

Hessen: ISU Course Outline

Digital Factory Planning

CLASS HOURS: 20

PROFESSOR (Academic Director)

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1) INFORMATION ON THE COURSE CONTENT

COURSE DESCRIPTION

The digitalization of business processes in companies has developed enormously, among other things through a significant increase in computer and data transfer performance and the potential use of applications on mobile devices. The Digital Factory with its methods and applications is regarded as the core of this development. This course is intended to provide an overview of methods and recent developments of Digital Factory, in particular of Digital Factory Planning.

LEARNING OBJECTIVES

Students should develop a basic understanding of Digital Factory Planning. Students will gain knowledge of structures and processes as well as methods and tools used, including the supporting IT infrastructure in the enterprise. The acquired knowledge and experience will enable students to design and improve digital planning processes in production and logistics.

COURSE MATERIALS

All material will be given during the course.

References:

- Bracht, U.; Geckler, D.; Wenzel, S.: Die Digitale Fabrik – Methoden und Praxisbeispiele – Basis für Industrie 4.0. Springer, 2. Auflage, 2018.
- Krcmar, H.: Informationsmanagement, Springer, 6. Auflage, 2015

All further material will be given during the course.

TENTATIVE CLASS SCHEDULE

Day (4 h)	Topic	Type	Remarks
1	Introduction Digital Factory Planning	L, D	Goals, definitions: Information, Factory Planning, System and Model, Methods and Tools, Simultaneous Engineering
2	Information Management	L, E	Goals, definitions: Management, Systems, Infrastructure, Processes, Applications
3	Digital Factory	L	Goals and principles of Digital Factory, Interoperability, Integration, Data exchange
4	Digital Planning	L, E	Selected planning methods and their application, models and their characteristics
5	Production and Logistics Simulation	E, P	Use of simulation as a planning method: Development of a simulation model, execution of experiments

L=Lecture, D=Discussion, E=Exercise, P=Practice

2) INFORMATION ON CLASS PARTICIPATION, ASSIGNMENTS AND EXAMS

ASSIGNMENTS

- Active participation in discussions and presentations, independent study

EXAMS

- *Written exam*

PROFESSIONALISM & CLASS PARTICIPATION

- Regular attendance

MISSED CLASSES

No more than 10% of the contact hours can be missed for successful completion of the class.

3) INFORMATION ON GRADING AND ECTS

ACADEMIC STANDARDS

Upon successful completion, 3 ECTS will be awarded for the class.

According to the rules of ECTS, one credit is equivalent to 25-30 hours student workload.

GRADING SCALE:

Grade		Description
15 points	1.0	<i>very good: an outstanding achievement</i>
14 points		
13 points		
12 points	1.7	<i>good: an achievement substantially above average requirements</i>
11 points	2.0	
10 points	2.3	
9 points	2.7	<i>satisfactory: an achievement which corresponds to average requirements</i>
8 points	3.0	
7 points	3.3	
6 points	3.7	<i>sufficient: an achievement which barely meets the requirements</i>
5 points	4.0	
4 points	5.0	<i>not sufficient / failed: an achievement which does not meet the requirements</i>
3 points		
2 points		
1 point		
0 points		

This course description was issued on: January 03, 2019. Program is subject to change.