Dual degree programme

PRECISION MANUFACTURING AND MANAGEMENT-PMM

(Furtwangen University, Germany)

MECHANICAL ENGINEERING-MANUFACTURING

(University of Tehran-Kish International Campus, Iran)

Part-time degree program with prospects Master of Science

Study duration: **4 semesters** (2 semesters in Iran and 2 semesters in Germany)

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MECHANICAL ENGINEERING-MANUFACTURING
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THE MASTER PROGRAM

In a manufacturing world where technology and digitization are becoming ever more complex, there is an increasing need for experts working at the interface between intelligent machinery/equipment and manufacturing technologies. Learning both technical and management skills will have a significant impact on students' future careers. The institute of precision machining (KSF), one of the most well-known research institutes in Germany in the field of precision machining, plays a central role in the program.

Good reasons for the program

- Competence at the interface of precision manufacturing, employees, and management with a first-class professional perspective
- Learning from the best (academics and experienced industry executives)
- Excellent, modern equipment (The institute of precision machining (KSF))
- Extra-occupational with industry-relevant subjects (students can work on the research modules in the industry)
- Networking possibilities
- Explicit focus on innovation and future trends in industrial production
- Small group and personal supervision
- Industry-related research projects in small teams
- Links to the industry
- PhD possibilities

JOB OUTLOOKS

Graduates of the Precision Manufacturing and Management (PMM) work in future-oriented, high-technology industries that secure jobs and prosperity and contribute to increasing efficiency in the manufacturing. Graduates have well-founded inter-disciplinary scientific, communicative, management, and leadership skills that enable them to work independently in a variety of occupational fields.

Possible fields of work

- Research and Development
- Design
- Production
- Quality control
- Project management
- Technical Sales
- Technical Management

Growing and innovative industries

- Machinery and equipment
- Automotive and vehicle construction
- Medical Industry
- Aerospace Industry
- Manufacturing industry (production technical demanding, high-precision system components)
- New technologies / inventions and patents
- research Institutes

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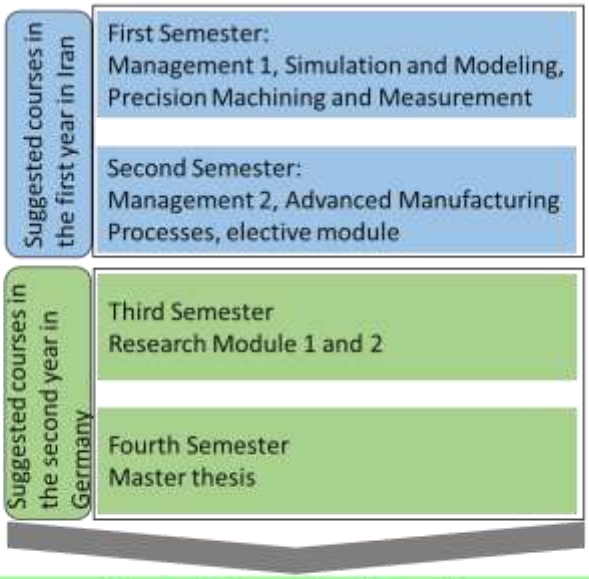
COURSE CONTENTS

- **Precision machining and measurement**
- **Simulation and modeling**
  - ✓ FEM
  - ✓ Modeling
  - ✓ Machine Learning
- **Advanced Manufacturing Processes**
  - ✓ Future-oriented production processes
  - ✓ Additive manufacturing
  - ✓ Digitized production (Industry 4.0)
- **Management modules**
  - ✓ Project management
  - ✓ Lean Management
  - ✓ Resource Management
  - ✓ Quality Management
  - ✓ Innovation Management
- **Research modules**
- **Elective module and thesis**



Master of Science (Dual Degree) in:
Mechanical engineering-Manufacturing from UT-KIC
Precision Manufacturing and Management from Furtwangen University

STUDY
Begin: Summer and winter semesters

START OF STUDIES AND DEADLINES

(1) The course begins twice a year in the summer and winter semesters.
(2) The application deadline for entry into the winter semester is **September 05** and for summer semester is **January 20** of the year.

Required Modules/Courses for dual degree Master's programme; PMM and ME

Module/Course name for Precision Manufacturing and Management (PMM)			Equivalent Course/Module name for Manufacturing Engineering (ME)		
Module Title for PMM	**Course Name**	**ECTS**	**Course Name**	**CP**	**Module Title for ME**
Management 1	Innovationsmanagement	3	Industrial Production Systems	3	**Management 1**
	Projektmanagement	3			
Management 2	Qualitätsmanagement	2	Production and Quality Planning and Control	3	**Management 2**
	Ressourcenmanagement	2			
	Modulprüfung Management Modul 2	2			
Zerspanungstechnologien und Simulation/ Moderne Fertigungsverfahren	Simulation (FEM)	3	Finite Element Method 1	3	**Machining Technologies and Simulation/ Modern Manufacturing Processes**
	Additive Fertigung	3			
	Zerspanungstechnologien (Mikro und Makro)	3	Machining Tools and Mechanics of Machining	3	
	Präzisionsbearbeitung	3			
Präzisionsbearbeitung und Messtechnik	Industrie 4.0 und modernste Fertigungsverfahren	3	Artificial Intelligence	3	**Precision Manufacturing and Measurement Technology**
	Präzisionsmesstechnik	3			
Wahlpflichtmodul	Fortgeschrittene Mathematik	3	Advanced Mathematics 1	3	**Compulsory Elective Module**
	Mikro-Bearbeitung	3	Microfabrication Processes for MEMS	3	
Forschung 1	Forschungsprojekt 1	12	---	---	---
Forschung 2	Forschungsprojekt 2	12	---	---	---
Thesis Seminar	Thesis Seminar	3	Seminar	2	**Seminar**
Thesis	Masterarbeit	27	Thesis	6	**Final Thesis**

ELIGIBILITY AND ADMISSION REQUIREMENTS

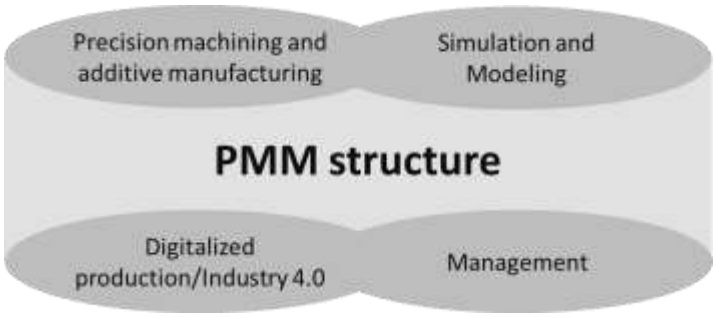
General requirements

Those who meet the following requirements can be admitted to the “Precision Manufacturing and Management” master’s course:
a) Registration and passing the interview. Selection takes place on the basis of applicant's quality and suitability through reviewing his/her academic records, scientific backgrounds, publications, and academic honors by the Board of Admission. Applicants also need to attend an academic interview relevant to the course they are applying for.
b) An above-average professional university degree.
c) Knowledge of German: Applicants whose mother language is not German must demonstrate good German language skills, which enables them to study in Germany.
d) Knowledge of English: Applicants whose mother language is not English should provide evidence of English language skills that enable them to study in Iran.

Special requirements

Applications are directly suitable with regard to their professional input knowledge if they can prove sufficient knowledge in at least three subject areas from the following subject areas:

- **Mechanical Engineering**
- **Materials Engineering**
- **Industrial Engineering**
- **Electrical Engineering**
- **Civil Engineering**
- **Architectural Engineering**
- **Industrial Design**



The First Steps

Where and how do I apply?

Information and Advice

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Application Documents

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