



Module Description for Block Week Module:

Module title	<u>Automated Driving</u>
Offering course of studies	<u>Embedded Systems for Mechatronics</u>
University Campus	<u>FH Dortmund, campus Sonnenstrasse</u>
Language	<u>English</u>
Module representative/ Full-time lecturer	<u>Andreas Becker, Steffen Baumann</u>
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Abbreviation	Workload	Credits	Semester (WiSe/SuSe)	Planned group size
AD	90	3*	SuSe	10
Courses/course types Attendance	Contact time		Self-study	
	Attendance during block week	Additional contact time during preparation and postprocessing e.g. videoconference	Guided during preparation and postprocessing	selfdirected
	40	5	15	30
Teaching types preparation	Online material, telephone conferences			
Teaching types postprocessing	Not applicable			

* 6 ECTS are possible to purchase by following the weekly lecture during the SuSe '19 (Thursday, 8:15-11:45 am)

Teaching results/ teaching goals/competences
Implementation of a driver assistance function (automatic emergency braking) for the audi-autonomous-driving-cup vehicle
Contents <ul style="list-style-type: none"> - Setting up SW-architecture using ADTF - Prediction of vehicle path - Brake control - Obstacle detection - Test drives and verification



Participation requirements	C/C++. Signal processing and control theory basics
Examination types	Project assignment
Requirement for rewarding credit points	Passed project assignment. Additional 3 ECTS can be obtained in conjunction with the lecture "systems and signals for automated driving" and corresponding exam
Application of the module in other courses (in other courses)	See homepage of Ruhr Master School
Literature	Winner et al. Handbook of Driver Assistance Systems
Notes	