

# Information Sheet

## Course of Study

# Applied Research in Engineering Sciences (Master)

### General Information

The Master Programme „Applied Research in Engineering Sciences“ (M-APR) opens up a variety of opportunities in applied research and development. The degree programme is closely tied to an individual research project and is complemented by a number of advanced seminars and lectures related to that particular project. Throughout the entire duration of the programme, students will be supervised by an appointed professor. The programme places great emphasis on the graduates' ability to carry out independent, self-directed application-oriented research projects. Students will become familiar with both the technical aspects and organisational processes underlying complex cross-company projects (for example national or European research projects).

The Master Programme „Applied Research in Engineering Sciences“ is a joint programme offered by the following universities:

- East Bavarian Technical UAS (OTH) Amberg-Weiden
- UAS Ansbach
- UAS Augsburg
- Technical UAS Deggendorf
- Technical UAS Ingolstadt
- Technische UAS Nuremberg Georg Simon Ohm (lead management)
- East Bavarian Technical UAS (OTH) Regensburg

**Please note that this programme is entirely taught in German.**

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The programme is three semesters in duration. During the **first and second** semester, students carry out individual project work (Projects I and II) and – depending on their project - choose specialist lectures from Elective Modules 1-3 and one Interdisciplinary Module as well as additional seminars on research methods and strategies (FM&S) and further specialist subjects (Elective Module 4). They may also attend lectures and seminars offered by one of the other universities above.

The results of the project work will be presented as part of the Project Seminar or at the annual „Applied Research Conference ARC 20xx“.

Elective Modules 1-3 comprise the following lectures :

- Stochastics and Optimisation
- Information Theory and Coding
- Technology of Distributed Systems
- SW Modelling and Patterns
- Management Techniques and Tools
- Mathematical Basics of Systems Engineering
- Applied Electronics
- Computational Electromagnetics
- Systems Engineering
- Digital Control Engineering
- Digital Signal Processing (advanced)
- Hardware/ Software Co-Design / VHDL
- Industrial Communication Systems
- Real Time Systems
- Industrial Image Processing
- Computer Vision
- Security in Information Technology
- Power Electronics (advanced)
- Electrical Engines and Drives (advanced)
- Drive Control and Electrical Actuators
- Digital Communications

The Interdisciplinary Module includes

- Management Techniques and Tools

The programme concludes with a dissertation project (Master's Thesis) in the **third semester**.

This programme leads to the degree „**Master of Science**“ (M.Sc.) .

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