Module Description, available in: EN

Technology Management

General Information

Number of ECTS Credits

3

Module code

CM_TechMgmt

Valid for academic year

2020-21

Last modification

2019-11-23

Coordinator of the module

Michele Kellerhals (HSLU, michele.kellerhals@hslu.ch)

Explanations regarding the language definitions for each location:

- Instruction is given in the language defined below for each location/each time the module is held.
- Documentation is available in the languages defined below. Where documents are in several languages, the percentage distribution is shown (100% = all the documentation).
- The examination is available 100% in the languages shown for each location/each time it is held.

	Lausanne			Lugano	Zurich		
Instruction					**X** E 100%		
Documentation					**X** E 100%		
Examination					**X** E 100%		

Module Category

CM Context module

Lessons

2 lecture periods and 1 tutorial period per week

Entry level competences

Prerequisites, previous knowledge

The module is particularly recommended to students subscribed to one of the following specialization areas:
- Business Engineering
- Energy & Environment
- Medical Engineering
- Mechanical Engineering
- Mechatronics & Automation
- Electrical Engineering
- Data Science
- Computer Science
- Phtotonics
- Aviation

Brief course description of module objectives and content

The module describes the practical and theoretical framework of Technology Management, and explains the lifecycle of technologies and the related methods in Technology Management.

Aims, content, methods

Learning objectives and acquired competencies

1. Students understand the elements and the application areas of Technology Management.
2. Students are familiar with the practical and theoretical framework of Technology Management and understand the importance for innovative operating companies.
3. Students learn how companies select and work with technologies.
4. Students know how to manage technology throughout its lifecycle phases and understand the influence of technology on profitability and risk exposure for companies.
5. Students know how to deal with stakeholders relevant for Technology Management.

Contents of module with emphasis on teaching content

Technologies are among the most important strategic and operational assets of product and process driven companies. The module deals with mastering technologies to enable companies to achieve competitive advantage and differentiation by sound Technology Management. The focus of the module is on management of technology throughout its lifecycle, thus complementing topics such as Innovation, Solution, Product and Project Management, covering strategic and operational aspects including technology evaluation, planning, development/provision, implementation, distribution, exploitation and dismantling (de- and re-manufacturing). Examples of new technologies will be considered in group work and discussed as practice examples. The module conveys comprehensive knowledge required for TM, e.g. technology trend analysis, technology scouting and recognition, technology roadmapping, lifecycle management, portfolio management, competitive strategies, protection, IPR- and knowledge management, corporate technology management, technology assessment, as well as technology communication and related aspects of effective stakeholder management.

Teaching and learning methods

The module is taught by theory inputs, illustrative examples, case studies, discussion of controversial questions and exercises. Content is applied in the context of a project assignment.

Literature

[1] Technology Management; Dilek Cetindamar, Rob Phaal, David Probert; ISBN 9780230233348.

Assessment

Certification requirements

Module uses certification requirements

Certification requirements for final examinations (conditions for attestation)

A project to be compiled through independent study.

Basic principle for exams

As a rule, all the standard final exams for modules and also all resit exams are to be in written form

Standard final exam for a module and written resit exam

Kind of exam

written

Duration of exam

120 minutes

Permissible aids

Aids permitted as specified below:

Permissible electronic aids

No electronic aids permitted

Other permissible aids

Self-written summary of 4 pages A4.

Dictionary.

Special case: Resit exam as oral exam

Kind of exam

oral

Duration of exam

30 minutes

Permissible aids

No aids permitted

Kind of exam

oral

Duration of exam

30 minutes