



HOCHSCHULE  
FURTWANGEN  
UNIVERSITY



## 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)

# DUAL DEGREE PROGRAMME

## PRECISION MANUFACTURING AND MANAGEMENT-PMM (Furtwangen University, Germany)

## MECHANICAL ENGINEERING-MANUFACTURING (University of Tehran-Kish International Campus, Iran)

### 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 interdisciplinary 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

## DUAL DEGREE PROGRAMME

PRECISION

MANUFACTURING AND  
MANAGEMENT-PMM

(Furtwangen University,  
Germany)

MECHANICAL

ENGINEERING-

MANUFACTURING

(University of Tehran-Kish

International Campus, Iran)

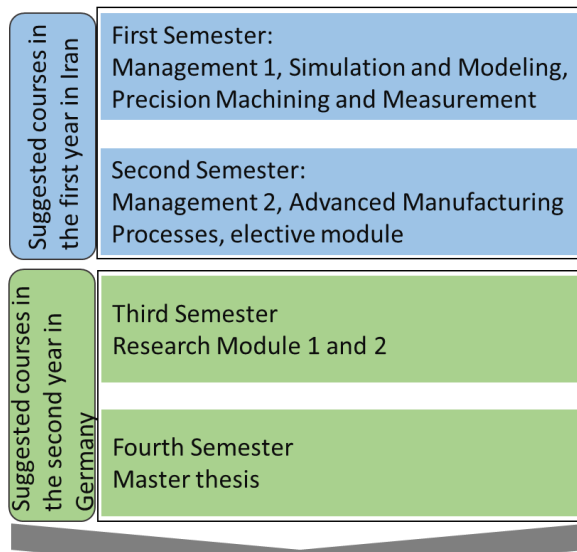
*Part-time degree program with  
prospects Master of Science*

Study duration: 4

*semesters (2 semesters in Iran  
and 2 semesters in Germany)*

# 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:

- 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.
- An above-average professional university degree.
- Knowledge of German: Applicants whose mother language is not German must demonstrate good German language skills, which enables them to study in Germany.
- 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

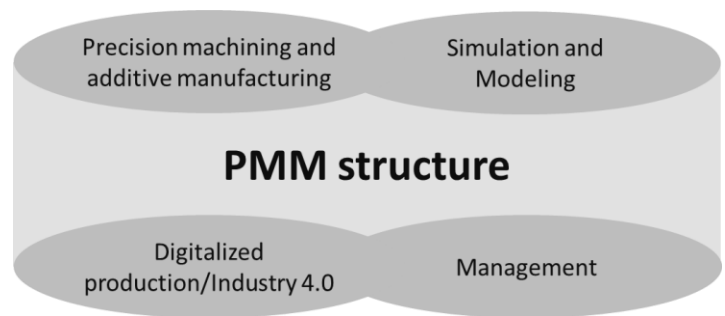
## The First Steps

*Where and how do I apply?*

## Information and Advice

**Bahman Azarhoushang, Prof. Dr.-Ing.**  
Furtwangen University,  
KSF, Germany.  
Tel: +49 7720 307-4215  
Email: [aza@hs-furtwangen.de](mailto:aza@hs-furtwangen.de)  
web: <https://www.hs-furtwangen.de>

**Ghader Faraji, PhD.**  
Associate Professor of Mechanical Engineering,  
College of Engineering, University of Tehran, Iran.  
Tel: +98 76 44434332-3  
Fax: +98 76 44432683  
Email: [ghfaraji@ut.ac.ir](mailto:ghfaraji@ut.ac.ir)  
web: <https://kish.ut.ac.ir/en/home>



## Application Documents

[kish@ut.ac.ir](mailto:kish@ut.ac.ir)  
<https://kish.ut.ac.ir/en/home>  
<https://ksf.hs-furtwangen.de>