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BACHELOR (B.ENG.) INDUSTRIAL ENGINEERING AND MANAGEMENT

Industrial engineering has entered a revolutionary new phase with smart technologies increasingly used in manufacturing plants and supply chains across the globe. The demand for qualified engineers who are specialised in “Industry 4.0” and related fields is enormous.

The IU Bachelor in Industrial Engineering and Management prepares you with a combination of relevant business studies, expert knowledge of industrial engineering, and IT expertise that will allow you to understand and optimise processes for industrial companies everywhere. You’ll get to know features and applications for smart devices, smart technologies, and smart mobility—understanding how to use them create, innovate, and disrupt certain industries. You’ll become experienced with digital twins and similar technologies and be able to apply theoretical knowledge with the help of experimental kits and digital modelling in our virtual environment. After graduating, you’ll enter positions at the heart of digitisation and at the interface of many different industries.



Degree

Bachelor of Engineering (B.Eng.)



Study start

Online: Anytime

On Campus: Each Oct, Jan, Apr or Jun



Study model available

Online, or On Campus



Duration

Online: 36, 48, or 72 months

On Campus: 36 months



Credits

180 ECTS



Ultimate flexibility

Our On Campus model means that...

- You can start your degree online for distance learning while taking care of visa issues and join us later in Germany to experience campus life. You say which semester you want to spend on campus or online.
- You want to go on a trip during your studies? No problem. You can study online at your own pace without missing any classes.



Fees

Online: From €75 per month

On Campus: From €449 per month

Study Content

PRESENCE TIMEFRAME	MODULE TITLE	SEMESTER	CREDITS (ECTS)	TEST TYPE
		1		
Oct/Nov/Dec	Scientific and technical fundamentals		5 ECTS	E
Oct/Nov/Dec	Introduction to Robotics		5 ECTS	E/WAWA
Oct/Nov/Dec	Management Accounting		5 ECTS	E/WAWA
Jan/Feb/Mar	Technical Drawing		5 ECTS	E
Jan/Feb/Mar	Collaborative Work		5 ECTS	OA
Jan/Feb/Mar	International Marketing		5 ECTS	E
		2		
Apr/May/June	Mathematics II		5 ECTS	E
Apr/May/June	Business 101		5 ECTS	E/WAWA
Apr/May/June	Managerial Economics		5 ECTS	E
Jun/Jul/Aug	Introduction to Academic Work		5 ECTS	WB
Jun/Jul/Aug	Introduction to the Internet of Things		5 ECTS	E
Jun/Jul/Aug	Production Engineering		5 ECTS	E
		3		
Oct/Nov/Dec	Entrepreneurship and Innovation		5 ECTS	WAWA
Oct/Nov/Dec	Supply Chain Management I		5 ECTS	E
Oct/Nov/Dec	Intercultural and Ethical Decision-Making		5 ECTS	WACS
Jan/Feb/Mar	Electrical Engineering		5 ECTS	E
Jan/Feb/Mar	Project: Design Thinking		5 ECTS	WAPR
Jan/Feb/Mar	Sensor Technology		5 ECTS	E
		4		
Apr/May/June	Mechatronic Systems		5 ECTS	E
Apr/May/June	Automation Technology		5 ECTS	E
Apr/May/June	Data Analytics and Big Data		5 ECTS	WACS
Jun/Jul/Aug	Corporate Finance and Investment		5 ECTS	WAWA
Jun/Jul/Aug	Principles of Management		5 ECTS	WACS
Jun/Jul/Aug	Product Development in Industry 4.0		5 ECTS	E
		5		
Oct/Nov/Dec	Digital Business Models		5 ECTS	E
Oct/Nov/Dec	Agile Project Management		5 ECTS	WAPR
Oct/Nov/Dec	Project: Smart Product Solutions		5 ECTS	OPR
Jan/Feb/Mar	Seminar: Human-Robot Interaction		5 ECTS	WARE
Online	Elective A		10 ECTS	
		6		
Online	Electives B & C		20 ECTS	
Online	Bachelor Thesis		10 ECTS	WABT & PC

E = Exam, OA = Oral assignment, PC = Presentation: Colloquium, WB = Workbook, WABT = Written assessment: Bachelor thesis, WACS = Written assessment: Case study, WAMT = Written assessment: Master thesis, WAPR = Written assessment: Project report, WARE = Written assessment: Research essay, WAWA = Written assessment: Written assignment, OPR = Oral project report

CHOOSE YOUR ELECTIVES

Electives A:

- Applied Robotics
- Applied Sales
- Autonomous Driving
- Control Engineering
- Introduction to Cognitive Robotics
- Microcontroller
- Object-oriented Programming
- Programming of Robotic Systems
- Service Robotics
- Smart Devices
- Smart Factory
- Smart Mobility
- Smart Services

Electives B:

- Practice Project: Industrial Engineering 4.0 (has to be done on campus)
- Project: Hackathon

Electives C:

- Applied Robotics
- Applied Sales
- Autonomous Driving
- Control Engineering
- Introduction to Cognitive Robotics
- Microcontroller
- Object-oriented Programming
- Programming of Robotic Systems
- Service Robotics
- Smart Devices
- Smart Factory
- Smart Mobility
- Smart Services

Choose one specialisation from each block.

WHAT YOU'LL LEARN

- Understand and optimise processes for industrial companies across the globe by combining relevant business studies, expert knowledge of industrial engineering, and IT expertise.
- Become experienced with digital twins and similar technologies and be able to apply theoretical knowledge with the help of experimental kits and digital modelling in your virtual environment.

CAREER

Industrial engineering has entered a revolutionary new phase with smart technologies increasingly used in manufacturing plants and supply chains across the globe. The demand for qualified engineers who are specialised in "Industry 4.0" and related fields is enormous. After studying Industrial Engineering and Management, our bachelor graduates often work in manufacturing companies at the interface between business management and technical functions. Whether in management, engineering, or consultancy role – there are plenty of opportunities for talented professionals in this area.