

Digital Engineering & Industrial AI¹

Engineering the Intelligent Industry

AI, automation and digital technologies are changing how industrial products are developed, manufactured and operated. Companies need engineers who understand physical systems and can turn data and AI into reliable solutions for real industrial challenges.

Digital Engineering & Industrial AI combines a strong engineering foundation with software, machine learning and the skills to implement technological change. Students learn to model and simulate complex systems, connect machines and data, and develop AI applications for products, production and industrial processes.

The program connects technical feasibility with business value and responsible implementation. Its industry-first approach brings together engineering, AI and management through laboratory work, practical projects and collaboration with companies.

Career Profile

Graduates work at the interface of engineering, AI and industrial implementation in manufacturing and technology companies. Career paths include systems engineering for cyber-physical systems, industrial AI enablement, digital twin and simulation engineering, and technical project management. They develop and integrate solutions for products, machines and processes and, with experience, take on responsibility for industrial innovation and transformation projects.

Study Focus

- **Digital Engineering & Mechatronics:** Model-based development, simulation, digital twins, sensing and industrial communication.
- **Industrial & Physical AI:** Machine learning, computer vision, cyber-physical systems and autonomous robotics.
- **Safety, Security & Responsible AI:** Functional safety, cybersecurity, human-AI interaction and governance.
- **Industrial Management & Leadership:** AI strategy, innovation, business cases and managing change.

Degree

- Master of Science in Engineering (MSc)

Duration

- 4 semesters (120 ECTS)

Admission Requirements

- Completed Bachelor's degree preferably in an Engineering discipline
- Good English language skills

Application

- Online – details & deadlines on fh-ooe.at/application

Admission Procedure

- Online application, MS Teams interview with pre-selected candidates

Language of Instruction

- 100% English

Mode of Study

- Full-time, Mondays off

Tuition Fees

- EU/EEA citizens: 363.36 EUR per semester (plus Austrian Student Union fee).
- Citizens from non-EU/EEA countries: 726.72 EUR per semester (plus Austrian Student Union fee). Scholarships available.

¹ Subject to approval by AQ Austria



Curriculum

Course name	ECTS / Semester	1	2	3	4
→ Individual Qualification*					
Advanced Mechatronics		3			
Project Management		1			
Programming		2			
→ Digital Engineering & Mechatronics					
Model Based Engineering		5	5	5	
Sensors, Signal Processing & Industrial Communication		5			
Digital Product Development			4		
→ Industrial AI & Intelligent Systems					
Software Engineering		4			
Applied Mathematics & Machine Learning		6			
Cyber-Physical Systems & Physical AI			5		
Computer Vision & Sensor Data Processing			4		
Advanced Industrial AI Applications			4		
Autonomous Systems & Advanced Robotics				4	
→ Safety, Security & Responsible AI					
Safety & Security in Industrial AI Systems				4	
Human-Centric AI & Governance				3	
→ Industrial Management & Leadership					
Industrial Value Chains & AI Opportunities		2			
Industrial Innovation & Customer-Centric Solutions			3		
Industrial AI Strategy			2		
Leadership & Change Management				3	
Engineering Economics & Industrial Business Cases				2	
→ Projects & Master's Thesis					
Industrial AI Systems Lab		2			
Practical Project			3	9	
Thesis Preparation Seminar					1
Master's Thesis					27
Master's Final Exam					2
ECTS Points		30	30	30	30

* Courses are selected according to prior qualifications in consultation with the Head of Studies; equivalent alternatives may be agreed. See "Individual Qualification".

Practical Experience and Research

Students apply their knowledge from the first semester onwards. The Industrial AI Systems Lab and two practical projects connect engineering methods, data and AI with real industrial problems. Working in interdisciplinary teams, students develop prototypes, assess feasibility and business value, and present their results to project partners. The master's thesis provides the opportunity to investigate a practical or research-based topic in depth, in cooperation with a company or within the university's applied research environment.

Individual Qualification

The first semester includes 6 ECTS tailored to students' prior knowledge. Advanced Mechatronics, Programming and Project Management establish a shared starting point. Students who already have the relevant competencies can agree on suitable alternative courses with the Head of Studies.

Develop Your Own Focus

The lab, practical projects and master's thesis offer opportunities to pursue individual interests, such as industrial AI, digital twins, robotics or cyber-physical systems. Students may express topic preferences or propose projects with industry partners, subject to approval and availability.

Good to Know

→ Industrial AI is a key priority in Upper Austria's economic and research strategy. Combined with the region's strong industrial base, this points to strong demand for graduates who combine engineering expertise with practical AI skills.

International Environment

Taught entirely in English, DEIA prepares students for collaboration across disciplines and cultures. Team projects develop communication and leadership skills alongside technical expertise. Students are encouraged to gain international experience through a semester abroad.

Contact

Head of Studies

→ Prof. Mag. Dr. Alexander Brendel-Schauberger

Pedagogic Coordinator

→ Prof. DI Dr. Christian Zehetner

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