

Research Project

Lecturers: Energy Stream Coordinator: Dr. Thomas Hoppe; Environmental Stream Coordinator: Dr. Laura Franco ; Water Stream Coordinator Dr. Cheryl de Boer.

Various tutors / supervisors are involved. Each student will be assigned two supervisors.

Course description:

- Course objectives

The main objective of the research project is to learn to prepare, execute and report on a research project.

- Subject

The subject of research can vary depending on the preference of the student and the tutor's own research field. A variety of topics within Environmental and Energy Management are offered. The topic should be in line with the chosen specialization.

- Content / topics

- Develop and operationalise a theoretical framework
- Develop a methodology
- Data collection
- Analyse and interpret data
- Write a thesis
- Draw conclusions

- Course learning objectives

After successfully completing the thesis the student should be able to:

- execute a theory-oriented or applied research in the field of environmental management, energy management or sustainable development;
- report in writing about a research activity;
- work independently
- communicate effectively with relevant people about the research project.

Course materials:

The students are given a set of guidelines for conducting their research which also set out the assessment criteria.

The students are required to use a variety of literature. Some of the literature might be supplied by the tutor, but also the student is required to find literature for his/her-self (as part of the requirement of conducting research).

Instructional working methods:

Individual research project.

Assessment:

The student is required to produce a written thesis which forms the basis of the material to be assessed. The course is assessed on eight aspects: research content: Identifying the research problem, Literature review, Research design, Data collection and analysis, Conclusions and recommendations (10% each, total of 50%); report structure and style (30%); independence as researcher (10%) and communication (10%). In order to pass the course the student must obtain a minimum of a rounded up "6".

Relationships with other courses:

The research project draws on the knowledge and skills the student has gained in the preceding parts of the programme.

Relation of course with final attainment targets:

• Primary relationship

The final attainment targets 1 to 4 are related to this course. However, due to the nature of the course the level to which they are addressed varies.

- Graduates have knowledge of and insight in the relevant key concepts and theories of policy studies and law and can describe and categorise relevant policy instruments, describe the legal basis of common policy instruments used in environmental and energy management and are able to assess their usefulness and feasibility in various contexts. (1)
- Graduates have basic knowledge of and insight in a variety of clean(er) and treatment technologies relevant for environmental and energy management, and tools that can be used for assessing the options for improving the environmental and energy impacts of products and production processes. They are able to make basic calculations for some of these tools and to make judgements about what technological solutions are appropriate for specific situations. (2)
- Graduates have knowledge of and insight in relevant key terms and concepts of organisational theory, operations management and financial analysis. They are able to apply these to analyse (energy and environmental projects in) an organisation, define needs for change and advise about implementation. (3)
- Graduates have knowledge of and insight in the relevant key concepts, theories and tools, strategies and management systems for corporate environmental and energy management, including CSR. Graduates are able to analyse an existing situation and design solutions for (a specific issue in) environmental or energy management. (4)
- Graduates understand the concept of sustainable development and the relationships between resource utilization, production processes, societal processes and environmental pressure and are able to apply combinations of concepts and theories in environmental and energy management to the situation in the home country or other specific real life situations. (5)
- Graduates are able to integrate knowledge from various disciplines and to understand interrelationships in sustainable development processes, and are capable of formulating an action programme, policy, project or recommendations for environmental or energy management issues in their context based on this integrated knowledge. (6)
- Graduates have academic and research skills like critically reflecting on literature, designing a research proposal and executing and reporting on an (applied) research project. (7)
- Graduates are able to independently access relevant scientific literature to obtain additional knowledge and apply this to the problem at hand. (8)
- Graduates are able to give a structured written and oral presentation in English about individual or

team work. They also adhere to existing academic traditions, such as providing proper credits and references. (12)

- **Secondary relationship**

- Graduates take the responsibility for the continuous development of their own knowledge and skills. (9)
- Graduates are able to make a relevant contribution as an individual or as a member of a multi-disciplinary team to analysing and solving complex environmental or energy problems in an organisation or region. They are able to function in an international team, with English as the language of communication. (10)
- Graduates are able to reflect on matters and issues in the domain, are able to form an opinion and to contribute to both scientific and practitioners' discussions and e.g. to critically reflect on the role of technology in the process towards sustainable development. (13)

- **Tertiary relationship**

- Graduates are able and willing to recognise the ethical aspects related to their activities. (11)
- Graduates have knowledge of the principles of relevant professional skills, like communication, management and consulting skills, and have some basic experiences in applying these. (14)