# Syllabus

## *Course Description*

| | |
|---|---|
| **Course Title** | PLM Product Life Cycle Management |
| **Course Code** | 43019 |
| **Course Title Additional** | |
| **Scientific-Disciplinary Sector** | IIND-05/A |
| **Language** | German |
| **Degree Course** | Bachelor in Industrial and Mechanical Engineering |
| **Other Degree Courses (Loaned)** | |
| **Lecturers** | Dott. Ing. Vittorio Franzellin,<br>vittorio.franzellin@unibz.it<br>https://www.unibz.it/en/faculties/engineering/academic-staff/person/5189 |
| **Teaching Assistant** | |
| **Semester** | Second semester |
| **Course Year/s** | Opt. |
| **CP** | 4 |
| **Teaching Hours** | 24 |
| **Lab Hours** | 15 |
| **Individual Study Hours** | 61 |
| **Planned Office Hours** | 12 |
| **Contents Summary** | The course covers the following topics:<br>- PLM processes and systems<br>- Innovation Management<br>- Product development<br>- (Multi)Project management<br>- CMS Content Management System<br>An extensive course Teaser is available upon request to the Lecturer vittorio.franzellin@unibz.it |
| **Course Topics** | PLM Processes and Systems (Product Lifecycle Management) |

| | |
|---|---|
| | The course introduces Product Lifecycle Management (PLM) as a key approach for managing products throughout their entire lifecycle, from idea generation and design to production and end-of-life.<br>Students learn the main PLM processes and the role of PLM systems in supporting collaboration between engineering, operations, and management. The integration of PLM with other enterprise systems (such as CAD and ERP) is also discussed.<br><br>Innovation Management<br><br>This module focuses on the fundamentals of Innovation Management in industrial and technological organizations.<br>It covers different types of innovation and the main processes used to generate, evaluate, and implement new ideas. The relationship between innovation, company strategy, and competitive advantage is emphasized.<br><br>Product Development<br><br>The Product Development section examines the process of transforming market needs into successful products.<br>Students are introduced to common product development models and methods, with attention to cross-functional collaboration, time-to-market, cost, quality, and performance considerations.<br><br>(Multi)Project Management<br><br>This part of the course introduces the principles of Project Management, with a focus on managing multiple projects at the same time.<br>Key topics include planning, scheduling, resource allocation, risk management, and project prioritization. Traditional and agile approaches are compared.<br><br>CMS – Content Management Systems<br><br>The Content Management Systems (CMS) module explains the basic concepts behind systems used to create, manage, and publish digital content. |

| | |
|---|---|
| | Students learn how CMS support communication, documentation, and knowledge management within organizations. |
| **Keywords** | - PLM processes and systems<br>- Innovation Management<br>- Product development<br>- (Multi)Project management<br>- CMS Content Management System |
| **Recommended Prerequisites** | No prerequisites. |
| **Propaedeutic Courses** | |
| **Teaching Format** | Frontal lectures, case study discussions and exercises.<br>Materials will be provided by the lecturer. |
| **Mandatory Attendance** | Course attendance is not compulsory. Where provided, participation in external activities is strongly recommended and may give the opportunity to receive bonus points in the final evaluation. |
| **Specific Educational Objectives and Learning Outcomes** | Under Product Lifecycle Management (PLM) refers to a strategic approach to the holistic management of information, processes and resources to support the product life cycle of products and services, from idea management to development to ramp up to series production, and the launch phase of sales and merchandising until the final call back or recycling of the product. PLM is more than a "pure" IT technology, namely an "integrated approach" of technologies, methods, processes and organizational structures.<br><br>The aim of this course is to provide students with the basics of PLM through case studies and lessons learned from practice.<br><br>After completing the course, students should:<br>Knowledge and understanding (ILO 1)<br>• Explain the PLM Essentials (Methods, Process, Technology)<br>Applying knowledge and understanding (ILO 2)<br>• Describe the Reasons Why of the modern PLM Solutions<br>Making judgments (ILO 3)<br>• Analyze and compare different solutions and requirements of the modern PLM processes and systems<br>Communication skills (ILO 4)<br>• Demonstrate relate Techniques and Methods |

| | |
|---|---|
| | Learning skills (ILO 5)<br>• Report case study and lessons learned from practice. |
| **Specific Educational Objectives and Learning Outcomes (additional info.)** | |
| **Assessment** | - Formative assessment:<br>Workshops Simulations: 4 hours; ILOs assessed: 1,2,3,4,5;<br>Case studies discussion: part of the lecture techniques; ILOs assessed: 1,2,3,4,5.<br>- Summative assessment:<br>100% Written: 3,0 hours; Nr. Lernergebnisse: 1,2,3,4,5. |
| **Evaluation Criteria** | Exam point structure:<br>10 Points Multiple Choice Questions:<br>ILOs:<br>70 Points Theory Part<br>1,2,3,4,5<br>20 Points Exercise Part<br>1,2,3,4,5<br>100 Points Gesamte Prüfung<br>1,2,3,4,5 |
| **Required Readings** | Course Handbook (Theory and Exercises) provided by the lecturer (synchronously with the progress of the course). |
| **Supplementary Readings** | No supplementary readings. |
| **Further Information** | Software used: Laptops with MS Office (Word, Excel, PowerPoint). |
| **Sustainable Development Goals (SDGs)** | Industry, innovation and infrastructure, Decent work and economic growth |