



University Politehnica of Bucharest
Faculty of Mechanical Engineering and Mechatronics



MASTER'S DEGREE

**INTEGRATED
MECHANICAL
ENGINEERING DESIGN**

IN ENGLISH

FIELDS OF APPLICATION

AUTOMOTIVE



CAD/CAE/CAM



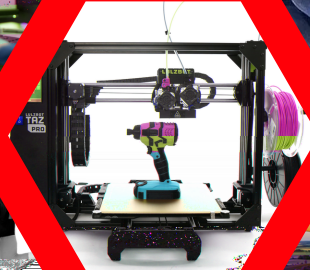
AEROSPACE



DESIGN



**3D
PRINTING**



**INDUSTRIAL
EQUIPMENT**



BIOMECHANICS



**RENEWABLE
ENERGY**

EMPLOYMENT OPPORTUNITIES:



More information:
<https://masterupb.wixsite.com/imed>



IMED is the only English master's degree program in Romania in the field of mechanical engineering.

Having a general profile in the field of mechanical engineering, IMED is addressed to the undergraduates of the programs from the faculties with mechanical, industrial, or energetic profiles from the University "Politehnica" of Bucharest (FIMM, FILS, Transports, Aerospace Engineering, ISB, FIIR, Power Engineering) or from other university centers in Romania, but also to foreign students with undergraduate studies in these fields.

The overall objective of the program is to provide future graduates with the theoretical foundations, skills and abilities needed to use modern, integrated, CAD methods to design mechanical engineering products in the light of future developments towards the fourth industrial revolution (Industry 4.0).

Through the acquired skills and abilities, graduates will be able to:

- design advanced mechanical components and systems,
- build their physical model to analyze and study them experimentally,
- create a virtual model to simulate their behavior using modern software applications (CATIA, Autodesk Inventor and Nastran, SolidWorks, Ansys and Fluent),
- select the most suitable materials and technologies (including additive manufacturing technologies - 3D printing) for the development of the studied mechanical products,
- evaluate their reliability and find innovative solutions for their optimization.

COURSES (SELECTION):

MODELLING AND SIMULATION IN MECHANICAL ENGINEERING

NUMERICAL SIMULATION OF HEAT AND MASS TRANSFER

FINITE ELEMENT METHOD

SURFACES AND CONTACTS

ADVANCED CALCULUS OF STRUCTURES

VIRTUAL PROTOTYPE FOR PRODUCT DEVELOPMENT

PRODUCT DEVELOPMENT

RELIABILITY OF COMPLEX PRODUCTS

MECHANICAL DESIGN OF RENEWABLE ENERGY SYSTEMS

COMPUTER AIDED DESIGN OF PLASTIC COMPONENTS



More information:
<https://masterupb.wixsite.com/imed>
nicolae.stoica@upb.ro