

**CURRICULUM B.ENG. ROBOTICS, FULL-TIME (36 MONTHS)**

**ONLINE STUDIES**

Semester	Module	Course Code	Course	ECTS	
1. Semester 30 ECTS	Introduction to Robotics	DLBROI01_E	Introduction to Robotics	5	E
	Introduction to Academic Work	DLBCSIAW01	Introduction to Academic Work	5	WB
	Mathematics: Linear Algebra	DLBDSMFLA01	Mathematics: Linear Algebra	5	E
	Scientific and technical fundamentals	DLBINGNAG01_E	Scientific and technical fundamentals	5	E
	Smart Factory I	DLBDSSEF01	Smart Factory I	5	E
	Technical Drawing	DLBROTD01_E	Technical Drawing	5	E
2. Semester 30 ECTS	Production Engineering	DLBDSEAR01	Production Engineering	5	E
	Collaborative Work	DLBCSCW01	Collaborative Work	5	OA
	Mathematics: Analysis	DLBDSMFC01	Mathematics: Analysis	5	E
	Mechanics - Statics	DLBROMS01_E	Mechanics - Statics	5	E
	Electrical Engineering	DLBINGET01-01_E	Electrical Engineering	5	E
	Project: Design with CAD	DLBROPDCAD01_E	Project: Design with CAD	5	OPR
3. Semester 30 ECTS	Sensor Technology	DLBROST01_E	Sensor Technology	5	E
	Signals and Systems	DLBROSS01_E	Signals and Systems	5	E
	Requirements Engineering	DLBCSRE	Requirements Engineering	5	E
	Mechanics - Kinematics and Dynamics	DLBROMKD01_E	Mechanics - Kinematics and Dynamics	5	E
	Intercultural and Ethical Decision-Making	DLBCSIDM01	Intercultural and Ethical Decision-Making	5	WACS
	Introduction to Programming with Python	DLBDSIPWP01	Introduction to Programming with Python	5	E
4. Semester 30 ECTS	Mechatronic Systems	DLBROMSY01_E	Mechatronic Systems	5	E
	Control Systems Engineering	DLBROCSE01_E	Control Systems Engineering	5	E
	Project: Modeling, Simulation and Control of Robots	DLBROPMSCR01_E	Project: Modeling, Simulation and Control of Robots	5	WAPR
	Introduction to the Internet of Things	DLBINGEIT01_E	Introduction to the Internet of Things	5	E
	Embedded Systems	DLBROES01_E	Embedded Systems	5	E
	Project: Robotics	DLBROP01_E	Project: Robotics	5	OPR
5. Semester 30 ECTS	Seminar: Human-Robot Interaction	DLBROSHR01_E	Seminar: Human-Robot Interaction	5	WARE
	Project: Applied Robotics with Robotic Platforms	DLBROPARRP01_E	Project: Applied Robotics with Robotic Platforms	5	OPR
	Seminar: Robots and Society	DLBROSRS01_E	Seminar: Robots and Society	5	WARE
	Safety of Industrial Plants and Machines	DLBROSIPM01_E	Safety of Industrial Plants and Machines	5	E
	ELECTIVE I**		e.g. Industrial Robotics and Automation	10	
6. Semester 30 ECTS	ELECTIVE II**		e.g. Service Robotics	10	
	ELECTIVE III**		e.g. Introduction to Cognitive Robotics	10	
	Bachelor Thesis		Bachelor Thesis	9	WABT
	Colloquium		Colloquium	1	PC
<b>Total</b> 180 ECTS	<b>GOAL: In order to stay on schedule, you should finish modules of about 30 Credit Points per semester!</b>				



You've already planned out exactly how your course schedule should look? Wonderful! The IUBH offers you the flexibility to choose any module you like from any semester. You can work on a number of modules at the same time or one by one.



At the beginning, choose modules that particularly interest you or that you can use directly in your job. This motivates you and gives you success right from the start.



A module with two courses consists of an introduction and a consolidation. In order to successfully complete a module, you must successfully pass both the introduction and the consolidation of the module within the framework of a module examination.



\* All the modules that have been unlocked for the Online Exams can be found in CARE.



- E Exam (monthly at study centres or anytime via the online exam\*)
- OA Oral Assignment
- OPR Oral Project Report
- P Portfolio
- PC Presentation: Colloquium
- WB Workbook
- WABT Written Assessment: Bachelor Thesis
- WACS Written Assessment: Case Study
- WAPR Written Assessment: Project Report
- WARE Written Assessment: Research Essay
- WAWA Written Assessment: Written Assignment

\*\* ELECTIVES  
- Choose three modules

**Elective Module I:**

- Introduction to Cognitive Robotics
- Industrial Robotics and Automation
- Service Robotics

**Elective Module II + III:**

- AI Specialist
- Applied Sales
- Autonomous Driving
- Data Science and Deep Learning
- Foreign Language
- Industrial Robotics and Automation
- International Marketing and Branding
- Introduction to Cognitive Robotics
- IT project and architecture management
- IT Security
- Mobile Software Engineering
- Programming of Robotic Systems
- Python for Software Engineering
- Service Robotics
- Supply Chain Management

**NOTE:**

Every elective module can only be chosen once.