Course Specifications

Valid in the academic year 2018-2019

Course: Designing in a Methodical Way (E630069)

Course offerings and teaching methods in academic year 2018-2019

A (semester 1)  
Dutch, English  
lecture 24.0 h  
project 24.0 h

Lecturers in academic year 2018-2019

Ostuzzi, Francesca  
TW18  
staff member

Emmanouil, Marina  
TW18  
lecturer-in-charge

Offered in the following programmes in 2018-2019

<table>
<thead>
<tr>
<th>Programme</th>
<th>credits</th>
<th>offering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Science in Industrial Design Engineering Technology</td>
<td>6</td>
<td>A</td>
</tr>
<tr>
<td>Linking Course Master of Science in Industrial Design Engineering Technology</td>
<td>6</td>
<td>A</td>
</tr>
<tr>
<td>Preparatory Course Master of Science in Industrial Design Engineering Technology</td>
<td>6</td>
<td>A</td>
</tr>
</tbody>
</table>

Teaching languages

Dutch, English

Keywords

Design process; documentation; methodologies; methods

Position of the course

Methodology, as distinct to a set of methods (tools), refers to the development of a system for understanding which method(s) can be applied to a specific case, might it be technology-driven, socially-led, or any other type of study/research. Acknowledging that problems are ill defined due to the complexity of the interactions and the range of stakeholders, this course aids the student to develop resilience, reflective practice (action-oriented) and critical thinking in design practice. It is attuned to a (non-)human-centred approach (multi-stakeholders) that is design driven and process based. It covers specific design methods, as well as, quantitative and qualitative research methods in a focused and systematic way. Exploration of methodologies (e.g., inductive, deductive, empirical, phenomenological, ontological) is done through (a series of) industry or/and social project(s).

Contents

Besides the theory behind selected research methodologies, this course aims at introducing students to the concept of the ‘design paradox’ in which the assessment in the early phase of the design process is subjected to limitations (due to knowledge/information insufficiency) that are only reduced at the end of the process. Uncertainties pervade the design process and designers are challenged to find reasonable and timely solutions. Students in this course work towards exploring ways to:

- Work resiliently and constructively in a state of uncertainty and ambiguity
- Experiment, take risks and make informed decisions
- Deliver work under challenging conditions and limited timelines (tight deadlines)

Initial competences

Advanced in engineering skills
Advanced in industrial design skills
Basics in prototyping
Basics in design thinking and creativity tools

(Approved)
Self-regulation and intrapersonal skills (work in teams and independently)

Final competences
1. Document, archive and organise work dynamically, efficiently and transparently (meeting industry requirements).
2. Employ multidisciplinary tools (from engineering, design, and beyond) in a rationalised way.
3. Map out the range of stakeholders and their contexts; respond to their interactions and needs; collaborate with them in a trans-disciplinary way.
4. Ideate several solutions; materialise solutions into viable and feasible prototypes; test and iterate.
5. Adopt a reflective attitude towards the practical work and develop critical thinking.

Conditions for credit contract
Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract
This course unit cannot be taken via an exam contract

Teaching methods
Guided self-study, lecture, project, lecture: plenary exercises

Extra information on the teaching methods
Lecture, project, coaching/consultations, company visit, flipped classroom, student-led collaborative learning.
The course uses a combination of:
1. Lectures, readings and audiovisual material
2. Group and individual assignments
3. Students’ participation in class and programmed activities
4. In-class tasks and homework
5. Coaching
6. Company visits

Learning materials and price
No specific textbook is required. A list of readings is given in the expanded/detailed syllabus available on Minerva.

References
A list of references is given in the detailed syllabus available on Minerva.

Course content-related study coaching
Based on the number of students, individual consultations with course instructors are scheduled weekly. Theory is also discussed during these sessions. Feedback is also given by external faculty members and/or industry partners.

Evaluation methods
end-of-term evaluation and continuous assessment

Examination methods in case of periodic evaluation during the first examination period
Oral examination

Examination methods in case of periodic evaluation during the second examination period
Oral examination

Examination methods in case of permanent evaluation
Participation

Possibilities of retake in case of permanent evaluation
not applicable

Extra information on the examination methods
Student’s participation and documentation progress is monitored weekly.

Calculation of the examination mark
NPE (continuous assessment throughout the semester): 35%
PE project (Presentation): 15%
PE oral (Exam): 50%
- Note for non-engineering / non-industrial design students: Students, who do not typically have an engineering or/and industrial design background (e.g., schakel students), may face certain challenges/difficulties in following on the class standards, routines and requirements. These students are highly advised to evaluate carefully their skills and background knowledge (initial competencies) before subscribing to this course. And when enrolled to the course, it is expected these students show an extra
effort to follow on the course standards, and most importantly, to display the necessary curiosity, positive attitude and self-initiating research to cover any missing links. It is recommended to seek advice and guidance from the instructors (and course peers) at an early stage.

Following the course (during course hours) is mandatory. A minimum attendance policy (70%) applies.