

## GENERAL OUTLINE

The Faculty of Mechanical and Precision Engineering is one of the basic subdivisions of the Technical University of Gabrovo.

Since the 19 century Gabrovo has set up as a center of crafts, textile and metal-working industries. At present the largest Bulgarian manufacturers of electric hoists, cutting tools and plastic articles are in Gabrovo as well as companies producing textiles, instruments, furniture, electrical devices, etc.

The Faculty of Mechanical and Precision Engineering was established by a Decree of the Council of Ministers of the Republic of Bulgaria No 27 of 22.07.1983 and it was granted regular institutional accreditation by the National Evaluation and Accreditation Agency on 10.12.1998.

The Dean's office is in room 3112 and the faculty registrars office is in room 3103 in the Rectorate building - block No 3.

Address: 5300 Gabrovo  
4 H.Dimitur St

The faculty ECTS coordinator is the Vice Dean in charge of studies Assoc.Prof.Dr.Georgi Evstatiev Rashev.

Address: 5300 Gabrovo  
4 H.Dimitur St

ECTS coordinator Assoc. Prof.Dr. Georgi Evstatiev Rashev.

Phone: 066/ 801 222, 223 417

E-mail: rashev@tugab.bg

The following degree courses are taught at this faculty:

### Mechanical and Precision Engineering (MPE)

*This degree course has been accredited for both Bachelor's and Master's Degree.*

WHY is Mechanical and Precision Engineering interesting and attractive to the students?

- Broad multipurpose training in the field of mechanical and precision engineering;

- Training in the field of integrated electromechanical systems for computers and microelectronics;

- Training in modern computer applications to engineering analysis and design;

- Integration of curricula and syllabi with European universities based on ERASMUS;

- Modern training facilities;

- Highly qualified teaching staff, among them there are: 2 professors,

- 34 assoc. professors and 9 more lecturers hold doctorate degrees.

- Courses in Bachelor's, Master's and PhD degrees are offered.

The fundamental training comprises courses in mathematics, mechanics, engineering graphics, materials science, informatics and a foreign language.

After completing the fundamental training the students have to choose one of the sections: precision engineering or mechanical engineering.

1. In the Precision Engineering section they have to take fundamental courses in mechanics, optics, electrical engineering and electronics. Later combined courses in optical mechanics, electrical mechanics, optoelectronics and mechatronics are offered and all these form the qualifications of the engineers. The training takes place in modern laboratories well-equipped with instrumentation and computer systems for CAD/CAM, signal analysis and process control, quality management.

During the last two semesters optional modular courses are offered in the field of: Design and manufacture of fine mechanical devices and instruments, Applied metrology and quality management, Technical diagnostics, Computer methods of engineering analysis, Engineering experiment planning.

Students are offered options to specialize in two fields of machine design as: power drives, robots and hoisting and handling machines or waste treatment installations, machine and light steel structure recycling.

2. Engineers majored in Mechanical and Precision Engineering will have a diversity of career opportunities in firms of various size as designers, production or maintenance engineers, experts in marketing or trade, teachers in: machine design and mechanics, measuring instruments and systems, quality management, technical diagnostics and office equipment.

Optional courses in languages, teaching methods, computers, etc. are available in case students tend to enhance their knowledge.

### **Mechanical Engineering Equipment and Technologies (MEET)**

*This programme has received accreditation for granting both Bachelor and Master's degrees.*

Majors in MEET acquire knowledge and skills to develop manufacturing processes for machine production; design of machines, equipment and processing installations; computer applications, digital control of robots and metal working equipment; technological design and production management in the field of mechanical engineering.

Specialists in MEET have a number of career opportunities. They can work as designers, process engineers, managers and organizers of production, control and repair of machines and equipment; adjusters and operators of numerically controlled machines and complexes, teachers in technical subjects and other jobs not only in the field of mechanical engineering but also in the field of transport, civil engineering, military science, agriculture, education, etc.

### **Textile Machines and Technologies (TMT)**

*This programme has been accredited for granting both Bachelor and Master's degrees.*

This major subject has its basis in the century old traditions of Gabrovo region. Training of textile engineers follows modern tendencies of textile science and technology, taking into account the specific features and requirements of Bulgarian textile firms.

First, undergraduates acquire solid knowledge of all fundamental subjects and a foreign language. Then they are trained in technological textile productions and the related machines.

Third and fourth year students take courses in theoretical principles of spinning, design of yarns, fabrics, knitwear and clothes. They learn modern methods of textile machine design, get acquainted with problems of production automation and textile mills design.

On the basis of serious training, after completing the course of study and getting a BEng degree, textile engineers can work as designers, process engineers, production managers in textile mills as well as teachers in secondary and higher technical schools.

### **Hydraulic and Pneumatic Equipment (HPE)**

*This course has been accredited for both Bachelor and Master's degrees.*

Engineers with a degree in HPE are able to work for private and state companies or to launch their own businesses in the field of hydraulic and pneumatic equipment, heating and ventilation systems; cars, trucks, road construction machines; agricultural machines; power engineering and services.

A number of subjects are included in this programme to provide general educational and technical and specific knowledge. Foreign languages and computers are studied. Engineers should be able to design, operate and repair hydraulic and pneumatic machines, elements, systems and installations.

Graduates can be employed as: designers, testers and service specialists.

The duration of training is 4 years and the graduates receive a state diploma of Bachelor's degree and can continue their studies leading to Master's degree in hydro-pneumatic and heat engineering.

## Materials Science and Technology (MST)

*This course has been accredited for Bachelor's degree.*

The degree course in Materials Science and Technology was introduced because of the demand of engineers in this field after a wide range of applications of metals and non-metals became important in modern machine production.

Students are trained by following the latest advanced developments in the field of obtaining, processing, testing, applying and predicting the mechanical characteristics of materials and the articles made of them.

The trained specialists have the required skills and knowledge of methods, technologies, equipment used in the production and treatment of materials traditionally used in machine manufacture, enhancing the quality of the articles made, developing and introducing new materials which have a number of preset qualities. Students are trained in computer aided design of manufacturing processes and equipment required for casting, plastic working, cutting, sintering, welding and electrophysical machining. They should be able to organize and run a firm.

Graduates of MST are awarded state diploma of higher education - Degree of Bachelor and professional standard process engineer and can work in the field of design, development, research, diagnostics, management of mechanical engineering firms, in defense, transport, power engineering, agriculture, etc.

## Industrial Engineering (IE)

Graduates obtain engineering knowledge and skills to operate and maintain modern equipment, to work out production strategy in power and electrical engineering, general engineering, agricultural, building and road machines, automatic systems and other branches of industrial production.

Special attention is given to foreign language learning and computer literacy. The graduates can also work as: consultants, investors, rate-setters and control specialists.

The students who have successfully completed the 4 year course defend graduation paper/project and receive state diploma of higher education - Degree of Bachelor and can take courses leading to Master's degree.

The Faculty of Mechanical and Precision Engineering was accredited by the National Evaluation and Accreditation Agency on 15.04.1999 to offer courses leading to Doctor's degree in the following subjects:

- 01.01.12 Informatics
- 01.02.02 Applied Mechanics
- 01.02.03 Structural Mechanics and Strength of Materials
- 02.01.02 Materials Science and Technology of Engineering Materials
- 02.01.03 Machine Design and Elements
- 02.01.04 Theory of Machines, Mechanisms and Automatic Lines
- 02.01.09 Hydraulic and Pneumatic Drive Systems
- 02.01.10 Technology of Engineering Industry
- 02.01.13 Materials Cutting and Cutting Tools
- 02.01.15 Machine Tools and Systems
- 02.01.29 Machines and Equipment for Light Industry
- 02.01.48 Hoisting and Handling Machines
- 02.05.12 Metrology and Metrological Provision
- 02.05.17 Precision Engineering
- 02.06.16 Industrial Heat Engineering
- 02.12.03 Technology of Textile Materials

## TRAINING PROCESS

The course of studies for receiving Bachelor's Degree is 4 years (8 semesters) and for Master's Degree it is 5.5 years (11 semesters), according to the state requirements for full-time undergraduate students.

The course of studies for part-time students is 10 semesters for Bachelor's Degree and 13 semesters for Master's Degree.

The academic year is divided into two semesters. Each semester for full-time students lasts 15 weeks and part-time students have contact hours for 15 days each semester.

Full-time students sit examinations for 4 weeks and resit for 1 week after each semester and a last resit for a week in September.

Part-time students sit examinations from 20 to 30 October and November, from 10 to 20 December, from 20 to 30 February, March, April and from 10 to 20 May.

Part-time students resit examinations for 4 weeks in June, except fifth-year students who resit for a week in January.

Full-time students have up to 34 contact hours per week. The number of examinations per semester is up to 6:

- Examinations - up to 4;
- Continuous assessments - up to 2.

The total number of projects for Bachelor's Degree is 3 and the number of course work assignments and projects per semester should not exceed 2.

Full-time students have practice hours:

- Study practice - 60 hours
- Study-production practice - 60 hours

The training of engineering majors is completed by carrying out a diploma project for Bachelor's and Master's Degree. For the other majors it can be a final state exam.

The diploma project is to be developed for 10 weeks from June to August for Bachelor's Degree.

Teaching and learning methods:

- Lectures;
- Seminars;
- Laboratory practice;
- Course work assignments;
- Projects;
- Practice hours;
- Research.

The lecture/seminar hours ratio in the curricula is 1:1.

Each course is completed by knowledge assessment within a semester.

An academic period lasts 45 minutes and the periods are grouped in twos or threes for the classes. They start at the quarter past the hour with a break of 15 min.

Classes start at 7.15 at the earliest and finish at 20.00 at the latest.

The evaluation and giving marks to the knowledge and skills acquired by the students is regulated by the curricula and syllabi. Examinations are conducted in regular and resit sessions, fixed by the schedule of the training process. Each year an exam calendar is formed in coordination with students and teaching staff and it is approved and signed by the Rector.

The marks obtained at the exams or the current testing are entered in exam protocols, student's mark report and the principal register of the Faculty which is signed by the examiner.

The basic evaluation method is the written exam, but higher exactingness, impartiality and some specific features of some courses require additional oral discussion on the examination material. When the final mark is formed, the marks from previous tests, homework assignments, etc., done during the semester are taken into consideration.

The diploma work/project is defended in front of State Board of Examiners which consists of not fewer than 5 examiners of high academic rank, at least 3 experts in this field and one member of the Board comes from another department. Each diploma work/project is reviewed in advance. The State Board of Examiners gives two marks: for writing/developing the work/project and for the defense of the diploma work/project.

Students' performance is assessed by means of a 5-stage scale which ranges from:

- Excellent - 6;
- Very good - 5;
- Good - 4;
- Fair/satisfactory - 3;
- Poor/fail - 2.

Students who fail an examination have to resit.

At TU Gabrovo the language of instruction is Bulgarian.

## FACULTY STRUCTURE

The Faculty of Mechanical and Precision Engineering comprises the following departments:

### Mechanical Engineering Equipment and Technologies

For contacts:

5300 Gabrovo  
4 Hadji Dimitar St  
Technical University, block 6, room 6401  
ECTS coordinator:  
Assoc.Prof.Dr. Georgi Ivanov Ivanov  
tel. 066 / 223-292  
E-mail: goro@tugab.bg

List of the teaching staff in the department:

Academic rank	Lecturer (name, surname, family name)
Assoc.Prof.Dr.	Ivan Rachev Ivanov
Assoc.Prof.Dr.	Kiril Petrov Kirov
Assoc.Prof.Dr.	Georgi Ivanov Ivanov
Assoc.Prof.Dr.	Nenko Ganev Nenkov
Assoc.Prof.Dr.	Ivan Nikolov Pangelov
Assoc.Prof.Dr.	Irina Stefanova Alexandrova
Assoc.Prof.Dr.	Dimcho Yonkov Donkov
Assoc.Prof.Dr.	Todor Vasilev Kuzmanov
Assoc.Prof.Dr.	Hristo Ivanov Hristov
Sen.Lect.Dr.	Asen Petkov Naydenov
Sen.Lect.Dr.	Hristo Tsanev Metev
Sen.Lect.	Yosif Mitev Mitev
Sen.Lect.	Stanyo Kalev Petkov
Sen.Assist.Prof.	Ivan Marinov Amudjev

### Mechanical and Precision Engineering

For contacts:

5300 Gabrovo  
4 Hadji Dimitar St  
Technical University, block 2, room 2403  
ECTS coordinator:  
Assoc.Prof.Dr. Stefan Kirilov Kurtunov  
tel. 066 / 223-365; 223-391  
E-mail: kartunov@tugab.bg

List of the teaching staff in the department:

Academic rank	Lecturer (name, surname, family name)
Assoc.Prof.Dr.	Docho Hristov Zheglov
Assoc.Prof.Dr.	Svetoslav Kanchev Simeonov
Assoc.Prof.Dr.	Ivan Nikolov Ivanov
Assoc.Prof.Dr.	Simeon Ivanov Petkov
Assoc.Prof.Dr.	Stefan Kirilov Kurtunov
Sen.Lect.Dr.	Genadi Zwetanov Zwetanov
Sen.Lect.Dr.	Dimitar Andonov Dichev
Sen.Lect.Dr.	Iliya Slavov Zhelezarov
Sen.Lect.	Petur Totev Rachev
Sen.Lect.	Hristo Kolev Hristov
Sen.Lect.	Tsonyo Iliev Ivanov
Sen.Assist.Prof.	Hristofor Tsvetahov Koev
Assist.Prof.	Miroslava Docheva Nencheva

List of the teaching staff in the department:

### Materials Science and Technology

For contacts:

5300 Gabrovo  
4 Hadji Dimitar St  
Technical University, block 1, room 1411  
ECTS coordinator:  
Assoc.Prof. Dr.Ivan Nenov Mitev  
Phone: 066/223 407  
E-mail: mina@tugab.bg

Academic rank	Lecturer (name, surname, family name)
Assoc.Prof.Dr.	Stefan Zdravkov Parashkevov
Assoc.Prof.Dr.	Emil Stoyanov Kostov
Assoc.Prof.Dr.	Yordanka Ruseva Atanasova
Assoc.Prof.Dr.	Georgi Evstatiev Rashev
Assoc.Prof.Dr.	Ivan Nenov Mitev
Sen.Lect.	Toshko Marinov Kovachev
Sen.Assist.Prof.	Ivan Todorov Barzev
Sen.Assist.Prof.	Hristo Georgiev Hristov
Sen Assist.Prof.	Milka Grigorova Atanasova
Sen Assist.Prof.	Ivan Angelov Vinev
Sen Assist.Prof.	Krasimir Atanasov Kirov

### Textile Machines and Technologies

**For contacts:·** 5300 Gabrovo  
4 Hadji Dimitar St  
Technical University, block 2, room 2106  
ECTS coordinator:  
Sen.Assist.Prof. Yordanka Pencheva Angelova  
tel. 066 / 223-549; 223-554  
E-mail: jpa@tugab.bg

List of the teaching staff in the department:

Academic rank	Lecturer (name, surname, family name)
Assoc.Prof.Dr.	Kono Hristov Konov
Assoc.Prof.Dr.	Ivan Iliev Ivanov
Assoc.Prof.Dr.	Lozan Asenov Lozanov
Assoc.Prof.Dr.	Rumen Anchev Rusev
Sen.Assist.Prof.	Dobrin Nenchev Genov
Sen.Assist.Prof.	Krasimir Iliev Drumev
Sen.Assist.Prof.	Petur Peychev Peychev
Sen.Assist.Prof.	Sonya Paskaleva Ilieva
Sen.Assist.Prof.	Yordanka Pencheva Angelova

### Machine Elements and Technical Drawing

**For contacts:·** 5300 Gabrovo  
4 Hadji Dimitar St  
Technical University, block 1, room 1103  
ECTS coordinator:  
Assoc.Prof.Dr. Bozhin Panov Penkov  
tel. 066 / 223-346  
E-mail: penkov@tugab.bg

List of the teaching staff in the department:

Academic rank	Lecturer (name, surname, family name)
Assoc.Prof.Dr.	Ivan Lyutskanov Balashev
Assoc.Prof.Dr.	Bozhin Panov Penkov
Assoc.Prof.Dr.	Dobrinka Dobrinova Petkova
Sen.Lect.Dr.	Simeon Gatev Simeonov
Sen.Lect.Dr.	Penka Milcheva Nedelcheva
Sen.Lect.Dr.	Valentin Metodiev Petkov
Sen.Lect.	Ancho Tsvyatkov Yordanov
Sen.Assist.Prof.	Galya Velikova Duncheva
Sen.Assist.Prof.	Dragomir Kirilov Draganov
Sen.Assist.Prof.	Krasimir Vasilev Krustev
Sen.Assist.Prof.	Mariel Hristov Penev
Sen.Assist.Prof.	Nikolay Alexandrov Mitev
Sen.Assist.Prof.	Nikolay Panayotov Marchev
Sen.Assist.Prof.	Petur Nachev Nenchev

### Engineering Mechanics

**For contacts:·** 5300 Gabrovo  
4 Hadji Dimitar St  
Technical University, block 1, room 1224  
ECTS Coordinator:  
Assoc.Prof.Dr. Yordan Tonchev Yordanov  
tel. 066 / 223-226  
E-mail: tonchev@tugab.bg

List of the teaching staff in the department:

Academic rank	Lecturer (name, surname, family name)
Assoc.Prof.Dr.	Yordan Tonchev Yordanov
Prof.DSc.	Yordan Todorov Maximov
Assoc.Prof.Dr.	Ivan Alexandrov Angelov
Assoc.Prof.Dr.	Hristo Denchev Tepavicharov
Assoc.Prof.Dr.	Stefan Rusev Genchev
Assoc.Prof.Dr.	Miroslav Simeonov Petrov
Sen.Lect.	Dobromir Dimitrov Valachev
Sen.Assist.Prof.	Bozhidar Mitev Iliev
Sen.Assist.Prof.	Vurban Ivanov Hristov
Sen.Assist.Prof.Dr	Marin Yordanov Marinov
Sen.Assist.Prof.	Boyan Ivanov Stoychev

**Power Engineering****For contacts:**

5300 Gabrovo  
 4 Hadji Dimitar St  
 Technical University, block 1, room 1306  
 ECTS coordinator:  
 Sen.Assist.Prof. Maria Deneva Raykova  
 tel. 066 / 223-367  
 E-mail: idiliev@tugab.bg

List of the teaching staff in the department:

Academic rank	Lecturer (name, surname, family name)
Assoc.Prof.Dr.	Hristo Dimitrov Slavchev
Prof.Dr.	Ivan Dimitrov Iliev
Assoc.Prof.DSc.	Ventsislav Dimov Zimparov
Assoc.Prof.Dr.	Petur Serafimov Ivanov
Assoc.Prof.Dr.	Rositsa Marinova Kazakova
Sen.Lect.Dr.	Hristo Nedev Hristov
Sen.Lect.Dr.	Maria Deneva Raykova
Sen.Assist.Prof.	Krasimir Hristov Ormandjiev
Sen.Assist.Prof.	Nikolay Stefanov Stefanov