

## Courses in English Course Description

<b>Department</b>	06 Applied Sciences and Mechatronics
<b>Course title</b>	<b>Technology and Innovation Management</b>
<b>Hours per week (SWS)</b>	4
<b>Number of ECTS credits</b>	6 CP
<b>Course objective</b>	<p>This interdisciplinary module provides students of the Master's programs with basic knowledge in technology and innovation management (TIM), which contributes to ensure the competitiveness and business success of companies.</p> <p>In concrete terms, the following competencies are provided:</p> <p><b>Professional competence:</b> Students will learn different methods and tools of strategic TIM (e.g. strategic analysis, strategy development, strategy implementation, monitoring and evaluation) and can apply them systematically in innovation projects. They are able to understand the technology development and innovation process, identify success factors in innovation management and design processes in a targeted and effective manner. The course participants will learn and master various creativity techniques, become familiar with patent management and acquire a holistic way of thinking at TIM.</p> <p><b>Methodological competence:</b> Students are able to understand complex tasks and contexts. Applying their own ideas, they develop concepts for an innovation process from the planning phase to final business success by incorporating new potentials of digitalization and industry 4.0. They will learn methods of strategy and project management and can improve their English language skills.</p> <p><b>Social competence:</b> Through exercises and case studies, carried out in small groups, students will acquire knowledge, skills and abilities to work together in international and interdisciplinary teams, to present their own ideas and concepts convincingly, and to motivate team members to achieve common goals.</p> <p><b>Self-competence:</b> Students are able to analyze complex issues independently and derive creative solutions and concrete measures.</p>
<b>Prerequisites</b>	none
<b>Recommended reading</b>	<ol style="list-style-type: none"><li>1. Christensen C. M., Burgelman R. A., and Wheelwright S. C.: Strategic management of technology and innovation. 5th Edition, 2008. Singapore: McGraw-Hill Education.</li><li>2. Shane S.: The handbook of technology and innovation management. 1st Edition, 2008. England: Wiley-Blackwell</li><li>3. Tidd J. and Bessant J.: Managing innovation: Integrating technological, market and organizational change. 5th Edition, 2013. England: Wiley</li><li>4. Hauschildt / Salomo / Schultz / Koch: Innovationsmanagement, Vahlen Verlag, 6. Auflage, 2016</li><li>5. Gerpott: Strategisches Technologie- und Innovationsmanagement, Poeschel Verlag, 2. Auflage, 2005</li><li>6. Schuh / Klappert / Aghassi: Technologiemanagement, Springer Verlag, 2. Auflage, 2010</li></ol>
<b>Teaching methods</b>	Seminaristic teaching, exercises, case studies, seminar paper
<b>Assessment methods</b>	100% StA: StA
<b>Language of instruction</b>	English
<b>Name of lecturer</b>	Prof. Dr. Gia Khanh Pham, Prof. Dr. Bettina Maisch
<b>Email</b>	gia-khanh.pham@hm.edu; bettina.maisch@sce.de
<b>Link</b>	<a href="http://www.fb06.fh-muenchen.de/fbalt/forms/fachbeschreibungen.php?lang_nr=1&amp;id=1914">http://www.fb06.fh-muenchen.de/fbalt/forms/fachbeschreibungen.php?lang_nr=1&amp;id=1914</a>

<b>Course content</b>	<ol style="list-style-type: none"><li>1. Introduction</li><li>2. Basics of technology and innovation management<ol style="list-style-type: none"><li>2.1 Terms and definitions of TIM</li><li>2.2 Innovation cycle and product life cycle</li><li>2.3 Types of innovation strategies</li><li>2.4 Innovation as a management task<ol style="list-style-type: none"><li>2.4.1 Strategic analysis of initial situation (PESTEL, SWOT, SWA...)</li><li>2.4.2 Innovation strategy integrated in corporate strategy</li><li>2.4.3 Options, constraints and influencing factors</li></ol></li></ol></li><li>3. Innovation management process<ol style="list-style-type: none"><li>3.1 Designing the corporate innovation system</li><li>3.2 Promoters and teams</li><li>3.3 Product, process and business model innovation</li><li>3.4 Open innovation und closed innovation</li><li>3.5 Target setting, development, steering and evaluation of innovation processes</li><li>3.6 Creativity techniques</li><li>3.7 Technology and product development</li><li>3.8 Invention disclosure and patent management</li></ol></li><li>4. Success factors of innovation management<ol style="list-style-type: none"><li>4.1 Corporate culture and innovation culture</li><li>4.2 Influence of soft and hard factors</li><li>4.3 People, leadership and soft skills</li><li>4.4 Success factors and challenges of innovation management in large corporations and SMEs</li><li>4.5 Holistic approach of innovation management</li></ol></li><li>5. Case studies, exercises, work in small groups</li></ol>
<b>Remarks</b>	Working effort:  180 hours, of which: 30 h seminaristic teaching 30 h exercises 120 h individual work