Study programme resources

For study programmes in the following fields of study

- **3. Biology**
- **4. Biotechnology**
- **7. Ecological and environmental sciences**
- **17. Chemistry**

The pedagogical process is carried out in classrooms in the UCM buildings on Nám. J. Herdu, Hajdóczyho Street in Trnava and in the UCM building in Špačince (4 km from the University's headquarters in Trnava), where there are suitable premises for lectures and seminars. All classrooms are equipped with video projection technology.

The laboratories used for teaching laboratory exercises are equipped with the basic equipment (chemicals, laboratory glassware, scales, smaller laboratory apparatus) needed for individual exercises. In addition, special laboratories are available to students for the preparation of bachelor's, diploma or doctoral theses. The laboratories used for teaching laboratory exercises (general, inorganic, organic chemistry, biochemistry), biology (basic biology, advanced biology, microbiology, molecular biology), biotechnology (separation methods, enzymology) are equipped with the basic equipment (chemicals, laboratory glassware, scales, small laboratory equipment) necessary for the individual exercises.

The laboratories in which the research activities are carried out have suitable and adequate equipment, such as the thermomixer, IKA MS3 BASIC, Branson sonicator, microscopes, Biotek El800 and MRX /(Dynex) microplate readers, Pfaro 300 spectrophotometer (Merck), orbital shaker (Biosan), HETTICH MIKRO 22 R cooled centrifuge, microcentrifuges, electrophoresis. The laboratories have all necessary instruments and equipment for the preparation of recombinant DNA molecules, including RealTime PCR System AriaMX (Agilent), PCR cyclers, laboratory Flow and PCR boxes (Biosan), thermostats, gel apparatus. The laboratories also have the software necessary for bioinformatics research, and state-of-the-art instrumentation and computing facilities are available. As part of the ongoing development of an excellent virology laboratory, the laboratory equipment is being upgraded with the latest state-of-the-art instruments and equipment for molecular biology research, with an emphasis on education in this area. Sample preparation and fraction separation equipment; culture chambers; a comprehensive system for qualitative and quantitative amplification analyses of DNA, RNA and proteins; a comprehensive system for DNA sequencing analyses.

Specialized laboratories are also equipped for all work in fermentation processes, protein biochemistry (isolation and characterization) and molecular biology (cloning, gene expression, mutagenesis, bioinformatics analysis). State-of-the-art instrumentation and computing facilities are also available. Examples include the BIOSTAT A plus Sartorius fermenter, thermomixer, IKA MS3 BASIC, Bandelin Sonopuls UW 2200 sonicator, Astell autoclave, microscopes, Biotek El800 and MRX /(Dynex) microplate readers, HPLC (Waters, Pye Unicam, Young Lin and Philips with UV/Vis and DAD detectors, Shimadzu FTIR-8000 Shimadzu IR spectrophotometer, FLASH EA2000 CHNS/O Elemental Analyzer, UV-Vis spectrophotometers VARIAN CARY 50 and M350 Camspec, laboratory centrifuge UNIVERSAL 320 R, orbital shaker PSU-20 (Biosan), environmental shaker ES-20, vacuum evaporators Bűchi, centrifuge HETTICH UNIVERSAL 32, cooled centrifuge HETTICH MIKRO 22 R, microcentrifuge Eppendorf Minispin, electrophoresis HOEFER SE 245, MPLC system for preparative chromatography. It has all the necessary instruments and equipment for the preparation of recombinant DNA molecules (PCR cyclers (also gradient) laboratory Flow and PCR centrifuge boxes, thermostats, apparatus for agarose and polyacrylamide gels, shakers, DGGE) and has extensive software necessary for bioinformatics research.

Every student of the faculty has access to the Internet. Students of the FNS UCM have the opportunity to work in the computer laboratories also outside of the program-organized training according to their own interest and needs of solving tasks from seminars and exercises. They have at their disposal computer classrooms with computers connected to the Internet and an Internet room with free access with adequate software in the main buildings of UCM. Another terminal classroom is in the premises of the FPV UCM in Špačince.

Computer rooms are periodically supplemented with more powerful computers and new computer and chemical software (Dragon 6, IBM SPSS Statistics 19, Analyse-it, QC Expert 3.1, Statistica 10.2 Base and Statistica 10.2 DataMiner). All lecturers as well as internal PhD students are assigned a computer connected to the Internet network. The faculty uses the Academic Information System AIS2.