

Power Electronic Engineering

4. Semester

Subject to Approval by the Relevant Bodies

Course	Type	THW	ECTS
Innovation Management	SE	2	2
Presentations and Meetings	SE	1	1
Scientific Working	SE	1	2
Master's Thesis	MT	0,5	22
Master's Exam	FE	0	3
		4,5	30

SE Seminar

MT Master's Thesis

FE Final Exam

THW Hours per week

ECTS European Credit Transfer and Accumulation System

Innovation Management

2 SWS/2 ECTS

Teaching Content

- Introduction to innovation management: definition, concepts and scope
- Types of innovation: product innovation, process innovation, service innovation, business model innovation
- Innovation process: idea generation, idea screening and selection, development and prototyping, testing and validation, implementation and commercialization
- Fostering of innovation culture: creating a culture of experimentation and risk-taking, encouraging diversity for enhanced creativity, leadership's role
- Collaboration and cooperation for innovation: interdisciplinary teams, effective communication
- Managing innovation risks: identifying innovation-related risks, learning from failure, short-term and long-term innovation goals
- Innovation leadership and strategy: developing and communicating an innovation strategy, leading change, aligning innovation efforts with organizational goals

Competence Acquisition

After finishing this course, students can

- explain the role picture of innovation, management, and innovation management,
- describe compounds of an innovative mindset, and
- differentiate between being innovative, making an innovation or invention.

Presentations and Meetings

1 SWS/1 ECTS

Teaching Content

- Interpersonal communication and communication theory in intercultural context
- Preparing and carrying out international meetings
- Presentation preparation and presentation techniques
- Web meetings
- Effective communication with multicultural groups of people in different situations

Competence Acquisition

After finishing this course, students can

- compare mechanisms of human communication (verbal, non-verbal) in an intercultural context,
- prepare international, intercultural meetings and online meetings and perform these,
- prepare presentations for an international audience and present the content effectively, and
- assess group dynamics and their implications on meetings.

Scientific Working

1 SWS/2 ECTS

Teaching Content

- Scientific methods and scientific community
- Literature search and quotation rules: how to write clearly and precisely structure and writing of scientific papers
- Writing an abstract
- Writing a scientific report in the form of a conference paper

Competence Acquisition

After finishing this course, students can

- apply the methods of scientific work,
- apply the criteria and rules for scientific publishing,
- write a scientific paper, and
- peer-review a scientific paper.

Master's Thesis

0,5 SWS/22 ECTS

Teaching Content

- Solving an engineering problem from the field in an industrial or scientific environment

Competence Acquisition

After finishing this course, students can independently solve an engineering problem from the field using scientific methods and write a clearly structured and comprehensible master's thesis in English.

Master's Exam

0 SWS/3 ECTS

Teaching Content

The board examination is carried out in accordance with the requirements for final examinations of FH Master's degree programmes pursuant to FHG as amended.

Competence Acquisition

Graduates can present their master's thesis within the context of the study content and address critical questions about it.