

Level: bachelor				
Course title: Chemical Technology				
Status: obligatory				
ECTS: 9				
Requirements: none				
Learning objectives Training students in chemistry and the control of chemical processes in industry, some basics of the chemical industry, application of chemistry to industry practices.				
Learning outcomes Understanding of technological processes in order to comprehensively organize process control and quality control of raw materials, intermediates and products. Upon successful completion of this course, students should know how to: (1) explain the chemistry and mechanism of obtaining chemical and allied products, (2) explain technological schemes (block diagrams and flow diagrams), (3) analyze the material and energy balance of production processes from an economic and environmental point of view: (4) explain the materials of general importance in chemical technology, and (5) analyze various technological processes to obtain the same product in terms of environmental protection.				
Syllabus <i>Theoretical instruction</i> Raw materials and energy in chemical technology. Materials of general importance in chemical technology. Industrial (technical) gases. Bases (Na_2CO_3 , NaOH and Ca(OH)_2). Acids (H_2SO_4 , HCl , H_3PO_4 , HNO_3). Salts, fertilizers and pigments. Metallurgy (production of iron, aluminium, copper, zinc, lead, antimony, mercury). Technology of nonmetals (clay, plaster binders, glass, ceramics). Fundamentals of industrial organic synthesis and petrochemical products (ethene, propene, butadiene, isoprene, acetylene, ethanol, methanol, acetic acid). Manufacture of plastics (PE, PP, PS, PVC, polyester, rubber). Detergents (soaps, detergents, cosmetics). Pulp and paper technology. Food technology (oils and fats, sugars, starch). Biochemical engineering (enzymes, citric acid, amino acids and biomass, ethanol, beer). <i>Practical instruction</i> Practical instructions follow the theoretical ones.				
Weekly teaching load				Other:
Lectures: 3 (45)	Exercises: 2 (30)	Other forms of teaching: 2 (30)	Student research:	