

CURRICULUM B.ENG. ENGINEERING

DISTANCE LEARNING

Semester		Module	Course Code	Course	ECTS	Type of Exam	
FT	PT I						
1. Semester	1. Semester	Engineering: Branches, Methods, Applications, Trends	DLBENGEMAT01	Engineering: Branches, Methods, Applications, Trends	5	Written Assignment	
		Introduction to Academic Work	BWIR01-01	Introduction to Academic Work	5	Basic Workbook	
		Mathematics: Linear Algebra	DLBDSMFLA01	Mathematics: Linear Algebra	5	Exam	
	2. Semester	2. Semester	Fundamentals of Physics	DLBWINGP01_E	Fundamentals of Physics	5	Exam
			Introduction to the Internet of Things	DLBINGET01_E	Introduction to the Internet of Things	5	Exam
			Introduction to Computer Science	DLBCSICS01	Introduction to Computer Science	5	Exam
2. Semester	3. Semester	Fundamentals of Chemistry	DLBMETGC01_E	Fundamentals of Chemistry	5	Exam	
		Production Engineering	DLBDEAR01	Production Engineering	5	Exam	
		Mechanics - Statics	DLBROMS01_E	Mechanics - Statics	5	Exam	
	4. Semester	4. Semester	Automation Technology	DLBROEIRA02_E	Automation Technology	5	Exam
			Mathematics: Analysis	DLBDSMF01	Mathematics: Analysis	5	Exam
			Signals and Systems	DLBROSS01_E	Signals and Systems	5	Exam
3. Semester	5. Semester	Control Systems Engineering	DLBROCS01_E	Control Systems Engineering	5	Exam	
		Materials Science for Engineers	DLBMETGWK01_E	Materials Science for Engineers	5	Exam	
		Sensor Technology	DLBROST01_E	Sensor Technology	5	Exam	
	6. Semester	6. Semester	Electrical Engineering	DLBINGET01-01_E	Electrical Engineering	5	Exam
			Mechanics - Kinematics and Dynamics	DLBROMKD01_E	Mechanics - Kinematics and Dynamics	5	Exam
			Technical Mechanics: Elastostatics	DLBBIWTM01_E	Technical Mechanics: Elastostatics	5	Exam
4. Semester	7. Semester	Introduction to Electromagnetics	DLBENGEE01	Introduction to Electromagnetics	5	Exam	
		Fundamentals of Systems Simulation	DLBENGFS01	Fundamentals of Systems Simulation	5	Exam or Advanced Workbook	
		Introduction to Data Protection and Cyber Security	DLBCSIDPIT01	Introduction to Data Protection and Cyber Security	5	Exam	
	8. Semester	8. Semester	Statistics - Probability and Descriptive Statistics	DLBDSPPDS01	Statistics - Probability and Descriptive Statistics	5	Exam
			Introduction to Programming with Python	DLBENGPS01	Introduction to Programming with Python	5	Exam
			Project: Simulation of Systems	DLBENGPS01	Project: Simulation of Systems	5	Project Report
5. Semester	9. Semester	Fundamentals of Data-Driven Engineering	DLBENGFDDE01	Fundamentals of Data-Driven Engineering	5	Case Study	
		Seminar: The Big Data Society	DLBENGSTBDS01	Seminar: The Big Data Society	5	Research Essay	
	10. Semester	10. Semester	Electrical Machines and Energy Technology	DLBAETEME01_E	Electrical Machines and Energy Technology	5	Exam
			Project: Control Unit Design for a Mechanical System	DLBENGESD01	Project: Control Unit Design for a Mechanical System	5	Project Report
6. Semester	11. Semester	ELECTIVE A*		e.g. Robot Kinematics and Dynamics	10		
		ELECTIVE B*		e.g. Simulation and Control of Robots	10		
		ELECTIVE C*		e.g. Embedded Systems and Programming with C/C++	10		
Total		Bachelor Thesis		Bachelor Thesis	9	Bachelor Thesis	
180 ECTS				Thesis Defense	1	Presentation: Colloquium	



You've already planned out exactly how your course schedule should look? Wonderful! The IU International University of Applied Sciences 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.



* Electives: Choose three modules, every elective module can only be chosen once.

FT: Full-Time, 36 months
PT I: Part-Time I, 48 months
PT II: Part-Time II, 72 months

Specialization Track	Elective A:	Elective B:	Elective C:
Robotics	Robot Kinematics and Dynamics	Simulation and Control of Robots	Embedded Systems and Programming with C/C++
Mechatronics	Mechatronic Systems and Design	Electrical Drive Technology and Fluid Mechanics	Embedded Systems and Programming with C/C++
Cybersecurity Engineering	Operating Systems, Networks and Network Forensics	Pentesting and DevSecOps	Cryptography and IT-Law
Data-Science Engineering	Functional Programming with Python and Inferential Statistics	Machine Learning - Supervised and Unsupervised Learning	Databases and Explorative Data Analysis and Visualization
Engineering Management	Supply Chain Management and Innovation	Agile Project Management and Smart Products	Smart Services
Electrical Engineering: Electromobility	Introduction to Electronics and Electronic Circuits	Electro Mobility	Autonomous Driving
Electrical Engineering: Digital Electronics	Introduction to Electronics and Electronic Circuits	Digital and Information Technology and Programming with C/C++	Embedded Systems, Microcontrollers and Logical Circuits
Electrical Engineering: Renewable Energies	Introduction to Electronics and Electronic Circuits	Energy Technology	Renewable Energies
All available Electives	Elective A: Introduction to Electronics and Electronic Circuits Mechatronic Systems and Design Robot Kinematics and Dynamics Supply Chain Management and Innovation Operating Systems, Networks and Network Forensics Functional Programming with Python and Inferential Statistics	Elective B: Electro Mobility Digital and Information Technology and Programming with C/C++ Energy Technology Electrical Drive Technology and Fluid Mechanics Simulation and Control of Robots Mechatronic Systems and Programming with C/C++ Agile Project Management and Smart Products Pentesting and DevSecOps Machine Learning - Supervised and Unsupervised Learning	Elective C: Autonomous Driving Embedded Systems, Microcontrollers and Logical Circuits Embedded Systems and Programming with C/C++ Smart Services Renewable Energies Cryptography and IT-Law Databases and Explorative Data Analysis and Visualization



You can find more information about your degree program in the module handbook on our website.