

Sommersemester 2025

Course	Diagnosis and Prognosis (2V, 1Ü)
Zielgruppe	Master Program: Mechanical Engineering – all programs Automation and Safety - Safe Systems and all programs Maschinenbau NOTE: please check the actual status of allowed courses of your program specialization
URL of the course	https://lehre.moodle.uni-due.de/course/view.php?id=677
Lecturer	Univ.-Prof. Dr.-Ing. Dirk Söffker
Assistant	Jonathan Liebeton, 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 literature resources, available from the library or the WWW. The central teaching materials are 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 to ➤ preparation of the previous material, ➤ as well as reading the upcoming material in the given chapters in advance (in the specified textbook/textbook). Please note that this course is partly identical with the new course 'Machine Learning'.
Material	Moodle: Diagnosis and Prognosis – DaP (https://lehre.moodle.uni-due.de/course/view.php?id=677) The password can be requested via the e-mail address srs-pw@uni-due.de. The subject must contain the word DaP.
Day	Tuesday
Time	3:00 – 7:00 pm
Room	MB 242

First course	April 08
Last course	May 27
Literature	• Gertler, J.J.: Fault detection and diagnosis in engineering systems. New York, Dekker, 1998 • Isermann, R.: (Hrsg.): Überwachung und Fehlerdiagnose. Moderne Methoden und ihre Anwendung bei technischen Systemen. VDI Verlag, Düsseldorf, 1994 • Klein, U.: Schwingungsdiagnostische Beurteilung von Maschinen und Anlagen. 2., überarbeitete Auflage. Düsseldorf, Stahleisen, 2000 • Lunze, J.: Automatisierungstechnik, Oldenbourg, 2003
Additional reading material	Stated in the manuscript
Content	Methods of fault detection and diagnosis I - Signal-based Methods of fault detection and diagnosis II - Model-based Methods of fault detection and diagnosis III – Data driven Prediction of service life and remaining useful lifetime Applications Practical courses and exercises are carried out to illustrate the course contents
Exam	Written exam in English language , 90 min, closed-book, registration via examination office