

Sommersemester 2025

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://lehre.moodle.uni-due.de/course/view.php?id=679
Lecturer	Florian Diepers, M.Sc., Univ.-Prof. Dr.-Ing. Dirk Söffker
Assistant	Florian Diepers, M.Sc.
About course	In SoSe 2025, the course will be realized in presence at the university. The realization is carried out via: - Lecture and exercise material (pdf) 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. 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. For preparation/postprocessing of the lecture it is strongly recommended ➤ 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://lehre.moodle.uni-due.de/course/view.php?id=679) 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 6
Last course	July 11
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	• Overview of automated systems architecture • Design and function of automation systems • PLC programming ◦ 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