

Modulname Modulname	Factory Planning & PPC BA MERO	BM1
Modulverantwortlicher/ Modulverantwortliche Module responsibility	Prof. Dr. Lutz Huxholl (Modulverantwortung) Prof. Dr. Carsten Löser (Modulverantwortung)	
Qualifikationsziele Qualification goals	The module gives an overview about the activities to be executed when planning a new production site respectively optimising an existing site. It covers aspects to be considered for the location of a new site and the design and the layout of the buildings and processes to be used. The organisation of the processes within the site will also be illustrated. The students are also taught knowledge of industrial production planning and control (PPC) for the manufacturing of goods. In doing so, they get to know important basic terms and methods that are required for application in practice, such as the planning processes and planning stages as well as the opposing goals of the PPC, problems and solution methods. Another goal is the ability to assess the areas of application, significance and limits of the methods used and to be able to apply the methods from the above-mentioned areas of PPC to corresponding tasks.	
Modulinhalte Module contents	Coming from the strategic business planning, the core activities related to factory planning are explained. Key success factors for a factory design fulfilling the market requirements in terms of economic targets, timing and flexibility for model and volume changes are explained. Main areas of production planning and control: • Development of the PPC • Goals of the PPC • Production program planning • Production requirements planning • In-house production planning and control • Current developments	
Lehrformen Forms of teaching	Vorlesung (3 SWS) Übung (1 SWS)	
Voraussetzungen für die Teilnahme Requirements for participation	Basic knowledge of factory operations Basic knowledge of the factory process (procedures and planning, e.g. from the internship) desirable	

Literatur/multimediale Lehr- und Lernprogramme Further readings/Learning programmes	• Wiendahl, H-P.; Reinhardt, J.; Nyhuis, P.: Handbook Factory Planning and Design • Schenk, M.; Wirth, S.; Müller, E.: Factory Planning Manual: Situation-Driven Production • Rogalski, S.: Flexibility Measurement in Production Systems: Handling Uncertainties in Industrial Production • Erlach, K.: Value Stream Design: The Way Towards a Lean Factory • Gisi, P. J.: Fundamentals of Daily Shop Floor Management: A Guide for Manufacturing Optimization and Excellence • Crowson, R.: Factory Operations: Planning and Instructional Methods • Sagegg, O. J.; Alfnes, E.: ERP Systems for Manufacturing Supply Chains • Magal, S. R.; Word, J.: Integrated Business Processes with ERP Systems • Bailey, M.: How to implement a manufacturing system: Best practices and pitfalls when implementing an MRP/ERP system • Christopher, M.: Logistics and Supply Chain Management: Logistics & Supply Chain Management • Roser, C.: All About Pull Production: Designing, Implementing, and Maintaining Kanban, CONWIP, and other Pull Systems in Lean Production	
Lehrbriefautor Textbook author	keiner	
Verwendbarkeit Usability	Mechatronics & Robotics 210 CP B.Eng.	
Arbeitsaufwand/Gesamtworkload Workload/Total workload	Selbststudium 90 h + Präsenzzeit 60 h = 150 Stunden = 5,0 Credit Punkte independent work 90 h + presence 60 h + preparation 30 h = 150 hours = 5,0 credit points	
ECTS und Gewichtung der Note in der Gesamtnote ECTS and weighting in overall grade	5 5/210	1
Leistungsnachweis Performance record	Written exam 120 min	
Semester Semester	5	
Häufigkeit des Angebots Frequency of the offer	Annually in summer semester	
Dauer Duration	1 Semester	

Art der Lehrveranstaltung Type of course	Elective module 5. Semester: 1 to be chosen SoSe 2027
Besonderes Peculiarity	