Preparation Master Innovation Sciences

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Offered by	Department of Industrial Engineering and Innovation Science
Language	English
Primarily interesting for	All majors except Sustainable Innovation
Prerequisites	Required courses: Recommended courses:
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KEYWORDS: GOVERNING INNOVATION, RESPONSIBLE INNOVATION, SUSTAINABILITY TRANSITIONS

Technological innovation is crucial for economic growth, sustainable development and welfare. At the same time, making innovation work successfully in society is complex and difficult.

Innovation Science seeks a deeper understanding and influence of the complex dynamics of innovation and sustainability transitions (e.g. the energy transition, the mobility transition, and urban transitions). If you have an affinity with technology and would like to apply your skills on a broader, more strategic level, our Innovatione Sciences master's program is perfect for you.

In our Innovation Sciences Master program, you will learn to analyze and govern innovation and its role in broader societal transitions. Important questions for innovation scientists include:

- How can we create a regionally or nationally innovative climate in a globalizing world?
- How can government and business introduce and govern innovations that lead to sustainable development?

We offer two specializations:

Global sustainability

Within the track global sustainability you will learn how to understand and influence innovation processes to improve sustainable development regionally, nationally, or worldwide. Graduates will typically find jobs in (1) sustainable energy companies, consulting engineering firms, policy organizations, development organizations, and other employers strategically involved in building a more innovative and sustainable economy and society, or (2) in organizations and firms that seek to become more innovative and sustainable themselves.

Innovation strategy and policy

Within the track Innovation Strategy you will learn how to understand, manage and influence innovation processes in the knowledge economy. Graduates will find jobs as policymaker, consultant or as strategic innovation manager in a large firm.

Entry requirements for TU/e Bachelor students

Direct admission:

- You hold a B.Sc. degree Sustainable Innovation
- You hold any other TU/e B.Sc. degree plus have completed the following B.Sc. courses:

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Course code	Course name	Description
0SV10	Sustainable Technology in Society: Introduction	This course introduces students to the interwovenness of technology and society, the challenges this brings to sustainable innovation, and the pros and cons of open innovation as a sustainable innovation strategy. The course (1) focuses on a set of compelling and captivating cases to create student awareness of these themes, and (2) introduces conceptual frameworks of analysis that students apply to these cases.
0SV30	Economics of Innovation: Introduction	This course is an introduction to the economic understanding of innovation. It offers an overview of the basic notions and models introduced to define different types of innovation, to capture how innovations are created and how they impact economic systems. This course takes the perspective of the firm and deals with questions such as: why and how do firms innovate? We will introduce the view of the innovating firm as being the bridge between science/technology and market, translating scientific and technical advances into new products and services. Innovating involves a number of strategic challenges: why are certain firms more successful in innovation than other? How can firms use patents and other intellectual property rights to profit from innovation? We will stress how firms do not operate in isolation, but are influenced by their external environment including suppliers, users, government, universities, and even more stakeholders. We will move from the analysis of the firm to the analysis of the sector in which it operates, and further to the national system. We will tackle questions like: how do sectors/countries differ in terms of their innovation? Finally, we will try to understand the process through which innovations diffuse over time.
0HV50	Behavioral Research Methods 2: Dealing with data	This research methodology course covers the basics of dealing with quantitative research data, including the statistical knowledge that is necessary to be able to do this. Using a hands-on approach, students learn how to explore and analyze data. Topics include: coding and recoding variables, dealing with missing data and outli-ers, comparing groups (t-test and chi2 test), non-parametric tests, simple and multiple regression, factor analysis and principal com-ponent analysis. As a statistical background, the course also covers (calculating with) distributions, p-values and t-values, power, and sample size determination.

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Admission with homologation program:
If you hold a TUE B.Sc. degree but lack some or all of the above-mentioned courses, admission requires a 15 ECTS homologation program in the elective space of the MSc program.

More information?
Check: studiegids.tue.nl/opleidingen/graduate-school/masters-programs/innovation-sciences/admission-to-msc-is/admission-tue-bachelors/