

Sommersemester 2024

Course	Qualitative Methoden der Regelungstechnik, Teil 1: Programming in Process Control Systems (2V, 1Ü)
Zielgruppe	Studierende des ACE-Master Studierende des A+S Master Studierende im ME-Master Studierende im Hauptstudium Maschinenbau / Automatisierungstechnik Studierende im Hauptstudium Elektrotechnik / Automatisierungstechnik
URL of the course	https://moodle.uni-due.de/course/view.php?id=19652
Lecturer	Florian Diepers, M.Sc., Univ.-Prof. Dr.-Ing. Dirk Söffker
Assistant	Florian Diepers, M.Sc.
About course	<p>In SoSe 2024, the course will be realized in presence at the university.</p> <p>The realization is carried out via:</p> <ul style="list-style-type: none"> - Lecture and exercise material (pdf) <p>Additional material is provided:</p> <ul style="list-style-type: none"> - Lecture video material - Exercise video material <p>The commented material is published online 3 days before the lecture/exercise date in the Moodle course and can be downloaded. Downloading the commented versions after corresponding lecture/exercise date is not possible.</p> <p>The basis of the course is the specified textbook (> available in the textbook collection). The central teaching material is available as encrypted PDF documents in the Moodle course. It is not recommended to use ONLY the video documents for learning.</p> <p>For each lecture unit a raw manuscript is published which can be downloaded in the Moodle course from the beginning of the course. This serves to structure the personal/personalizable notes.</p> <p>For preparation/postprocessing of the lecture it is strongly recommended</p> <ul style="list-style-type: none"> ➤ Preparation of the previous material ➤ as well as reading the upcoming material in the given chapters in advance (in the specified textbook/textbook).

Material	Moodle: Qualitative Methoden der Regelungstechnik, Teil 1: Programming in Process Control Systems – QMR1 (https://moodle.uni-due.de/course/view.php?id=19652) The password can be requested via the e-mail address srs-pw@uni-due.de . The subject must contain the word QMR1 .
Day	Wednesday and Friday
Time	Wednesdays: 9:00 am – 1:00 pm Fridays: 8:00 am – 12:00 pm
Room	Wednesdays: MB 242 Fridays: MB 143
First course	June 5
Last course	July 12
Literature	Lehrbuchempfehlungen: K.-H John und M. Tiegelkamp: IEC61131-3: Programming Industrial Automation Systems, Springer, 2001. G. Wellenreuther und D. Zastrow: Automatisieren mit SPS – Theorie und Praxis, Vieweg Verlag, 2005. B. Vogel-Heuser und A. Wannagat: Modulares Engineering und Wiederverwendung mit CoDeSys V3, Oldenbourg Industrieverlag, München, 2009.
Content	<ul style="list-style-type: none"> • Overview of automated systems architecture • Design and function of automation systems • PLC programming <ul style="list-style-type: none"> ○ Classic IEC 61131-3 Languages ○ Object-oriented extension of IEC 61131-3 languages • Bus systems and motion control
Exam	Written exam, 90 min, closed-book, English language , mandatory registration at the examination office