Master Mechanical Engineering, "Double Degree with KPI Kyiv"

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Existing GUDF (Kyiv) exchange programme with Otto von Guericke University Magdeburg

Faculty of Mechanical Engineering

Faculty of Electrotechnics

DAAD

BayHost

GUDFM (JUGFME)

OVGU Magdeburg

Ukrainian and German Industry

Faculty of Electrical Power Engineering and Automatics

Faculty of Electronics

Faculty of Heat Power Engineering

NTUU “KPI” Kyiv

Institute of Materials' Science and Welding

Radio Engineering Faculty

Institute of Energy Saving and Energy Management
Existing GUDF (Kyiv) exchange programme with Otto von Guericke University Magdeburg

Study model of Joint Ukrainian-German Faculty of Mechanical Engineering

<table>
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<tr>
<th>Semester</th>
<th>Qualification</th>
<th>Joint Faculty</th>
<th>Cooperation with Magdeburg university</th>
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<td></td>
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<td>Specialized teaching</td>
<td>Language teaching</td>
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<td>1.</td>
<td></td>
<td>Study at the base faculties</td>
<td>At JUGFME after special timetable</td>
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<td>2.</td>
<td>Bachelor's degree in Kyiv</td>
<td>Specialized lectures in German by JUGFME</td>
<td>10-12 hours a week</td>
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<td>9.</td>
<td>Master's degree in Kiev and Magdeburg</td>
<td>Study in accordance with study regulations of Magdeburg University</td>
<td>Language training through language courses at level B2</td>
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Master thesis
Existing GUDF (Kyiv) exchange programme with Otto von Guericke University Magdeburg

Bachelor’s curriculum includes:

- German classes;
- Language internship (after 4th semester);
- Industrial internship (in Germany after 6th semester);
- Teaching German in the technical disciplines:
  - Mechatronics
  - Construction
  - Materials Science
  - Welding and related processes
- Lectures by German professors.
Existing GUDF (Kyiv) exchange programme with Otto von Guericke University Magdeburg

Advantages of our graduates:

- 2 master's degrees (German and Ukrainian);
- Mastery of modern technology and technologies;
- Knowledge of international standards;
- Language internship in Magdeburg;
- Industrial internship in Germany;
- German language skills at level B2.
1st semester: Basic studies (German)
Mathematics, experimental engineering/validation, Energy technology, simulation and mechanics

2nd semester: Advanced courses at UAS Hof (AcH) (German)
• AcH1: Energy Technology
• AcH2: Simulation Technology

3rd semester: Master's thesis

University of Applied Sciences (UAS) Hof

1st semester: Basic studies (German)
No offer at PTU Kyiv, recognition HS Hof

2nd semester: Advanced courses at KPI Kyiv (AcK) (Ukrainian)
• AcK3: Technology of Mechanical Engineering
• AcK4: Applied mechanics and mechatronics
• AcK5: Design of machine tools
• AcK6: Aircraft production technologies
• AcK7: Dynamics, strength of machinery and strengthlehre

3rd semester: Master's thesis
The Master's thesis is written at UAS Hof or a thesis translated into German or English is submitted from PTU Kyiv for recognition.

Master's thesis in Hof

Recognition

Master's thesis in Kyiv

Recognition

Degree: Master of Engineering from HS Hof

Degree: Master of PTU Kyiv
1st semester: Basic studies (German)
- Mathematics/Numerics/Matlab
- Experimental Engineering/Validation
- Advanced methods in energy technology
- Simulation and optimization
- Mechanics of composite materials
- Integrated project and product development

2nd semester: Advanced courses at the UAS Hof (AcH) (German)

- Energy Technology (2PM, 3WM)
  - Selected renewable energy systems
  - Power plant technology
  - Energy storage and load management
  - Energy law, energy consulting, certification
  - Energy engineering plant construction
  - Current trends in energy technology
  - Project work in energy technology

- Simulation Technology (3PM, 2WM)
  - FEM
  - Multibody simulation
  - CFD/Numerical Heat Transport
  - Plastics as a lightweight material in automotive construction
  - Current trends in simulation
  - Project work simulation

Cross-sectional elective modules for AcH 1 and 2:
- Managing negotiations and contracts
- Management of innovation and research projects
- Modern Methods of Digital Engineering
- International Project

2nd semester: Advanced courses at KPI Kyiv (AcK) (Ukrainian)

- Mechanical Engineering Technology (5PM)
  - Business Com. and project management
  - Programming of CNC machines
  - Modelling and analysis of technological processes
  - Automat. Design of technolog. Processes
  - Automat. Systems for the design of cutting tools

- Applied Mechanics and Mecharonics (5PM)
  - Business Com. and Project Management
  - Synthesis of Mechatronic Systems
  - Modular Industrial Systems
  - Design of mechatronic systems
  - Modelling of mechatronic objects

- Machine tool design (5PM)
  - Business Com. and Project Management
  - Design of processing equipment and robots
  - Methods to ensure the performance of machines and robots
  - Research and application of additive processes in mechanical engineering
  - Automated cutting tool design systems

- Aircraft Production Technologies (5PM)
  - Business Com. and Project Management
  - Standardisation
  - Basics of three-dimensional modelling
  - Machining technologies on CNC machines
  - Processes for manufacturing products from non-metals

- Dynamics, Strength of Machines and Strength of Materials (5PM)
  - Business Com. and Project Management
  - Information technologies by means of CAD programmes
  - Statistical dynamics and reliability
  - Study of strength of materials and structures
  - Strength and destruction of structural elements

3rd semester: Master's thesis
The thesis is written at UAS Hof or a thesis translated into German or English is submitted from PTU Kyiv for recognition.

Degree: Master of Engineering from HS Hof

3rd semester: Master's thesis
The Master's thesis is written at PTU Kyiv or a thesis translated into Ukrainian is submitted from UAS Hof for recognition. The thesis must be defended in a colloquium.

Degree: Master of PTU Kyiv