Kecskeméti College
Faculty of Mechanical Engineering and Automation

Gradus ad maiora
1964
Kecskemét College

Kecskemét College was established with the merger of the 3 tertiary colleges of Kecskemét on 1st January, 2000 based on the decision of the Hungarian Parliament. The three independent colleges were:

- College of Mechanical Engineering and Automation (GAMF),
- Teacher Training College,
- University of Horticulture and Food-Processing, Horticultural Faculty Kecskemét.

After the merger of the above mentioned colleges they became faculties of the new Kecskemét College (Faculty of Mechanical Engineering and Automation, Teacher Training Faculty, Horticultural Faculty). The institute is authorized to award college-level degrees. All the courses of the college are accredited by the Hungarian Accreditation Committee. The number of the employees is 600 and more than 5,000 students study at the college on full-time, part-time or distant learning courses; taking part in BSc courses, higher-level vocational or postgraduate training. The Rector of Kecskemét College is Prof. Dr. József Danyi.

Faculty of Mechanical Engineering and Automation

The predecessor of the Faculty of Mechanical Engineering and Automation (GAMF) has been in the service of training engineers since 1964. The engineers who graduate from our institute can be found all over Hungary. Most of them have achieved success in the field of their original profession being the leaders or owners of private companies. Only a few of the graduates switch to find work in other fields. During its history GAMF has always been able to renew, open for changes and its education is based on high quality and strictness. The laboratories, the special teaching halls with machines and the computer laboratories are continuously developed. The biggest technical library of the region can also be found in our institute, giving our students the opportunity to deepen their knowledge.

Institutional Structure

Institute of Metal and Polymer Processing Technology
- Department of Manufacturing Engineering
- Department of Mechanical Technology
- Department of Rubber and Polymer Technology

Institute of Economics and Social Sciences
- Department of Economics
- Department of Management and Business Administration
- Department of Communication in Foreign Languages
- Department of Pedagogy and Media Techniques

Institute of Natural Sciences and Engineering
- Department of Mathematics
- Department of Physics
- Department of Engineering and Product Development

Kalmár Sándor Institute of Information Technology
- Department of Automation and Applied Informatics
- Department of Electronics and Cybernetics
- Department of Information Technology
Life on Campus

The main campus of GAMF consists of several teaching buildings set in ten acres of green open gardens. In addition there is an extensive library, a gymnasium and some sports fields.

Facilities
The library has an extensive collection of over 65,000 books to assist students in their studies and research. The Internet can also be accessed from the library enabling students to gain further information from the world wide net. The laboratories of the various departments are also open to students even after post-instructional hours.
Both the computer and the Internet facilities of the faculty are among the best in the country. The Internet is available from every department of the faculty and from the rooms in the student dormitories, too. In particular, in the Homokbány Hostel, there are over 300 connections for Internet accessibility.
The sports facilities of the college are good. Besides the gymnasium, there is a grass soccer field, 5 tennis courts and an outdoor handball court.

Student life and free time activities
During the week, students can participate in social activities taking part in college or club events in arranged on campus. These events and club activities include lectures, Bible studies, disco, billiards and other forms of entertainment. Cultural and social programs are an important part of GAMF’s life. There are exhibitions, excursions and events organised by the Student Body, for example the freshmen camp, the freshmen ball, GAMF days, a dormitory day, the graduation ball and the college ring receiving ceremony. GAMF can also pride with an artistic group, the GAMF Chamber Music Orchestra.
GAMF Sports Club utilises the facilities of the college, and it also arranges many other activities: volleyball, basketball, table tennis, hiking, bodybuilding and fishing.

Accommodation
Students have the opportunity to live in the dormitories of the college. On the Homokbány campus all the rooms are double rooms. In total, the college dormitories can accommodate 700 students and all these rooms meet the European Union standards.
Mechanical Engineering BSc

This is the original educational course of the faculty. We train specialists to meet the requirements of the labour market and companies.

Aims
The aims of the branch are to introduce the different fields of natural, technical, economic and human sciences both in theory and practice. At the same time, we get our students acquainted with the methods and practical results of their chosen field. We also make efforts to improve their skills necessary for operating mechanical-engineering equipment, the introduction and application of new techniques in engineering, the organization and the management of industrial work and technological knowledge for research and development.

Specializations

1. Mechatronics
The focus is on pneumatic-, hydraulic- and PLC-controlled systems. Students also get acquainted with process-instrumentation, industrial-automation and robot-techniques.

2. Manufacturing-Informatics
The most important fields of this specialization include manufacturing processes, computer-controlled techniques for production and organization in the manufacturing process (CAD/CAQ, PPS), up-to-date automated technologies and production-controlling techniques (CAQ).

3. Polymer Processing
The main aim is to train mechanical engineers who are highly qualified in polymers, computer-controlled polymer processing technologies and machines. Students are provided with the newest knowledge about environmental requirements and plastic-recycling techniques.

All college leavers graduate with a Mechanical Engineering diploma.
COURSES

Information Technology Engineering BSc

Aims
Our qualified computer engineers are familiar with designing, developing and producing infrastructural systems and services based on Information Technology. They are also specialized in installing, operating and controlling IT based systems. During the academic years students get a basic knowledge in natural, economic and human sciences. As part of the core curriculum, they get special courses in algorithms, databases, system programming, computer-networks, computer-architectures, data-protection, artificial intelligence, information theory, controlling techniques, mechatronics and microelectronics.

Specializations

1. Autonomic Systems
Those who choose this major have the opportunity to get a highly accepted diploma covering the following fields: mechatronics, industrial computer networks, PC and PLC based automation and process-representation.

2. Network and WEB Technologies
The syllabus is based on how a variety of IT applications appear in engineering. Students learn how to develop PC networks, system control techniques, WEB development, data-based system control and software development.

All college leavers graduate with an IT Engineering diploma.
**Engineering Management BSc**

**Aims**
The aim is to train business and management engineers who have proper knowledge in the field of natural and technical sciences, economy and management sciences in order to solve problems of information technology, integrated material, financial and human processes related to products and services.

**Specializations**

1. **Engineer Manager**
The objective of the specialization is to train economic engineers who are able to plan, organize and realize market transactions efficiently. Students come to know the complex system of market transaction processes and acquire management techniques of bargain.

2. **Project Manager**
Educational object of the specialization is to train economic engineers who are able to plan and organize projects and to manage team efficiently. Students will learn the main questions of project-level organization and controlling enterprise processes. They acquire the main techniques of innovation and enterprise development.

All college leavers graduate with an **Engineering Manager** diploma.

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**Mechanical Engineer – Teacher**

The Faculty offers an incorporated teacher training programme as well. Students have the opportunity to be trained as a professional engineer with pedagogical specialization. After leaving the college, they can get a job both in the private or public sector, in secondary technical schools, vocational schools and in factories as well. Their training prepares them for delivering professional presentations, teaching technical subjects and running company training and retraining courses.

The course is open for students who major in mechanical or IT engineering, and have accumulated minimum 60 credits. Training lasts four academic years.

**Technical subjects**: informatics, computer studies, polytechnics, manufacturing, knowledge of materials, practical mechanics, mechanics, automation, digital techniques.

**Pedagogy subjects**: pedagogy, history of pedagogy, methodology, communication, ethics and management psychology.

The training period ends with a **Mechanical Engineer-Teacher** diploma.
Research and Development

Department of Manufacturing Engineering
- **Magnetic Aided Machining**: Precision Finishing Processes in Magnetic Fields
- **Environment Friendly Technology in Manufacturing**: Minimal Lubrication, Dry Machining
- Surface Finishing
- CA Technologies in Manufacturing
- Increased Speed Cutting
- Rapid Prototyping
- Reverse Engineering
- Finishing Machine Construction, Improvement
- Examination of Cutting Problems by FEM

Department of Mechanical Technology
- The Increase of the Efficiency of Sheet-metal Forming
- Sheet-metal Forming with Polyurethane Pad

Department of Rubber and Polymer Technology
- Morphology, Melting and Crystallisation Properties of Polymers

Department of Automation and Applied Informatics
- Non-linear Methods for Signal Representation and Related Applications

Department of Electronics and Cybernetics
- Learning Algorithms
- Blind Signal Processing
- Digital Signal Processing
- Bit Error Rate in Channel Equalization
- Blind Equalization for Multi-User Detection

Department of Information Technology
- Interface Growing and Fractal Formation
- Examination of Cutting Problems by FEM
- Atomic Collision Physics

Department of Physics
- **Optics, Laser Physics**: Characterisation of Laser Pulses
- Ultra Short Laser Pulses
- Discrete Geometry, Lattice Geometry
- Femtosecond-Laser Engineering
- Gauss Light Beams
- Multiphoton Effects on Metal Surfaces

Institute of Economics and Social Sciences
- Tendencies in Cultural Policies in the transition countries of Central Eastern Europe

Department of Communication in Foreign Languages
- Business English – skills development

Department of Pedagogy and Media Techniques
- Socio-Psychological Approach to the Understanding of Organisational Culture
- The Use of the Internet
International Partner Institutes

Berufsakademie Villingen-Schwenningen  Germany
Hochschule Albstadt-Sigmaringen  Germany
Hochschule Furtwangen  Germany
Hochschule Trier  Germany
Hochschule Aargau  Switzerland
Nigde University  Turkey
North Karelia University of Applied Sciences  Finland
Oslo University College  Norway
Petru Maior University  Romania
Sapientia Hungarian University of Transilvania  Romania
Slovak University of Technology  Slovakia
Technical University Cluj Napoca  Romania
Technical University Osijek (Slavonski Brod)  Croatia
E5 Motorway Exit coming from Budapest: Kecskemét Nyugat