

Course

BAE2112 – Production Engineering and Manufacturing (Produktion 2)
2 hours per week, 2 credits, English level: upper

Instructors

Prof. Dr. Kai Oßwald
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Overview

The course deals with the most important issues of industrial production, focusing on technical subjects and shopfloor related issues. It gives deeper insight in relevant production topics like assembly, workpiece handling, maintenance and quality control.

Due to the current pandemic, in winter semester of 2020/21 the course will most probably take place online. I will inform you as soon as possible on the details.

Prerequisites:

Fertigungstechnik 1 and 2, Konstruktionslehre, Advanced English for Engineers, Elektrotechnik

Learning Objectives

By the end of the course students

- Will understand automated industrial production processes
- Will have an overview over the components of automation
- Will know the specific challenges of manufacturing chains
- Will know characteristic designs and components of machines and production lines

Course Topics

Automation
Sensors
Machine Drives and Actuators
Machine Components
Hydraulic Technology
Pneumatic Technology
Production Metrology
Machinery Safety

Teaching and learning approach

The course will be run as a “classical” lecture plus some demonstrations and several exercise elements.

Contribution to program goals

Goals	Contribution
Engineering Knowledge	Introduction to the industrial and automated production as well as its machines and methods

Course Material

- Nicholas P. Sands; Ian Verhappen (2018): A Guide to the Automation Body of Knowledge, Third Edition. International Society of Automation
ISBN 978-1-941546-91-8.
- RealPars Youtube-Channel: <https://www.youtube.com/user/ParsicAutomation/videos>

Final Examination

There will be a 60 min written final exam for this course (together with “Produktion I”) at the end of the semester.

Grading

Students will be graded on a scale of 1 = excellent, 2 = very good, 3 = satisfactory, 4 = pass and 5 = fail.

My Teaching Philosophy

I want to contribute to your learning progress in terms of technical understanding and engineering abilities. I will try to show you the practical importance of the issues of this course. Questions – during the course or during my “Kolloquium” – are very welcome and will be answered either in the course or individually.