UNIVERSITÄT PADERBORN

MASTER OF SCIENCE

ADDITIVE MANUFACTURING

The degree programme provides you with comprehensive knowledge of modern 3D printing technologies and their applications in industry. You will learn about various additive manufacturing processes in both metal and plastic and acquire skills in materials science, design and process optimisation. One focus is the development of innovative, sustainable solutions in additive manufacturing. Practical projects with industry partners promote practical relevance, while current trends and challenges are addressed.

Focus areas in the 'Master of Additive Manufacturing':

- Additive Manufacturing Techniques
- Materials for Additive Manufacturing
- Design Specifications (Guidelines) for Additive Manufacturing
- Pre- and Post-Processing Techniques
- Handling of Materials
- Software used for Additive Manufacturing
- Embedding Additive Manufacturing in a profit-orientated economy
- Applications for Additive Manufacturing
- Methods in an Industrial Environment
- Scientific way of working

Further information is available on the **Degree Programme Pages:**

FACTS

Selection Procedure: **Free Admission (no NC)** please note the further admission requirements*

Standard Study Period: **4 Semester**

Start of Study: **Summer and Winter Semester**

Language of Study: **English**

Stay Abroad: **Optional**

CAREER OPPORTUNITIES

Typical areas of activity in additive manufacturing are research, development, design, calculation, carrying out tests, project planning, production planning, production control, plant management and engineering services, as well as participation in teams in which specialists from different organisational units and areas of responsibility work together on a specific current task in an interdisciplinary manner.

EXEMPLARY STUDY PLAN

Semester							
	1	Plastics Technologies in Additive Manufacturing (5)	Materials Science of Metals (5)	3D-Metal Printing (5)	Introduction to Additive Manufacturing & Manufacturing Technology (6)	Materials Science of Plastics (5)	Powder Technology (5)
	2	Structure Optimization (5)	Design Rules for Additive Manufacturing (5)	Product Creation (5)	Technical Compulsory Elective Modul 1 (5)	Industrial Internship (12)	
	3	Standard Software Application Development (5)	Technical Compulsory Elective Modul 2 (5)	Technical Compulsory Elective Modul 3 (5)	Student Research Project (12)		
	4	Technical Compulsory Elective Modul 4 (5)	Master's Thesis Module (25)				

Mandatory Moduls
Compulsory Elective Moduls
Master's Thesis

(NUMBER) = Number of ECTS

INTERNSHIP

In a twelve-week industrial internship, which is integrated into the course of study, you will get to know a company 'from the inside' and carry out typical engineering activities in a company environment for the first time. This internship will therefore help you to embark on a successful career in industry after graduation.

YOUR CHANCE

Paderborn University conducts cutting-edge international research. The results of this research are directly incorporated into teaching. Whether in science or in practice, we prepare you for challenging and responsible positions. You will conduct research and learn in a practical manner in subject areas such as plastics engineering, energy technology, 3D printing, nanotechnology, and industrial and municipal sustainability. These are topics that will shape your future – and Germany's – in the coming decades.

GET IN TOUCH WITH US:

Our **Student Advisory Service** will be happy to help you:

*Here you will find further information such as admission requirements and specialisation options:

For general questions about studying and for detailed advice, we have a **Central Student Advisory Service:**

Feel free to check out our **Instagram** channel!

@maschinenbau.upb