CURRICULUM B.Eng. INDUSTRIAL ENGINEERING AND MANAGEMENT

myStudies, 180 ECTS

Month	Model 1: Programme Start October – Courses			Model 2: Programme Start January – Courses			Model 3: Programme Start April – Courses			Model 4: Programme Start July – Courses		
Oct	Scientific and technical fundamentals	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	Semester Break											
Jul	Introduction to Academic Work	Introduction to the Internet of Things	Production Engineering	Introduction to Academic Work	Introduction to the Internet of Things	Production Engineering	Introduction to Academic Work	Introduction to the Internet of Things	Production Engineering	Introduction to Academic Work	Introduction to the Internet of Things	Production Engineering
Aug												
Sep	Semester Break											
Oct	Entrepreneurship and Innovation	Supply Chain Management I	Intercultural and Ethical Decision-Making	Scientific and technical fundamentals	Introduction to Robotics	Management Accounting	Scientific and technical fundamentals	Introduction to Robotics	Management Accounting	Scientific and technical fundamentals	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	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	Mathematics II	Business 101	Managerial Economics
May												
Jun	Semester Break											
Jul	Corporate Finance and Investment		Principles of Management	Corporate Finance and Investment		Principles of Management	Corporate Finance and Investment		Principles of Management	Corporate Finance and Investment		Principles of Management
Aug												
Sep	Semester Break											
Oct	Digital Business Models	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	Entrepreneurship and Innovation	Supply Chain Management I	Intercultural and Ethical Decision-Making
Nov												
Dec												
Jan	Seminar: Human-Robot Interaction	Elective (online)	Elective (online)	Seminar: Human-Robot Interaction	Elective (online)	Elective (online)	Electrical Engineering	Project: Design Thinking	Sensor Technology	Electrical Engineering	Project: Design Thinking	Sensor Technology
Feb												
Mar												
Apr	Elective (online, 10 ECTS)		Product Development in Industry 4.0	Elective (online, 10 ECTS)		Product Development in Industry 4.0	Elective (online, 10 ECTS)		Product Development in Industry 4.0	Mechatronic Systems	Automation Technology	Data Analytics and Big Data
May												
Jun	Semester Break											
Jul	Elective (online)	Elective (online)	Bachelor Thesis	Elective (online)	Elective (online)	Bachelor Thesis	Elective (online)	Elective (online)	Bachelor Thesis	Elective (online)	Elective (online)	Bachelor Thesis
Aug												
Sep	Semester Break											
Oct				Digital Business Models	Agile Project Management	Project: Smart Product Solutions	Digital Business Models	Agile Project Management	Project: Smart Product Solutions	Digital Business Models	Agile Project Management	Project: Smart Product Solutions
Nov												
Dec												
Jan							Seminar: Human-Robot Interaction	Elective (online)	Elective (online)	Seminar: Human-Robot Interaction	Elective (online)	Elective (online)
Feb												
Mar												
Apr										Elective (online, 10 ETCS)		Product Development in Industry 4.0
May												

Elective A*

Applied Robotics
- Embedded Systems
- Project: Applied Robotics with Robotic Platforms

Applied Sales
- Applied Sales I
- Applied Sales II

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

Control Engineering
- Signals and Systems
- Control Systems Engineering

Introduction to Cognitive Robotics
- Digital Signal Processing
- Fundamentals of NLP and Computer Vision

Microcontroller
- Digital and Information Technology
- Project: Microcontrollers and Logical Circuits

Object-oriented Programing
- Object-oriented Programming with Java
- Data structures and Java class library

Programming of Robotic Systems
- Programming with C/C++
- Programming PLCs

Service Robotics
- Mobile Robotics
- Soft Robotics

Smart Devices
- Smart Devices I
- Smart Devices II

Smart Factory
- Smart Factory I
- Smart Factory II

Smart Mobility
- Smart Mobility I
- Smart Mobility II

Smart Services
- Smart Services I
- Smart Services II

Elective B*

Practice Project: Industrial Engineering 4.0
(can only be done on campus)

Project: Hackathon

Elective C*

Applied Robotics
- Embedded Systems
- Project: Applied Robotics with Robotic Platforms

Applied Sales
- Applied Sales I
- Applied Sales II

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

Control Engineering
- Signals and Systems
- Control Systems Engineering

Introduction to Cognitive Robotics
- Digital Signal Processing
- Fundamentals of NLP and Computer Vision

Microcontroller
- Digital and Information Technology
- Project: Microcontrollers and Logical Circuits

Object-oriented Programing
- Object-oriented Programming with Java
- Data structures and Java class library

Programming of Robotic Systems
- Programming with C/C++
- Programming PLCs

Service Robotics
- Mobile Robotics
- Soft Robotics

Smart Devices
- Smart Devices I
- Smart Devices II

Smart Factory
- Smart Factory I
- Smart Factory II

Smart Mobility
- Smart Mobility I
- Smart Mobility II

Smart Services
- Smart Services I
- Smart Services II

*Internship***

Studium Generale

Course Information

Module	Course Code	Course	ECTS	Type of Exam
Scientific and technical fundamentals	DLBINGNAG01_E	Scientific and technical fundamentals	5	Exam
Introduction to Robotics	DLBROIR01_E	Introduction to Robotics	5	Exam/Written Assessment: Written Assignment
Management Accounting	DLBMAE01	Management Accounting	5	Exam/Written Assessment: Written Assignment
Technical Drawing	DLBROTD01_E	Technical Drawing	5	Exam
Collaborative Work	DLBCSCW01	Collaborative Work	5	Oral Assignment
International Marketing	DLBDSEIMB01	International Marketing	5	Exam
Mathematics II	DLBCSM201	Mathematics II	5	Exam
Business 101	DLBBAB01_E	Business 101	5	Exam/Written Assessment: Written Assignment
Managerial Economics	DLBBWME01_E	Managerial Economics	5	Exam
Introduction to Academic Work	DLBCSIAW01	Introduction to Academic Work	5	Basic Workbook
Introduction to the Internet of Things	DLBINGEIT01_E	Introduction to the Internet of Things	5	Exam
Production Engineering	DLBDSEAR01	Production Engineering	5	Exam
Entrepreneurship and Innovation	DLBBAEI01_E	Entrepreneurship and Innovation	5	Written Assignment
Supply Chain Management I	DLBDSESCM01	Supply Chain Management I	5	Exam
Intercultural and Ethical Decision-Making	DLBCSIDM01	Intercultural and Ethical Decision-Making	5	Case Study
Electrical Engineering	DLBINGET01-01_E	Electrical Engineering	5	Exam
Project: Design Thinking	DLBINGDT01_E	Project: Design Thinking	5	Project Report
Sensor Technology	DLBROST01_E	Sensor Technology	5	Exam
Mechatronic Systems	DLBROMSY01_E	Mechatronic Systems	5	Exam
Automation Technology	DLBROEIRA02_E	Automation Technology	5	Exam
Data Analytics and Big Data	DLBINGDABD01_E	Data Analytics and Big Data	5	Case Study
Corporate Finance and Investment	DLBCFIE01	Corporate Finance and Investment	5	Written Assignment
Principles of Management	DLBBAPM01_E	Principles of Management	5	Case Study
Product Development in Industry 4.0	DLBINGPE01_E	Product Development in Industry 4.0	5	Exam
Digital Business Models	DLBLODB01_E	Digital Business Models	5	Exam
Agile Project Management	DLBCSAPM01	Agile Project Management	5	Project Report
Project: Smart Product Solutions	DLBIEPSPS01	Project: Smart Product Solutions	5	Oral Project Report
Seminar: Human-Robot Interaction	DLBROSHRI01_E	Seminar: Human-Robot Interaction	5	Research Essay
ELECTIVE A*		e.g. Autonomous Driving	10	
ELECTIVE B*		e.g. Practice Project: Industrial Engineering 4.0	10	
ELECTIVE C*		e.g. Control Engineering	10	
Bachelor Thesis		Bachelor Thesis	9	Bachelor Thesis
		Thesis Defense	1	Presentation: Colloquium

INTERNATIONAL UNIVERSITY OF APPLIED SCIENCES

☑

Here you see the order in which you can study your courses in presence depending on your personal study start in October, January, April or July.
IU International University of Applied Sciences offers you the flexibility to switch from campus to online studies or the other way around. You decide which semester you want to spend on campus or online.

The above is only valid for DACH students. For INT Students: attending the courses on Campus in presence is mandatory and will be verified due to VISA regulations.

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Each semester consists of two blocks that conclude with a two-week exam preparation phase. You can also 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.

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 semester breaks in June and September.

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

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If you are studying Model 2 , 3 or 4 you will have to start your Bachelor Thesis before completing your final courses.

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* 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.
** The elective "Internship" is offered for the first time in October 2022.

Note: The Electives are only offered in distance learning (online).

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By choosing the elective "Internship" and/or "Studium Generale" you cannot qualify for the dual degree with LSBU.