CURRICULUM B.Eng. INDUSTRIAL ENGINEERING AND MANAGEMENT

Campus Studies, 180 ECTS Credits

Month	Model 1: Programme Start October			Model 2: Programme Start January			Model 3: Programme Start April		
	Courses			Courses			Courses		
Oct	Fundamentals of Physics	Introduction to Robotics	Management Accounting						
Nov									
Dec									
Jan	Technical Drawing	Collaborative Work	International Marketing	Technical Drawing	Collaborative Work	International Marketing			
Feb									
Mar									
Apr	Mathematics II	Business 101	Managerial Economics	Mathematics II	Business 101	Managerial Economics	Mathematics II	Business 101	Managerial Economics
May									
Jun	Lecture-Free Period								
Jul	Introduction to Academic Work	Introduction to the Internet of Things	Production Engineering Industry 4.0	Introduction to Academic Work	Introduction to the Internet of Things	Production Engineering Industry 4.0	Introduction to Academic Work	Introduction to the Internet of Things	Production Engineering Industry 4.0
Aug									
Sep	Lecture-Free Period								
Oct	Entrepreneurship and Innovation	Supply Chain Management I	Intercultural and Ethical Decision-Making	Fundamentals of Physics	Introduction to Robotics	Management Accounting	Fundamentals of Physics	Introduction to Robotics	Management Accounting
Nov									
Dec									
Jan	Electrical Engineering	Project: Design Thinking	Sensor Technology	Electrical Engineering	Project: Design Thinking	Sensor Technology	Technical Drawing	Collaborative Work	International Marketing
Feb									
Mar									
Apr	Mechatronic Systems	Automation Technology	Data Analytics and Big Data	Mechatronic Systems	Automation Technology	Data Analytics and Big Data	Mechatronic Systems	Automation Technology	Data Analytics and Big Data
May									
Jun	Lecture-Free Period								
Jul	Corporate Finance and Investment		Principles of Management	Corporate Finance and Investment		Principles of Management	Corporate Finance and Investment		Principles of Management
Aug									
Sep	Lecture-Free Period								
Oct	Digital Business Models	Project: Agile Project Management	Project: Smart Product Solutions	Entrepreneurship and Innovation	Supply Chain Management I	Intercultural and Ethical Decision-Making	Entrepreneurship and Innovation	Supply Chain Management I	Intercultural and Ethical Decision-Making
Nov									
Dec									
Jan	Seminar: Human-Robot Interaction	Elective A Course a	Elective A Course b	Seminar: Human-Robot Interaction	Elective A Course a	Elective A Course b	Electrical Engineering	Project: Design Thinking	Sensor Technology
Feb									
Mar									
Apr	Elective B (10 ECTS)		Product Development in Industry 4.0	Elective B (10 ECTS)		Product Development in Industry 4.0	Elective B (10 ECTS)		Product Development in Industry 4.0
May									
Jun	Lecture-Free Period								
Jul	Elective C Course c	Elective C Course d	Bachelor Thesis	Elective C Course c	Elective C Course d	Bachelor Thesis	Elective C Course c	Elective C Course d	Bachelor Thesis
Aug									
Sep	Lecture-Free Period								
Oct				Digital Business Models	Project: Agile Project Management	Project: Smart Product Solutions	Digital Business Models	Project: Agile Project Management	Project: Smart Product Solutions
Nov									
Dec									
Jan							Seminar: Human-Robot Interaction	Elective A Course a	Elective A Course b
Feb									
Mar									
Apr									
May									

INTERNATIONAL UNIVERSITY OF APPLIED SCIENCES

☑

Here you see the order in which you study your courses in presence depending on your personal study start in October, January or April. Each semester consists of two blocks. In each block, you attend classes on campus for usually three courses to deepen the content in direct exchange with your fellow students and lecturers.

You have lecture-free periods in both June and September, which you can spend reviewing and preparing for exams. Attending the courses on campus is mandatory and will be verified due to Visa regulations (not valid for DACH students).

Each block concludes with a two-week exam preparation phase. You can defer those exams to a later date that you do not want to take during this period. This way, your exam phases are always spread evenly over the year. Exceptions to this are courses that count as admission requirements for other courses.

☑

Attention: Attendance times may vary slightly depending on public holidays and the federal state holidays the campus is located in.

☑

If you are studying Model 2 or 3 you will have to start your Bachelor Thesis before completing your final courses.

☑

Note: You can already start with your thesis earlier than the designated block, once you have met the minumum amount of credit points required to enter.

Elective A~

Applied Robotics
- a) Embedded Systems
- b) Project: Applied Robotics with Robotic Platforms

Applied Sales
- a) Applied Sales I
- b) Applied Sales II

Autonomous Driving
- a) Self-Driving Vehicles
- b) Seminar: Current Topics and Trends in Self-Driving Technology

Control Engineering
- a) Signals and Systems
- b) Control Systems Engineering*

Cognitive Robotics
- a) Digital Signal Processing
- b) Introduction to Computer Vision

Microcontroller
- a) Digital and Information Technology
- b) Project: Microcontrollers and Logical Circuits

Object-oriented Programing
- a) Object-oriented Programming with Java
- b) Data Structures and Java Class Library

Service Robotics
- a) Mobile Robotics
- b) Soft Robotics

Smart Devices
- a) Smart Devices
- b) Project: Smart Devices

Smart Factory
- a) Smart Factory
- b) Project: Smart Factory

Smart Mobility
- a) Smart Mobility
- b) Project: Smart Mobility

Smart Services
- a) Smart Services
- b) Project: Smart Services

Internship

Elective B~

Practical Project: Engineering Management

Project: Hackathon

Elective C~

Applied Robotics
- c) Embedded Systems
- d) Project: Applied Robotics with Robotic Platforms

Applied Sales
- c) Applied Sales I
- d) Applied Sales II

Autonomous Driving
- c) Self-Driving Vehicles
- d) Seminar: Current Topics and Trends in Self-Driving Technology

Control Engineering
- c) Signals and Systems
- d) Control Systems Engineering*

Cognitive Robotics
- c) Digital Signal Processing
- d) Introduction to Computer Vision

Microcontroller
- c) Digital and Information Technology
- d) Project: Microcontrollers and Logical Circuits

Object-oriented Programing
- c) Object-oriented Programming with Java
- d) Data Structures and Java Class Library

Service Robotics
- c) Mobile Robotics
- d) Soft Robotics

Smart Devices
- c) Smart Devices
- d) Project: Smart Devices

Smart Factory
- c) Smart Factory
- d) Project: Smart Factory

Smart Mobility
- c) Smart Mobility
- d) Project: Smart Mobility

Smart Services
- c) Smart Services
- d) Project: Smart Services

Mastering Prompts
- c) Artificial Intelligence
- d) Project: AI Excellence with Creative Prompting Techniques

Career Development
- c) Personal Career Plan
- d) Personal Elevator Pitch

AWS Cloud Specialization
- c) Project: AWS - Cloud Essentials
- d) Project: AWS - Cloud Advanced

Internship

Studium Generale I and II

☑

~ Electives: Choose one module from the Elective A, one module from the Elective B and one module from the Elective C. Every elective module can only be chosen once.

* This course comes with admissions requirements. Please consult the module handbook for more information.