

3TU.Centre for Ethics and Technology

www.ethicsandtechnology.eu

GRADUATE SCHOOL PROGRAMME 2010

Study Guide

Dear Candidate,

If you're receiving this study guide it means you have started your PhD studies at 3TU.Centre for Ethics of Technology or you're interested in applying for them in the near future.

In this guide you'll find all the information you need to get started with your PhD research or to decide whether 3TU.Centre for Ethics of Technology is the right place to apply to.

Let me wish you a great start in our Centre, where we wish to provide you with the best possible support throughout your years of intense research activity while enriching our expertise and visibility through the results of your PhD-work.

On behalf of the 3TU.Centre for Ethics and Technology Staff,

Best wishes

Prof.dr. Jeroen van den Hoven, *Scientific Director*

Dr. Sabine Roeser, *Managing Director*

Dr. Claudia Basta, *Coordinator*

Outline

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(note: dates of classes may change in the course of the year due to organizational reasons. You will be informed by the Coordinator of the programme Dr Claudia Basta)

1. The 3TU.Centre for Ethics of Technology: vision, mission and research programmes

Mission

The 3TU.Centre for Ethics and Technology (in the following, 3TU.Ethics) was founded in early 2007 following the initiative of the three philosophy departments of the three Dutch Technical Universities of Delft, Eindhoven and Twente. As one of the six research centers of excellence of the 3TU Federation, 3TU.Ethics is meant to promote and conduct academic research at the highest level and to contribute to the educational programmes of the 3TU Federation, which include both Master and PhD tracks.

The added value of having a centre that unites the ethics research of the three philosophy departments is to allow for a platform for genuine collaboration in which leading researchers bundle their expertise. Each of the constituting philosophy departments of 3TU.Ethics counts on highly selected senior and junior staff and an established international visibility. Building upon these premises 3TU.Ethics kept growing as a unique leading international organization in the field of ethics and technology by promoting innovative research on a variety of ethics- and technology-related issues, such as IT applications, healthcare technologies, human enhancement and technological risks.

One of the main motivations for valuing ethical research and education within the technical scientific environments of Delft, Eindhoven and Twente universities is the growing awareness of the relevance of technology for contemporary social, political and economic developments. This influence goes beyond the mere functionalities of artifacts. Technology does not only drive contemporary economical and societal developments, but interferes with how society is organized, how individuals think and behave and hence how values are created and experienced.

This has inevitable ethical implications that sensitive political and policy decisions, together with technology design and regulation, cannot ignore. Questions of moral acceptability, impact of artifacts on quality of life and well-being, influence of technology on how individuals relate to their living environment and matters of intergenerational justice are to be considered when technology is designed and used.

In the light of these considerations, the 3TU.Ethics research agenda has been organized according to the following objectives:

- Stimulating and undertaking fundamental as well as applied research in the field of ethics and technology,
- Designing and managing innovative graduate and post-graduate educational programmes in the field of ethics of technology, and
- Acting as an intermediary between the philosophy departments involved in 3TU.Ethics on the one hand and public debates and the media on the other.

The three technical universities of the Netherlands, who are at the forefront of this field internationally, have welcomed the challenge of investing in these objectives and opening breakthrough pathways of investigations.

Research themes

At present, 3TU.Ethics activities focus on the following three main research themes:

a) Moral issues in engineering design and R&D

13 projects are currently part of this programme. Examples are:

Responsible Innovation in Food Technology (funded by NWO), and

Value Sensitive Design for IT Governance: an Intercultural Perspective (funded by NWO).

The common denominator among the projects developed within this programme can be captured in the following research question: to what extent and in what ways are (moral) values embedded in engineering design and in R&D, and how can they be made more accommodating and sensitive with regard to accepted moral values? This raises further questions about the methodologies and institutional safeguards that exist or can be developed for value-sensitive design and R&D.

b) Moral issues in the use and regulation of technology

9 projects are related to this programme, which focuses on ethical issues regarding the use of technology, technology policy and regulation. This programme includes the NWO-VICI project *Evaluating the Cultural Quality of New Media; Towards an Integrated Philosophy of Human- Media Relations* (project leader: Professor Philip Brey, Twente University). The assumption in this programme is that once developed, technical artifacts and systems are used by consumers, professionals and organizations to a variety of ends and in a variety of settings; but such uses may violate ethical standards. For example, the use of computer systems to access personal data may violate standards of privacy, and the use of engineered tissues to replace healthy tissues may violate principles of non-maleficence. The aim of this research theme is hence to analyze and propose morally adequate standards and principles for the use of particular technologies, with particular attention for new and emerging technologies.

c) Values in engineering and society

This research theme focuses on foundational research, including research on central concepts like values, rationality and moral knowledge, and research on shifts in societal values resulting from technological change. The research conducted within this theme provides tools for the other two more practice-oriented research themes. The programme counts 5 ongoing projects. 3TU.Ethics Managing Director dr Sabine Roeser from TU Delft has recently been awarded an NWO-VIDI project on *Moral Emotions and Risk Politics* (July 2010-June 2015) as a follow-up of her NWO VENI project *Emotions and Technological Risks* (2005-2009).

2. The PhD programme of 3TU.Ethics and the PSTS Master programme of Twente University: a unique educational track

The 3TU.Ethics Graduate School Programme commencing in September 2010 merges the educational tracks of the Philosophy of Science, Technology and Society Master in Twente and 4 newly designed PhD courses. The programme offers a unique educational curriculum to international PhD candidates and is meant to provide a top-level preparation to future scholars of ethics of technology.

3. Getting started: the 1st year of the PhD programme

3 courses of the 3TU.Ethics Graduate Programme are part of the Philosophy of Science, Technology and Society Master Programme. The aim of this programme is to enable students to perform philosophical and multidisciplinary analyses of applied science and technology and their place in society. Both Master and PhD students will acquire the instruments to combine expertise in science or engineering with an ability to reflect on:

- technology and its social impact,
- social and ethical controversies involving science and technology,
- methodological issues in science and engineering,
- future developments in science and technology.

At the end of the courses students will become thoroughly acquainted with philosophical and adjacent theories on the nature of technology, the relation between engineering and natural sciences, and the role of technology in society and culture. The courses of the PSTS programme which were chosen to enrich the curriculum of the 3TU.Ethics Graduate School programme are, namely:

1. Ethics and Politics of Emerging Technologies (*mandatory*),
2. Technology and the Good Life (*mandatory*), and
3. Philosophy of Anthropology and Human-Technology Relations (elective).

The first two courses are mandatory for all students. In addition, PhD students will choose 3 additional courses, provided that at least one course is taken at each of the 3 philosophy departments members of 3TU.Ethics. Their description is reported below.

Philosophy of Risk (Eindhoven University)

Technological progress offers many opportunities, many of which have dramatically improved the conditions of living for billions of people on Earth. However, sometimes technological progress also comes with unwanted risks and negative side-effects. The international debate of nuclear power and storage of nuclear waste is a paradigmatic illustration. In this course we will consider the concept of risk from a philosophical perspective: What is a risk? Are risks objective or subjective? To what extent, if any, are risks socially constructed? Can all risks be meaningfully represented in a risk-benefit analysis? What ethical theories can and cannot give a plausible account of the moral importance of risky events? How should we interpret the precautionary principle, and should we accept any version of this principle?

Environmental Ethics (Eindhoven University)

It is generally taken for granted that sustainable development is a good thing, i.e. that technological systems and products should as far as possible not infringe on the capabilities and actual resources available to future generations. In this course we try to analyse this and related issues in environmental ethics. For example, what kind of moral value is sustainability? Is it a final (intrinsic) value or is merely an instrumental value? Can environmental values be measured in a cost-benefit analysis? Can non-sentient organisms have moral rights?

Technology and Responsibility (Delft University)

Designing and operating daily use technologies up to choosing the proper location for site-specific ones imply making choices which involve a number of responsibilities. The latter regard not only the designer; but also users, policy-makers, regulators and the individuals who are voluntarily or involuntarily involved in their operation. Safety, security and sustainability issues are recurrent in engineering design and regulation, as well as in selecting and communicating information on the relevant risks, threats and impacts to the public. Which are the specific *moral* responsibilities and obligations of engineers, policy-makers, regulators and of the individuals involved in the design, operation, use and regulation of technologies? For example,

which are the responsibilities of operators of site-specific hazardous technologies towards at-risk individuals, and which are those of policy-makers? How to identify them according to precise and consistent ethical principles?

Ethics and Engineering Design (Delft University)

Engineering design ethics concerns issues that arise during the design of technological products, processes, systems, and services. This includes issues such as safety, sustainability, user autonomy, and privacy. Ethical concern with respect to technology has often focused on the user phase. Technologies, however, take their shape during the design phase. The engineering design process thus underlies many ethical issues in technology, even when the ethical challenge occurs in operation and use. Design is not only a cognitive process but also a social process in which different individuals and groups are involved and in which negotiation plays an important role. The social nature of design raises a range of ethical issues like: who is to be involved in the design process? How are decisions to be made in a morally acceptable way?, and how to allocate responsibilities between the various participants?. Ethical issues also pertain to the wider social context in which design is carried out, like the way technological regulation is framed and the broader organizations and social networks in which design is carried out.

3.1 Writing a research proposal

The courses described above will last until the end of the 1st semester (see the enclosed calendar). After their completion you will embark on a research proposal writing course. During this course you will be asked to identify an innovative research topic to be developed in the following 3 years, which will lead to the completion of a PhD dissertation. Identifying the relevant research questions, drafting a time-table for developing the related research work in combination with literature review and congress activities will be the issues touched by this course.

4. The following years: what does it mean carrying out a PhD research?

Once you have identified your research topic and acquired the necessary background to tackle it consistently with your background, objectives and in line with the research programmes of 3TU.Ethics, you will start working more autonomously on your research proposal. Your topic will be part of one of the research programmes of 3TU.Ethics described above and your supervisor(s) will advise you along the development of your research until its conclusion. But what does it mean being a PhD researcher?

Essentially, it means becoming a “candidate” member of the scientific community(ies) gravitating around your topic. If, for example, you have chosen an environmental ethical related subject, your peer-communities will be that of philosophers, ethicists of the environment and generally environmental scholars. As the nature of the ethics of technology field is being interdisciplinary, you will be interfaced and will likely interact with more than one scholarly field. An important part of your work will therefore be following the relevant developments through the reading of scientific journals and attendance of congresses. Your main effort shall be that of participating to such debates actively, for example writing scientific articles and working-papers which may be presented at congresses and seminars. Your supervisor(s), your colleagues at 3TU.Ethics and the scientific network you will be

able to gain along the development of your research will provide you the needed support and inputs for passing from being a “candidate” to a full member of your peer-community.

4.1 *Research Schools: enriching your own educational record*

Compatibly with your course work, during the 4 years of 3TU.Ethics programme you will have the opportunity to attend the courses of others research schools. Your supervisor(s) will advise you accordingly consistently with your research topic and in line with the skills and literature you may need to acquire to complement your preparation. The most known research schools in ethics in The Netherlands are, namely

- a) The Netherlands School for Research in Practical Philosophy (www.ozse.nl), and
- b) Netherlands Graduate Research School of Science, Technology and Modern Culture (<http://www.wtmc.net/>)

For additional information on the course opportunities and requirements you may contact the coordinator of 3TU.Ethics or discussing directly with your supervisor(s).

5. **I am a Doctor in Ethics of Technology. And now?**

First of all, congratulations: you have completed a unique and highly demanding educational track and have a highly rewarding title. You are a full member of your peer community and are an expert in one innovative field while being a solid scholar of ethics of technology. And now?

The reply to this question depends on your wishes and ambitions. A PhD degree is not only the necessary step to embark on an academic career; it may lead you to opt for a consultancy, governmental or private sector profession. A growing demand of experts in applied ethics, and particularly ethics of technology, exists nowadays in the healthcare, engineering, consumer products and energy sectors to mention a few.

If, however, your wish is to continue working within academia, and in The Netherlands in particular, you will be encouraged to apply for grants competitions. You are now an autonomous scientist, and one of your main preoccupations from now onwards will be financing your research and your publications through it.

The Dutch Scientific Organization NWO has a specific scientific grant competition scheme for highly talented scholars named VENI-VIDI-VICI. The VENI is meant for scholars with up to 3 years of post-doc experience who have an innovative research proposal to be developed for up to 4 years (part-time) or 3 years (full time; see http://www.nwo.nl/nwohome.nsf/pages/NWOP_5VTGL4).

Next to the VENI grant, there are other funding opportunities through NWO, international scientific organizations and the European Commission. You will get to know them during the very development of your studies, and through the interaction with your peer community and network. You will be hence well prepared, at the end of the first demanding phase of your academic career, to size one of them.

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