SIMULATION ENGINEER

BASIC DATA
Department: Department of Mechanical Engineering, Faculty of Engineering, UD
Program length: 2 semesters, Credits total: 60
Training starts: in September every year
Mode of attendance: part-time, 6x2 days per semester (Friday and Saturday)
Detailed description (in Hungarian): program_description
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INTRODUCTION
Under the care of the Faculty of Engineering of the University of Debrecen and organized by the Department of Mechanical Engineering, the Simulation Engineer university training was launched in February 2019.

While companies used to be satisfied with the advantages offered by computer-aided design (CAD) and manufacturing (CAM), today they include computer software based on the finite element method in a much wider range of engineering activities, so that analysis and optimization tasks can be performed much faster and more cost-effectively, which previously could only be solved through experiments or simplified calculations.

Due to the rapid development and differentiation of the field and the need for certain special knowledge, we are launching a course that goes beyond the higher education curriculum and deals with the topic of numerical simulation and optimization that supports engineering activities.

The training was developed with recognized industrial specialists with several years of experience in the subject, who play a significant role in its practical education. The Department of Mechanical Engineering participates in the training as well. With our cooperation, we want to ensure a high standard of theoretical and practical training.

The demand for training in the labour market is well characterized by the fact that many industrial companies at the forefront of development have declared their support for the establishment and launch of the Simulation Engineer training

SUBJECTS

Semester 1	Semester 2
Basics of the Finite Element Method	Finite element analysis in solid mechanics II.
Engineering simulation in product design	Finite element analysis in dynamics II.
Mechanical modelling	Computational Fluid Mechanics II.
Finite element analysis in solid mechanics I.	Finite element method for thermal analysis
Finite element analysis in dynamics I.	Engineering optimization
Computational Fluid Mechanics I.	Thesis

LABORATORIAL BACKGROUND
CAD and CAE Laboratory, Material Testing Laboratories, Industrial FE softwares