OVERVIEW

Degree
- Master of Engineering (M.Eng.)

Duration
- 3 semesters

Start
- Annually in March (summer semester)
- Annually in October (winter semester)

Admission requirements
- Successful completion of a bachelor's degree in Mechatronics or a closely related field
- A2 language level must be completed by the end of the studies, either by passing the German course A2 / part 3+4 at DIT or by a certificate recognised by DIT.
- A GATE or GRE (general) certificate is recommended to be submitted if your undergraduate degree has been completed in a non-member state of the Lisbon convention to further substantiate your eligibility for this study programme.
- Aptitude assessment is required

Language of instruction
- English

APPLICATION

Application period
- 15 April - 15 July for entry in October
- 15 November - 15 January for entry in March

Online application
- In the Primuss Portal at www.th-deg.de/en/apply

Deadline for submission of required documents
- Summer semester: 15 January
- Winter semester: 15 July

Notice of acceptance or denial
- In the Primuss-Portal at the beginning of February

Enrolment
- Information available in letter of admission

Semester start
- Summer Semester Start: 15 March
- Winter Semester Start: 1 October
- Deferred admission will not be granted

STUDY LOCATION

Campus Cham
Badstraße 21
93413 Cham
Germany
www.th-deg.de/en/campus-cham

DEGGENDORF INSTITUTE OF TECHNOLOGY **DIT** Campus Cham

CONTACT

Are you interested in studying for this Master's in Artificial Intelligence for Smart Sensors and Actuators and would like to find out more?

Course enquiries

✉ studium-cham@th-deg.de
🌐 www.th-deg.de/en/campus-cham
📞 +49 9971 99673-29, or -21

General enquiries about studying at DIT

✉ welcome@th-deg.de
🌐 www.th-deg.de/en/advice

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FIBAA
PROGRAMM AKKREDITIERT
Akkreditierungsrat

MINTernational
ausgezeichnet mit dem
BEST PERFORMANCE PRIZE

member of EUA European University Association

FAMILIE IN DER HOCHSCHULE

CODE of CONDUCT

pioneering & vibrant

TECHNISCHE HOCHSCHULE DEGGENDORF THD

Master
ARTIFICIAL INTELLIGENCE FOR SMART SENSORS AND ACTUATORS

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COURSE DESCRIPTION

The master's programme „AI for Smart Sensors and Actuators" is suitable for you if you are either a bachelor's graduate or a professional engineer aiming to specialize in this innovative field.

The course covers a wide range of specialist subjects that tackle current global topics. These are:

- Process of machine learning (neuronal networks)
- Embedded control for smart sensors and actuators
- Sensor technology (e.g. MEMS)
- Methods of system networking (wired and wireless communication)
- Methods of data processing (e.g. Cloud Computing, Big Data)
- System design

Our dedicated professors and support staff as well as state-of-the-art workshops and labs provide you with an excellent infrastructure to study high-tech areas of AI, intelligent sensors and actuators.

You will tackle practical challenges by working on four case studies that will additionally strengthen your personal, social and professional skills.

After successfully completing the course, you will be awarded with the academic degree Master of Engineering, abbreviated to M.Eng. This qualifes you to expertly carry out creative R&D work in this exciting professional world. Top graduates can potentially study for a doctoral degree.
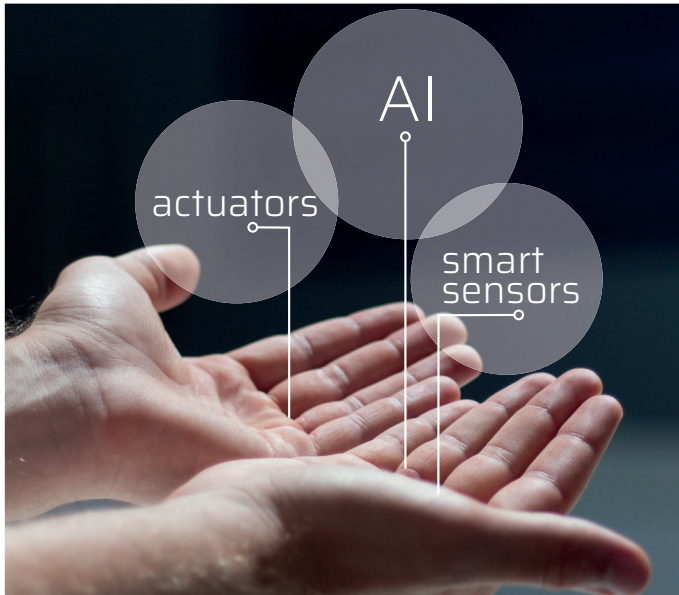
COURSE CONTENT

This course is conducted on Campus Cham, a teaching location of the Deggendorf Institute of Technology, where it is embedded in a state-of-the-art research and development centre focusing on areas of mechatronic systems and production technology, sensors and actuators, robotics and control technology.

The course consists of three theoretical semesters and concludes with the master's thesis.

Semester 1	AI and Machine Learning, Advanced Sensor Technology and Functionality, Model-Based Function Engineering, Advanced Programming, Edge Device Architectures, System Design
Semester 2	Deep Learning and Computer Vision, Big Data, Case Study Machine Learning and Deep Learning, Autonomous Systems, Case Study Edge Device Architectures, Network Communication
Semester 3	Subject-Related Elective Course (FWP), Master's Module, Master's Thesis, Master's Seminar

All lectures and exams are conducted in English. Therefore fluent English skills are crucial for all students.

Compulsory language courses are provided if your native language is not German.

THE FUTURE OF AI

Artificial intelligence (AI) describes a sub-discipline of computer science that deals with the research of "intelligent" problem-solving behaviour and the creation of "intelligent" computer systems.

In a multitude of fields, AI-based systems are fed by sensor data to be processed before being returned to an actuator device that performs the operation or task involved.

The interaction between information processing and the process, as data source and data sink as well as the influences of the quality of the sensor data and actuator interventions, affect overall system efficiency. Smart sensors also feature signal pre-processing, monitoring algorithms for safeguarding the sensor function, connectivity (e.g. Bluetooth, WIFI, 5G) and power supply functions, where applicable.

Smart actuators also supplement control intervention in the technical process with signal processing, monitoring mechanisms and various methods of communication. The resulting signal-processing system features additional "intelligent" properties that further enhance its performance.