards, with the imposition of conditions being recommended by the panel.

Negative
In the following situations:
- The programme fails to meet one or more standards;
- The programme partially meets standard 1;
- The programme partially meets one or two standards, without the imposition of conditions being recommended by the panel;
- The programme partially meets three or more standards.

SUMMARY JUDGEMENT

Standard 1
The panel found that the European Studies on Society, Science and Technology (ESST) master's programme has a unique profile in the Netherlands, characterised by its broad scope, extensive European network and focus on research. It is impressed by the ESST-association's international reputation. The panel is convinced that this strong brand could help to make the programme grow larger and stronger. It recommends marketing the programme in targeted campaigns to STEM students and humanities and social sciences students respectively. To maintain its leading position, the programme has to stay alert and incorporate the latest developments in the quickly changing interrelation between science, technology and society. The panel is satisfied to see that the programme management is committed to do so.

The panel finds the intended learning outcomes comprehensive and of an appropriate level for an academic master's programme. It particularly likes the strong research focus, which makes this programme strongly academic in ambition. It is also satisfied that the intended learning outcomes are regularly revised, and that the programme maintains close ties with the professional field.

According to the panel, the ESST master's programme at Maastricht University is of an appropriate level and orientation, aligned with the international requirements for an academic master's programme.

Standard 2
For various reasons, the panel admires the learning environment of the ESST master's programme. It is well structured, with a foundational first semester and specialisation in the second. Its academic level is excellent, as the panel determined by studying a sample of the course literature. The course literature is held scrupulously up to date through informal and formal staff meetings. The panel particularly appreciates that the first semester of the programme transcends disciplines and is reflective of the interaction between STEM and social change. For their second semester, students have an impressive choice of specialisations in different European countries, which gives the programme a decidedly international character. Students are inventively prepared for their choice by a pan-European virtual information session, where they can communicate with potential thesis supervisors. During their second semester, students do an introductory research course for their specialisation and they undertake a substantial 22 EC research project, which they may combine with an internship. Since all modules in the first semester end with a small research project, the students are well-prepared for their master's project. Quality control of the semester abroad is assured by both the ESST Association and by the Board of Examiners of the Maastricht programme. In addition, the Maastricht students keep in touch with their mentor during their stay abroad, so if anything goes wrong, this will not go unnoticed.

Teaching methods in the ESST master's programme fit their goals, the panel found. The problem-based learning method facilitates the interdisciplinary approach, since for this programme case studies are at its heart. The small-group tutorials provide ample opportunity to bring different perspectives forward. The panel finds the problem-based learning method and the interdisciplinary approach suited to the complex character of society, science and technology studies. The programme plans to intensify its recruitment activities, particularly towards students from the natural sciences and engineering, in order to enhance diversity of the student population. This should contribute positively to the quality of interaction in tutorials. The panel fully endorses these plans. It recommends not only attracting STEM students, but extra STEM staff as well.

Feasibility, student guidance and quality of staff in the ESST master's programme all meet the standard, the panel found. The panel endorses the decision to teach this international programme in English. In conclusion, the panel is convinced that the learning environment offered by the ESST master's programme is excellent and enables students to realise the intended learning outcomes.

The panel was struck by the strong community feeling in this programme, rooted in shared values. This has an empowering effect on students, staff and alumni.

Standard 3
The panel is satisfied with the assessment in the ESST master's programme. In fact, some of the assessment procedures are state-of-the-art practices that could serve as sources of inspiration and models of emulation for other programmes. The assessment calibration workshops are an example of such best practice, as are the role of the 'responsible examiner' in thesis assessment and the efficient and effective *modus operandi* of the Board of Examiners.

Quality of assessment is soundly assured, the panel found. The Faculty of Arts and Social Sciences developed an assessment policy which specifies all roles and responsibilities and sets the standards for various assessment procedures. The programme's Education Plan explicitly connects forms of assessment to the courses and intended learning outcomes. The Board of Examiners assures that the intended learning outcomes are realised by performing regular checks, screenings and audits. In addition to a recurring agenda of quality checks, the Board of Examiners chooses a specific focus point each year on which it advises the programme management. As such, the panel concludes that the Board of Examiners safeguards the quality of assessment and the achievement of the intended learning outcomes and thus carries out its formal tasks well.

At course level, the assessment methods are sufficiently varied and effective. The panel is particularly pleased with the explicit list of criteria for group participation. This could inspire other programmes. The assessment procedure for the theses is complicated by the fact that assessors are based in different European grading cultures. The panel is satisfied with the procedures the network and faculty have in place to provide consistency. It recommends vigilance on the follow-up of these rules.

For most of the thesis assessment forms it studied, the panel agreed with the marks given and found them well justified on the forms. The panel values that the responsible examiner is not the thesis supervisor, so that he or she can form an independent judgement. For further improvement, the panel recommends differentiating the first and second examiner's judgement more explicitly. In general, the panel concludes that the validity, reliability and transparency of the assessments meet the standard. It recommends using the calibration sessions to hone a shared sense of fair grading, which is especially relevant in an international programme like the ESST master's programme.

Standard 4
The panel endorses the programme's conclusion that graduates from the ESST master's programme are highly employable and find relevant jobs in the science-technology-society nexus. It compliments the programme on the appreciative attitude of its alumni and encourages it to build and maintain an active alumni network that can be harnessed as a resource for present and future students.

Based on the data in the self-evaluation report, a sample of the theses and a dialogue with a number of alumni, the panel concludes that graduates of the ESST master's programme have attained its intended learning outcomes.

The panel assesses the standards from the *Assessment framework for limited programme assessments* in the following way:

Master's programme European Studies on Society, Science and Technology

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

The chair, Jan Willem Honig, and the secretary, Mariette Huisjes, of the panel hereby declare that all panel members have studied this report and that they agree with the judgements laid down in the report. They confirm that the assessment has been conducted in accordance with the demands relating to independence.

Date: 14 April 2020

DESCRIPTION OF THE STANDARDS FROM THE ASSESSMENT FRAMEWORK FOR LIMITED FRAMEWORK ASSESSMENTS

Standard 1: Intended learning outcomes
The intended learning outcomes tie in with the level and orientation of the programme; they are geared to the expectations of the professional field, the discipline, and international requirements.

Findings

Profile
The master's programme European Studies on Society, Science and Technology (ESST) studies the dynamic interrelation between science, technology and society from the perspective of the social sciences and the humanities. The programme is not so much European in its subject matter, but in its organisation. The programme is offered by Maastricht University, in cooperation with a European network of fourteen universities (the ESST association). This makes that students can go abroad in the second semester, and choose one of around twenty specialisations, taught at different European universities. They focus on subfields of science and technology studies, such as intersections with economics or law, or specific problem areas, such as water management or global challenges. When graduating, students receive a degree from Maastricht University.

The ESST master's programme has three objectives. It aims to train its students as problem-definers, specialised generalists and bridge-builders. Students become problem-definers by being taught to look at a problem from different angles and utilise different academic disciplines to do so. They become specialised generalists because they receive an all-round education in science and technology studies during their first semester and specialise in the second. Finally, students become bridge-builders who can connect with various disciplines and with various audiences. In their master's programme several disciplines are combined, they have studied among a diverse, international student population and they are taught to engage with audiences outside of their own field. In these three capacities, graduates of the ESST programme are employable in a range of jobs on the science-technology-society nexus, such as researcher, consultant, technology assessor, science policy maker, educator or public relations officer. The programme connects with the professional field by engaging professionals as guest lecturers, by staying in touch with alumni and through its External Advisory Board which consists of senior alumni who visit and review the programme every two years.

Within Europe, there are programmes similar to the ESST master's programme, including the ones based at the fourteen partners in the ESST network. Within the Netherlands, however, the ESST master's programme claims to be unique in its broad scope and extensive European network with many options for specialisation.

The panel found that the ESST master's programme indeed possesses a unique profile, intersecting with the STEM disciplines (Science, Technology, Engineering, Mathematics) on the one hand and the humanities and social sciences on the other. It distinguishes itself further by an abundant choice of specialisations and a relatively strong focus on research. From a discussion with alumni during the site visit, it became clear to the panel that the ESST network is a very strong brand, not only in Europe but further afield as well. The panel is truly impressed by this. It has two recommendations to further strengthen the programme's profile.

First, it finds that the programme can be more outspoken about its position as an internationally leading programme. It should be possible, in the panel's view, to attract more students, thus strengthening the programme's position. As the panel sees it, there is a contrast between the programme's unique profile, good reputation and societal relevance and its relatively low student inflow of around 20 students each year. The panel would suggest that when recruiting potential candidates for the programme, STEM-students and students interested in social changes should be

separately targeted in separate campaigns. It should be stressed that the programme not only offers a wide array of specialisations but also the possibility to do international research. Vivid personal stories can underscore the attractiveness and diversity of the programme. It has many committed alumni, who seem willing to act as ambassadors.

Secondly, when a programme is as successful as the ESST programme, there is always the risk of becoming complacent (although, to be clear, the panel saw no sign of this as yet). In a potential growth area such as science and technology studies, it could then be easily tripped up and loose its edge. For long term success, the panel cautions that it will be necessary for the programme to keep an eye on the ball, and constantly seek to embrace new themes and developments. The panel was satisfied to see that the programme's managers are aware of this risk and committed to continually updating the curriculum to include the latest developments, even though this is a challenge, as they admitted to the panel.

Intended learning outcomes
The intended learning outcomes of the ESST master's programme follow the Dublin Descriptors structure and underpin its ambition to educate problem definers, specialised generalists and bridge-builders. The intended learning outcomes are regularly revised. As an example of a learning outcome in the domain of knowledge and understanding, graduates are expected to be able to 'explain the main concepts and theoretical models developed to analyse the implications of technological change in sociological, anthropological, historic, economic and political/policy terms'. As an example of an outcome in the domain of applying knowledge and understanding, they are expected to be able to 'analyse the contemporary challenges and dynamics of knowledge production in the sciences on macro-, meso- and microlevel'. In the domain of making judgements, graduates are to 'formulate a clear, focused, well-formulated and relevant research question in the STS domain of study'. In the domain of communication, they have to 'communicate their academic findings to a professional, academic and lay audience' and in the domain of learning skills, they should have developed 'an attitude that economics is primarily a social – not a natural – science and as such needs to incorporate the social, political and historical influences in the analysis of policy making.'

The panel finds the intended learning outcomes comprehensive and of an appropriate level and orientation for an academic master's programme. It particularly likes the strong research elements in the programme, which can be seen in several of the intended learning outcomes and in the relatively large thesis, worth 22 EC. This, in the panel's view, underscores its serious academic master's credentials. It is also satisfied to hear that the intended learning outcomes are regularly reviewed and, if necessary, revised. This is necessary in a field that is subject to constant and quick changes such as science and technology.

Considerations
The panel found that the ESST master's programme has a unique profile in the Netherlands, characterised by its broad scope, extensive European network and focus on research. It is impressed by the ESST-association's international reputation. The panel is convinced that this strong brand could help to make the programme grow larger and stronger. It recommends marketing the programme in targeted campaigns to STEM students and humanities and social sciences students respectively. To maintain its leading position, the programme has to stay alert and incorporate the latest developments in the quickly changing interrelation between science, technology and society. The panel is satisfied to see that the programme management is committed to do so.

The panel finds the intended learning outcomes comprehensive and of an appropriate level for an academic master's programme. It particularly likes the strong research focus, which makes this programme strongly academic in ambition. It is also satisfied that the intended learning outcomes are regularly revised, and that the programme maintains close ties with the professional field.

According to the panel, the ESST master's programme at Maastricht University is of an appropriate level and orientation, aligned with the international requirements for an academic master's programme.

Conclusion
Master's programme European Studies on Society, Science and Technology: the panel assesses Standard 1 as 'meets the standard'.

Standard 2: Teaching-learning environment
The curriculum, the teaching-learning environment and the quality of the teaching staff enable the incoming students to achieve the intended learning outcomes.

Findings
Programme language and name
Given that the programme has an international student population, exchanges students with partners in thirteen countries, aims to prepare its graduates for the international job market and has an internationally diverse staff to guarantee the necessary expertise, the programme's courses are taught in English. The panel endorses this decision.

Curriculum content and structure
The first semester is dedicated to a foundation in science and technology studies. It consists of five four-week modules at Maastricht University (each worth 6 EC): 'Introduction to science, technology & society', 'Science & technology in the making: entering the world of the laboratory', 'Interpreting the history of science & technology', 'Science & technology dynamics' and 'Politics of knowledge. Each of these modules focuses on a particular area from the field of science and technology studies, and draws on various academic disciplines, such as sociology, anthropology, economics, ethics, history and political science. All modules culminate in a small research project, leading to a paper or presentation. Parallel to the substantive elements, all of the modules also offer skills training in research methods – such as library skills, academic writing skills, ethnography, source criticism and discourse analysis. In a third learning trajectory – integrated in the substantive modules and skills training – students acquire professional skills, such as teamwork, giving and receiving feedback, working to deadlines, communicating with non-academic audiences and policy brief writing.

The second semester is dedicated to specialisation and the writing of a thesis. Students can choose from around twenty specialisations, offered at the partner universities. Some examples of this long list of specialisations are 'Innovation systems, social and ecological change' at Aalborg University (Denmark), 'Economics and management of innovation' at the Autonomous University of Madrid, 'Science and public policy' at Maastricht University, and 'The theory and practice of risk society' at Nicolaus Copernicus University in Torun (Poland). All students start with specialised training leading to a research proposal for the master's thesis (8EC). After that they undertake a substantial 22 EC research project. Since all modules in the first semester end with a small research project, the students are well-prepared for their master's project. Students may choose to combine their thesis with an internship. They then undertake the research for their master's thesis at their host institution. The quality of partners' teaching and supervision is monitored through the ESST Association and the local Board of Examiners. The ESST Association regularly reviews its members' programmes to ensure that all first semester programmes connect well with specialisations.

The panel finds the programme has a clear structure of foundational training followed by specialisation. The provision of academic and professional skills training alongside substantive modules ensures that students leave with a broad based but focused education and key employability skills. The curriculum offers plenty of choices for students to follow their own interests within a sturdy framework. In the first semester, students may choose their own topics in the course modules. In the second semester, they have an impressively huge range of substantive choices. Students told the panel that at first they had some trouble in seeing the interconnection between the substantive

modules in the first semester, but that the course manual helped them, and while progressing through the programme, it made more and more sense to them. The panel can see that the structure may be puzzling at first, but it considers the thematic layout to be highly functional.

The panel studied a sample of the course literature used in the first semester. It concludes that the programme lays an excellent foundation, with rigorous academic content. The panel found many high quality 'state of the art' articles and many very positive course evaluations. It appreciates that the first semester of the ESST master's programme is inherently interdisciplinary: each of the courses seeks to transcend the STEM sciences-social sciences/humanities divide and is reflective of the interaction between STEM and social change. The second semester is characterised by a substantial research project, for which the students are well prepared. All in all, the panel is enthusiastic about the academic content of this unique programme.

Teaching methods
Like the other programmes at Maastricht University, the ESST master's programme follows the problem-based learning method. Most of the intellectual work is done in small-scale group discussions. Tutorial discussions and self-study are complemented by lectures, workshops and skills training. Lecturers assign literature to be read before the tutorials, tutors guide the discussions in the tutorials with stimulating questions. Students are encouraged to take charge of their own learning process. They select their own topics for the discussions, for instance, and they select the topics they wish to work on for their research papers. A case study approach is central to the programme: every general theory or concept is always related to real-life issues. The theory of large technological systems, for instance, is explored via the analysis of energy networks, the concept of co-construction via environmental policies. The idea behind problem-based learning is that students not only acquire new knowledge, but also skills, such as working towards finding a solution, conducting research, collaborating in groups, presenting results and receiving feedback. Moreover, as research indicates, since students remain active throughout the whole learning process, the knowledge they acquire will be more deeply rooted.

The ESST master's programme admits students from different countries and a wide variety of disciplinary backgrounds, including the social sciences, humanities and the natural and engineering sciences. The programme finds that clashes of ideas originating in a diversity in backgrounds add value to the programme. Over the last years, it has been a challenge to recruit sufficient numbers of students with a background in natural sciences or engineering, so currently the student population is less diverse than the programme would wish, even though there are still sufficient differences in background to fuel lively discussions. The programme plans to strengthen its recruitment activities. The panel endorses this (as described under standard 1), while recommending using different campaigns for the two major target groups.

The panel is generally satisfied with the teaching methods used in the ESST master's programme. It lauds the problem-based learning format, which fits well with the interdisciplinary approach to Society, Science & Technology where problems are mostly complex and can be approached from different angles. Moreover, the panel views the option of problem-based learning for students to be a great asset to the Dutch academic landscape. The panel compliments the programme on its high student satisfaction, as experienced by the panel itself during its visit and visible in the close to 'excellent' rating in the 'Keuzegids Universiteiten'.

Feasibility and student guidance
The panel found no significant obstacles that make it hard for students to complete the programme within the allotted time frame. Students wrote in the student chapter of the self-evaluation that the study load is very high, but that the programme is doable. Alumni also told the panel that the programme has a very fast pace and that, looking back, they are impressed by their own steep learning curve. One alumnus compared the programme to a pressure-cooker. The relatively high pass rate (e.g., for the 2017–2018 cohort all 20 students graduated within one year) testifies to the feasibility of the programme.

The ESST master's programme is a relatively small and closely-knit community, so students receive much personal guidance from their lecturers, tutors and peers. Since the programme involves a lot of writing, a specialist writing coach gives workshops and is available for one-on-one advice. The programme director acts as mentor and students can meet with him or her by choice or by invitation. When students are abroad in the second semester, mentor meetings continue by video-conference. The ESST association collectively organises an afternoon dedicated to helping students with their choice of a specialisation. It is a virtual information market, where students can phone in to potential thesis supervisors abroad. To pave the way to employability, the programme organises at least one session per year where a student cohort can talk with alumni, who serve as role-models. They can gain inspiration for possible future careers, or even establish concrete contacts for finding employment after graduation. Besides this, students may also take part in employability events organised at the central university level, where lectures and workshops on cv creation and job market assessment are offered, as well as an annual Career Day. Maastricht University's career services remain available for students for six months after graduation. The panel is very satisfied with the guidance students receive.

Staff
All staff involved in the ESST master's programme are active researchers. All of them (except the writing advisor and the library instructor) have a PhD and a university teaching qualification. All have at least an advanced level of English (C1). All are annually assessed for their teaching performance. Staff at partner universities are selected and screened there, while the Board of Examiners at Maastricht University checks their suitability as thesis supervisors. The programme regularly involves guest lecturers from, among others, scientific research, innovation consultancy and government institutions. The coordinators of the modules in the first semester lead the discussion groups, give the skills training and introduce the lectures, so students experience a sense of consistency and connectedness with core staff, which they appreciate, according to the evaluations. To guard the coherence and topicality of the programme, core staff meet formally at least twice a year to discuss the state of the curriculum and make adjustments if necessary. They see to it that the modules properly reflect the state of their respective subfields. The programme director meets once a year with his or her peers in the ESST network to take stock and calibrate practices across the board.

The panel finds that the staff is well-qualified. It learned from students and alumni that they appreciate their tutors and lecturers, saying that they are good researchers as well as lecturers, and that they are approachable and helpful. The panel was struck by the level of responsiveness to students' wishes of the programme director and course coordinators. The students indicated that – in line with their desire to see a larger share of students with a STEM background – they would like the same to apply to the staff as well. The panel agrees with this and recommends actively recruiting staff with expertise in the natural sciences and engineering. This may also help to attract STEM students.

When talking with students, staff and alumni in the ESST master's programme, it occurred to the panel that they share a strong value set, namely that societies can be more intelligent in the ways they use new technologies. This shared belief creates a community feeling which is empowering for all. It gives the students a sense of belonging even though the programme can be demanding and stressful. It motivates staff and it guarantees that the programme can call upon its alumni to act as role models or ambassadors.

Considerations
For various reasons, the panel admires the learning environment of the ESST master's programme. It is well structured, with a foundational first semester and specialisation in the second. Its academic level is excellent, as the panel determined by studying a sample of the course literature. The course literature is held scrupulously up to date through informal and formal staff meetings. The panel particularly appreciates that the first semester of the programme transcends disciplines and is reflective of the interaction between STEM and social change. For their second semester, students

have an impressive choice of specialisations in different European countries, which gives the programme a decidedly international character. Students are inventively prepared for their choice by a pan-European virtual information session, where they can communicate with potential thesis supervisors. During their second semester, students do an introductory research course for their specialisation and they undertake a substantial 22 EC research project, which they may combine with an internship. Since all modules in the first semester end with a small research project, the students are well-prepared for their master's project. Quality control of the semester abroad is assured by both the ESST Association and by the Board of Examiners of the Maastricht programme. In addition, the Maastricht students keep in touch with their mentor during their stay abroad, so if anything goes wrong, this will not go unnoticed.

Teaching methods in the ESST master's programme fit their goals, the panel found. The problem-based learning method facilitates the interdisciplinary approach, since for this programme case studies are at its heart. The small-group tutorials provide ample opportunity to bring different perspectives forward. The panel finds the problem-based learning method and the interdisciplinary approach suited to the complex character of society, science and technology studies. The programme plans to intensify its recruitment activities, particularly towards students from the natural sciences and engineering, in order to enhance diversity of the student population. This should contribute positively to the quality of interaction in tutorials. The panel fully endorses these plans. It recommends not only attracting STEM students, but extra STEM staff as well.

Feasibility, student guidance and quality of staff in the ESST master's programme all meet the standard, the panel found. The panel endorses the decision to teach this international programme in English. In conclusion, the panel is convinced that the learning environment offered by the ESST master's programme is excellent and enables students to realise the intended learning outcomes. The panel was struck by the strong community feeling in this programme, rooted in shared values. This has an empowering effect on students, staff and alumni.

Conclusion
Master's programme European Studies on Society, Science and Technology: the panel assesses Standard 2 as 'meets the standard'.

Standard 3: Student assessment
The programme has an adequate system of student assessment in place.

Assessment system
Over the past four years the Faculty of Arts and Social Sciences at Maastricht University has redefined and enhanced its assessment policy. This policy currently specifies all roles and responsibilities related to assessment within its programmes, and sets the standards for the organisation of exams, the procedures to counter fraud etc. At the programme level, the Education Plan specifies the relationship between the intended learning outcomes, the teaching and the assessment methods. The management and teaching staff ensure the overall quality of assessment based on the Education Plan, the faculty regulations, and guidelines formulated by the Board of Examiners. Throughout the year, the programme director monitors the implementation of the Education Plan, for instance through the core staff meetings (at least twice a year), where course coordinators discuss curriculum coherence and assessment policy. Course coordinators also critically look at each other's assessment methods and criteria, following the four- (or eight) eye monitoring principle.

The Board of Examiners consists of representatives from the Faculty of Arts and Social Sciences and assures assessment quality across the entire faculty. It does so by organising checks, audits and screenings to verify that the intended learning outcomes are realised, and by providing advice to the management. As an example of the first, the Board of Examiners provided scenarios for three different types of calibration sessions and provided guidelines on how to protect academic integrity and counteract fraud. As an example of the second, the Board of Examiners systematically screens

and evaluates the distribution of grades in all courses, screens the assessment forms for the final works, participates in thesis grading calibration workshops and re-assesses a sample of final works, on the basis of which it provides an audit report to the programme management. With its thesis assessment audit, the Board of Examiners rotates among the programmes. Each programme gets audited at least once every three years. The audit report is shared with the programme director, and the Board of Examiners subsequently checks whether required actions have been undertaken. In addition to these regular activities, the Board of Examiners chooses a special focus point each year for screening and advice. This could for instance be the Educational Plans, or the application of the plus/minus grades for participation in tutor groups (see below).

The panel finds the assessment system of the ESST master's programme solid. The assessment methods are linked to the courses and the intended learning outcomes, and all the formal procedures are in place. The panel considers the efficacy and efficiency of the Board of Examiners as exemplifying good practice. With its combination of regular audits and focal points, it could serve as a source of inspiration for other programmes. The panel congratulates the board members and its supporting staff and encourages them wholeheartedly to carry on along the chosen course.

Assessment at course level
Each of the modules in the ESST master's programme is concluded with a final examination. A range of assessment methods is used throughout the programme, including position papers, individual research papers, group research papers, a theory-case paper, individual presentations, group presentations, literature reviews and research proposals. All written papers undergo a plagiarism check via SafeAssign. Some assessment methods are a preparation for the professional field, such as a presentation for a lay audience and a policy brief. To prevent that differences in grading cultures corrupt assessment, students who take an introductory specialisation course at one of the partner universities do not receive a grade for this module but are assessed with a 'pass' or 'fail' by the host university. Assessment takes place under the supervision of the Maastricht programme director at the Maastricht programme.

Wherever possible and feasible, a first round of feedback is given on drafts, prior to the summative assessment. The summative feedback is provided within 15 working days after the final examination. It is stored on the electronic platform Files4Students and can be accessed by the student at any time. In the ESST master's programme, group participation defines part of the final mark for each module. In response to students' demand for more explicit criteria to assess group participation, a list was drawn up and publicised, so that students know what is expected of them. Criteria include a professional attitude towards the work, coming to class well prepared and being respectful towards fellow-students.

The panel is satisfied with the assessment in the courses. The assessments are varied and well-designed, they fit the goals of the courses and some of them prepare for professional practice. Students told the panel that they feel the examinations mirror the high expectations of the programme, which they find stimulating. The panel commends the list of assessment criteria for group work. This is an example of good practice that may inspire other programmes.

Thesis assessment
All students in the ESST master's programme write a final thesis of approximately 20,000 words. Every thesis is assessed by the supervisor and a second reader, both of whom are selected for their expertise by the programme director. Students who specialise abroad have a supervisor at one of the partner universities and a second reader at the Faculty of Arts and Social Sciences in Maastricht. It is the second – or 'responsible' – examiner who takes primary responsibility for the assessment of the thesis and the internship report. The responsible examiner has not been involved in the thesis trajectory before the final assessment. He or she independently fills out an assessment form and proposes a grade. The first examiner or supervisor can then add feedback or propose revisions to the feedback and grade. If the two examiners disagree, the ESST's vice-president of education appoints a third examiner. Should the student do an internship, the procedure is similar. In these

cases, the student usually does research at a non-academic institution and writes a thesis that has to meet the same criteria as a regular thesis. The main difference is that students doing an internship have an extra supervisor at their workplace, as well as a distant supervisor at the faculty, who keeps an eye on the writing. It is the academic supervisor who is involved in the thesis assessment, besides the responsible examiner.

The panel appreciates that the second examiner and non-supervisor is in the driving seat when assessing the theses. It finds this an excellent idea, worthy of emulation, since it guarantees an independent and fresh look at the thesis. Every year, the programme director organises a calibration session, during which the thesis assessment forms and the ways of providing comments are discussed and calibrated by using the previous year's anonymised versions of a thesis and assessment forms as a starting point. The calibration sessions are intended for reflection on the weighting of criteria, and for creating awareness of the required standards. The panel appreciates this. Because the ESST master's theses are assessed in cooperation with the European partners, such calibrations are also done bi-annually at the international ESST Board meetings. Findings of these international calibration sessions are fed back into general instructions for the entire ESST Association. For example, uncertainty about the translation between national grading systems has led to a set of grade conversion tables which is available to all examiners.

All responsible examiners in the ESST Association use the same form for thesis assessment, which has been approved by the Board of Examiners at Maastricht Faculty of Arts and Social Sciences. Its criteria are 'main questions which the dissertation attempts to answer', 'structure and organisation', 'line of argument', 'use of literature', 'data collection and data analysis', 'overall conclusions', 'insights and contribution' and 'presentation, format and technicalities'. The final categories on the form are 'suggestions for improvement' and 'argumentation for the final grade'. The responsible examiners also receive a set of assessment instructions. The assessment form and assessment criteria reflect the relevant intended learning outcomes. Because standards and grade systems differ internationally, the ESST network has taken extensive measures to ensure that the criteria for thesis assessment are applied consistently. Besides the standard assessment forms and assessment instructions, the network issued a set of grade conversion tables that translate between the various national systems.

The panel is aware of the challenge to create a homogenous assessment culture within an international network and across different specialisations. It is satisfied with the arrangements the ESST network has taken to meet these challenges, such as standard forms, assessment instructions, grade conversion tables, calibration sessions and pairs of examiners of whom one is based at Maastricht University. While studying a sample of the theses and assessment forms, the panel saw a thesis graded with an 'A', so it seemed that here the grade conversion tables had not been used. During the rebuttal phase, the programme explained to the panel that grades are converted after filling in the assessment forms, and that for the thesis graded with an A that the panel encountered, there is a converted 'Dutch' grade in the exam administration. The programme said it would make the conversion of grades more visible in the future, for instance by recording both the original grade (A-F) and the converted grade (1-10) on the assessment forms. The panel concludes that the system for consistent thesis assessment in an international network is well designed. In order to reach maximum transparency, the panel supports the programme's intention to mention the converted grades on the assessment forms.

When reviewing a sample of the thesis assessment forms, the panel overall found evaluations detailed and extensive, with often fair and helpful feedback capturing the strengths and weaknesses of the thesis. In most cases, the marks were clearly backed by the argumentation on the assessment forms and the panel fully agreed with the marks given. In a few cases, the panel found them to be somewhat out of sync, with the marks given too high. The panel was unanimous in its conclusion that all theses were of a required, passable level, however. It recommends using the calibration sessions to hone a shared sense of fair grading. This is especially important in a programme where

some of the thesis assessments are shared with colleagues from partner universities, who may have different grading practices.

Even though this may be complicated due to the constraints imposed by the international network, the panel strongly recommends making the independent roles of both examiners more transparent. As it is, their respective input cannot be distinguished on the form. The panel discussed this with the Board of Examiners. Its members say that the one 'unanimous' form is used in order to give students consistent feedback. However, the panel is of the opinion that students have a right to know on what points both examiners differed. If the programme chooses not to communicate these differences in judgement with students, then at least they should be recorded and archived in an appropriate form. The Board of Examiners conceded this point and told the panel that in practice the exchange of views between both examiners is already documented in e-mail correspondence, but that this custom could be formalised. The panel agrees that this would be the right way to move forward.

Considerations
The panel is satisfied with the assessment in the ESST master's programme. In fact, some of the assessment procedures are state-of-the-art practices that could serve as sources of inspiration and models of emulation for other programmes. The assessment calibration workshops are an example of such best practice, as are the role of the 'responsible examiner' in thesis assessment and the efficient and effective *modus operandi* of the Board of Examiners.

Quality of assessment is soundly assured, the panel found. The Faculty of Arts and Social Sciences developed an assessment policy which specifies all roles and responsibilities and sets the standards for various assessment procedures. The programme's Education Plan explicitly connects forms of assessment to the courses and intended learning outcomes. The Board of Examiners assures that the intended learning outcomes are realised by performing regular checks, screenings and audits. In addition to a recurring agenda of quality checks, the Board of Examiners chooses a specific focus point each year on which it advises the programme management. As such, the panel concludes that the Board of Examiners safeguards the quality of assessment and the achievement of the intended learning outcomes and thus carries out its formal tasks well.

At course level, the assessment methods are sufficiently varied and effective. The panel is particularly pleased with the explicit list of criteria for group participation. This could inspire other programmes. The assessment procedure for the theses is complicated by the fact that assessors are based in different European grading cultures. The panel is satisfied with the procedures the network and faculty have in place to provide consistency.

For most of the thesis assessment forms it studied, the panel agreed with the marks given and found them well justified on the forms. The panel values that the responsible examiner is not the thesis supervisor, so that he or she can form an independent judgement. For further improvement, the panel recommends differentiating the first and second examiner's judgement more explicitly. In general, the panel concludes that the validity, reliability and transparency of the assessments meet the standard. It recommends using the calibration sessions to hone a shared sense of fair grading, which is especially relevant in an international programme like the ESST master's programme.

Conclusion
Master's programme European Studies on Society, Science and Technology: the panel assesses Standard 3 as 'meets the standard'.

Standard 4: Achieved learning outcomes
The programme demonstrates that the intended learning outcomes are achieved.

Findings

Theses
The explicit alignment between intended learning outcomes, teaching activities and assessment in the Education Plan assures that graduates of the ESST master's programme have met the programme's goals. On top of that, the master's theses are a measure of what students are capable of. All five categories of the intended learning outcomes play a part in the ESST master's thesis: knowledge and understanding, application of knowledge and understanding, making judgements, communication skills and learning skills.

The panel studied a sample of 15 theses and overall received a good impression. The best theses display clear, sometimes ambitious research questions, are well structured, demonstrate good theoretical knowledge and an excellent grasp of the literature, contain original empirical data, and sophisticated analysis (though not frequently all in one thesis). The panel found that the relatively large permitted size of the thesis (60 pages) was not always optimally used. Some theses left the impression of being somewhat prolix. The panel understands that the length is determined in consultation with the network and a reduction in size may be difficult to achieve or not desired. However, it would underline that the key consideration is clarity on what the programme and consortium want students to achieve with the thesis, not the length per se. The panel recommends extra attention in thesis supervision to helping students to reach conclusions with a societal impact. This will maximise the potential of their extensive research and bridge the gap between their academic experiences and the labour market. All theses studied by the panel met the intended learning outcomes.

Alumni
The ESST master's programme keeps track of its alumni through personal contacts, questionnaires at graduation days and by the university's alumni office. A survey of the 2012 to 2017 cohorts yielded employment data of 83 alumni. Almost a quarter works in academic research and another quarter in the corporate world. Significant numbers of alumni work in consultancy, for government institutions and in education. Practically all alumni work on the intersection of science, technology and society. Many students find jobs immediately after graduation, or even before. The panel agrees with the programme's conclusion that ESST graduates are highly employable and find relevant jobs in the science-technology-society nexus.

The EEST network has its own European alumni association. Besides that, the Maastricht ESST master's programme has had a quickly expanding LinkedIn group since 2019. It is used to stay in touch, to advertise new job openings and as a networking opportunity for current and prospective students. The panel talked to alumni and found that they look back on their year in the ESST master's programme with warm feelings and satisfaction, acknowledging that the programme has effectively taught them a useful view of how science and society co-develop. They particularly value the problem-based learning method, which has given them a strong sense of autonomy. Alumni say that the demand of becoming autonomous learners during their master's education meant that they quickly felt confident in their new jobs. The alumni underscore the importance of a diverse student population, as also noted by the programme management and the panel. Such diversity enhances the benefits of problem-based learning by offering different voices and different perspectives. Alumni finally praise the ability to 'look through different lenses' that the interdisciplinary programme brought them and that they find very useful in the professional lives.

The panel concludes that judging from the alumni it talked to regarding the way they look back on their master's education, the programme can take great pride in what they offered the graduates. The panel encourages the programme to keep in touch with the alumni and utilise them as a valuable

resource for present and future students. The panel has the strong impression that the programme is successful in its aim of educating problem-definers, specialised generalists and bridge-builders.

Considerations
The panel endorses the programme's conclusion that graduates from the ESST master's programme are highly employable and find relevant jobs in the science-technology-society nexus. It compliments the programme on the appreciative attitude of its alumni and encourages it to build and maintain an active alumni network that can be harnessed as a resource for present and future students.

Based on the data in the self-evaluation report, a sample of the theses and a dialogue with a number of alumni, the panel concludes that graduates of the ESST master's programme have attained its intended learning outcomes.

Conclusion
Master's programme European Studies on Society, Science and Technology: the panel assesses Standard 4 as 'meets the standard'.

GENERAL CONCLUSION

The panel assessed standards 1, 2 3, and 4 of the master's programme European Studies on Society, Science and Technology at Maastricht University as 'meets the standard'. Based on the NVAO decision rules regarding limited programme assessments, the panel therefore assesses the programme as 'positive'.

Conclusion
The panel assesses the *Master's programme European Studies on Society, Science and Technology* as 'positive'.

APPENDICES

APPENDIX 1: INTENDED LEARNING OUTCOMES

I. Intended learning outcomes (ILOs)

Dublin descriptors	**Final Qualifications** The graduates are able to:
A. Knowledge and understanding	Explain the main concepts and theoretical models developed to analyse the implications of technological change (in sociological, anthropological, historic, economic and political/policy terms);
	Understand and explain the interrelations between science and society, and the role of the government, institutions, and industry on how scientific knowledge is produced;
	Understand how institutional patterns and mechanisms structure the mutual interaction between knowledge production, power relations and public policy;
	Understand and interpret the historical developments of science and technology and explain the complexities involved in the processes of building up credible scientific facts;
B. Applying knowledge and understanding	Apply (social-)constructivist approaches (e.g. STS approaches) as an analytical lens in an academic paper or public debate;
	Explain and analyse the contemporary challenges and dynamics of knowledge production in the sciences on macro-, meso- and micro-level;
	Deconstruct discourses by policy makers (verbal and written) in the governance of technological change applying STS, economic, political and policy concepts and analytical tools;
	Apply the insights of STS about specific fields in which science is politically contested and/or mobilised for the purpose of governance;
	Make effective use of historic and qualitative research methods to study technological change and its societal implications;
C. Making judgements	Formulate a clear/focused/well-formulated and relevant research question in the STS domain of study;
	Critically reflect and articulate their position regarding issues of ethical and academic integrity during (verbal and written) debates about technological change by formulating a good chain of arguments (from an STS perspective);
	Assess the (social, economic and governance) implications of technological change;
	Engage in an informed way in debates about the governance of science and democratization of science in modern societies;
D. Communication	Act as constructive team-members;
	Communicate their academic findings to a professional, academic and lay audience;
	Write a research proposal on an ESST-related topic;
	Communicate their research findings via a debate or academic paper;
E. Learning skills	Find relevant literature in the library system, and to apply the APA referencing system in consistent and correct way in their research output;
	Gather fieldwork data by conducting an interview;
	Conduct a historical analysis and work with historical sources as main or auxiliary research method;
	Develop an attitude that economics is primarily a social – not a natural – science and as such needs to incorporate the social, political, and historical influences in the analysis of policy making;
	Develop research questions and research designs to study technological change in contemporary societies.

Dublin descriptors	Final Qualifications The graduates are able to:
A. Knowledge and understanding	Explain the main concepts and theoretical models developed to analyse the implications of technological change (in sociological, anthropological, historical, economic and political/policy terms);
	Understand and explain the interrelations between science and society, and the role of government, industry and other institutions in the production of scientific knowledge;
	Understand how institutional patterns and mechanisms structure the interaction and power relations involved in the construction of facts, artefacts and public policy;
	Understand and interpret past developments in science and technology from different historiographical angles and explain the social and cultural complexities of science and technology in the making;
B. Applying knowledge and understanding	Apply (social-)constructivist approaches (STS approaches) as an analytical lens in an academic paper or public debate;
	Explain and analyse the contemporary challenges and dynamics of knowledge production in the sciences on a macro-, meso- and micro-level;
	Deconstruct policy makers' discourses (verbal and written) on the governance of technological change by applying concepts and analytical tool from STS, economics and political science;
	Apply STS insights to specific fields in which science is politically contested and/or mobilised for the purpose of governance;
	Make effective use of historical and qualitative research methods to study technological change and its societal implications;
C. Making judgements	Formulate a clear, focused and relevant research question in the STS domain of study;
	Critically reflect on, and articulate their positions in, debates about ethical issues in research integrity and technological change, using solid argumentation from an STS perspective;
	Assess the social, economic and governance implications of scientific and technological change;
	Engage in an informed way in debates about the governance and democratization of science and technology in modern societies;
D. Communication	Act as constructive team-members;
	Communicate their academic findings to professional, academic and lay audiences;
	Write a research proposal on an ESST-related topic;
	Communicate their research findings in a debate or academic paper;
F. Learning skills	Find relevant literature in the library system and apply the APA referencing system in consistent and correct way;
	Gather fieldwork data by conducting an interview;
	Conduct a historical analysis and work with historical sources as their main or auxiliary research method;
	Develop an attitude toward economics as primarily a social – not a natural – science and incorporate social, political and historical influences in the analysis of policy making;
	Develop research designs to study scientific and technological change in modern societies.

APPENDIX 2: OVERVIEW OF THE CURRICULUM

Semester 1

Organisation					
Type	**Form/Code**	**Title**	**EC**	**Period**	**Duration**
Module 1	EST4000	Introduction to Science, Technology & Society studies	6	September	4 weeks
Module 2	EST4001	Science & Technology in the Making: Entering the World of Laboratory	6	October	4 weeks
Module 3	EST4002	Interpreting the History of Science & Technology	6	November	4 weeks
Module 4	EST4003	Science & Technology Dynamics	6	December	4 weeks
Module 5	EST4004	Politics of Knowledge	6	January	4 weeks
Perspectives and skills					
Type	**Form/Code**	**main perspectives on S&T**	**academic skills taught**		
Module 1	EST4000	sociology, anthropology, ethics	theory application, library skills, academic writing skills		
Module 2	EST4001	anthropology, macrosociology, philosophy of science	ethnography, presenting, interviewing		
Module 3	EST4002	history, sociology of knowledge	source criticism		
Module 4	EST4003	economics, innovation studies	policy brief writing		
Module 5	EST4004	sociology of science, political science	discourse analysis, review essay writing		

Semester 2

Type	Form/Code	Title	ECTS	Period	Duration
Module 6	EST4008	Science & Public Policy	8	February-March	6 weeks
or	EST4901	specialisation course abroad	8	February-March	6 weeks
Thesis	EST4800	Thesis	22	March-June	16 weeks

For an overview of the specialisations that can be chosen abroad, see:
http://esst.eu/specializations/

APPENDIX 3: PROGRAMME OF THE SITE VISIT

Wednesday 11 December Dag 1

10.45 – 11.15	Aankomst en welkom, incl. korte presentatie FASoS
11.15 – 12.30	Intern overleg en inzage documentatie; incl. inloopspreekuur (12:15-12:30)
12.30 – 13.15	Lunch
13.15 – 13.45	**Interview inhoudelijk verantwoordelijke BA ES**
13.45 – 14.15	**Interview inhoudelijk verantwoordelijke MA ES**
14.15 - 14.45	**Interview inhoudelijk verantwoordelijke MA EPA**
14.45 – 15.30	Uitloop /intern overleg
15.30 – 16.00	**Interview studenten bachelor** (incl. OC-lid)
16.00 – 16.30	**Interview docenten bachelor** (incl. OC-lid)
16.30 – 17.00	Pauze / intern overleg
17.00 – 17.30	**Interview studenten masters: MA ES/MA EPA** (incl. OC-lid)
17.30 – 18.00	Uitloop/ intern overleg

Thursday 12 December Dag 2

08.45 – 10.30	Aankomst, voorbereiding, inzage documentatie
10.30 – 11.15	**Interview docenten masters: MA ES/MA EPA** (incl. OC-lid)
11.15 – 11.45	**Interview alumni BA**
11-45 – 12.15	**Interview alumni MA ES/MA EPA**
12.15 – 13.00	Lunch
13.00 – 13.30	**Interview inhoudelijk verantwoordelijken ESST**
13.30 – 14.00	**Interview studenten ESST** (incl. OC-lid)
14.00 – 14.15	Intern overleg
14.15– 14.45	**Interview docenten ESST**
14.45 – 15.15	Intern overleg
15.15 – 15.45	**Interview examencommissie en studieadviseurs** (totaal 7 personen)
15.45 - 16.45	Voorbereiding slotinterviews
16.45 – 17.30	**Interview alumni ESST**
17.30 – 18.00	Intern overleg

Friday 13 December Dag 3

08.45 – 09.30	Inzage documentatie
09.30 – 10.00	**Slotinterview formeel verantwoordelijken BA ES**
10.00 – 10.30	**Slotinterview formeel verantwoordelijken MA ES**
10.30 – 10.45	Pauze
10.45 – 11.15	**Slotinterview formeel verantwoordelijken MA EPA**
11.15 – 11.45	**Slotinterview formeel verantwoordelijken ESST**
11.45 – 14.00	Lunch en Opstellen oordelen
14.00 – 14.30	**Mondelinge terugkoppeling BA ES/MA ES/MA EPA/MA ESST**
14.30 – 14.45	Uitloop/pauze
14.45 – 15.15	**Ontwikkelgesprek BA ES**
15.15 – 15.45	**Ontwikkelgesprek MA ES**
15.45 – 16.00	Pauze
16.00 – 16.30	**Ontwikkelgesprek MA EPA**
16.30 – 17.00	**Ontwikkelgesprek ESST**
17.00 – 17.30	Afronding (Borrel)

APPENDIX 4: THESES AND DOCUMENTS STUDIED BY THE PANEL

Prior to the site visit, the panel studied 15 theses of the master's programme European Studies on Society, Science and Technology. Information on the selected theses is available from QANU upon request.

During the site visit, the panel studied, among other things, the following documents (partly as hard copies, partly via the institute's electronic learning environment):
Ma OER 19-20
Rules & Regulations
UM Strategisch programma 2017-2021
FASoS Strategic Plan
UM Language Policy 2018-2021
Gedragscode Voertaal van de Universiteit Maastricht
UM taalbeleid 2018-2021
Assessment policy FASoS
Assessment Support Team
Annual Report BoE 2018-19
Annual Report BoE 2017-2018
Annual Report European Studies (ES) 2017-18
Annual Report PC MTI 2017-18
Annual Report PC MTI 2017-18 appendix 1
Annual Report PC MTI 2017-18 appendix 2
Annual Report 2018-2019 PC European Studies
Annual Report 2018-2019 PC MTI
Annual Report PC MTI 2018-19 appendix 1
Annual Report PC MTI 2018-19 appendix 2
Annual Report GPC Europe and a Globalising World 2019
Minutes Meeting External Advisory Board
Minutes Meeting EAB European Studies Programmes
Notes EAB ES GDS
Course Book ES Master Thesis
Mentor Programme
Data on dropouts (all programmes)
Keuzegids Ma (2019 and 2020)
Distribution of thesis grades (all programmes)
Plagiarism check report for one of the theses studies
Format Scripts for calibration workshops
Minutes MA ES calibration workshop 2018/19
Format BoE audit
Instruction for auditors BoE audit
ESST Handbook 2019-2020

Full portfolios (study material, assignments, exams, evaluation forms) of the following courses:
Module 1 'Introduction in STS'
Module 2 'Science and Technology in the Making'
Syllabus for Directors of Studies ESST Association 19-20
MA ESST Students' Backgrounds