KAUNAS UNIVERSITY OF TECHNOLOGY

STUDY PROGRAMME

Public code	6121EX019
ISCED code	6450711
Level and/or type	University studies
Study cycle	First cycle, undergraduate (Bachelor)
Study area	
Study field and code	
Programme title	Chemical Technology and Engineering
Specialization areas	Technology of Inorganic Materials; Technology of Organic Materials
Programme workload in national credits	240
Programme workload in ECTS credits	240
Mode of studies	Full-time studies
Official length of studies	4
Minimum access requirements	Secondary
Minimum access qualification degree	
Access conditions and requirements	
Qualification degree conferred	Bachelor of Engineering Sciences
Professional qualification conferred	
Date of programme establishment (No. of Senate Decree, date)	21 1992-12-16
Reason of programme registration in state register (No. of Decree , date)	Švietimo ir mokslo ministro įsakymas, 565, 565 1997-05-19
Accreditation date and its expiry date	Akredituota 2014-08-28 iki 2020-09-01
Accreditation status	
Accreditation institution	
Programme closing date (No. of Senate decree, date)	
Date of programme signing out (No. of Decree of Minister of Education, date)	

Main aim

Bachelors in chemical engineering provide knowledge in the core scientific, mathematical, engineering principles, economics, management, social sciences that serve as the foundation underlying technology processes, influence on the societal context issues, improve individually - life-long learning.

Programme objectives (knowledge and abilities provided)

Knowledge and Understanding

A1 Have a knowladge of mathematics, science and engineering to help understand, describe and deal with chemical engineering phenomena;

A2 Understand the basic principles of material and energy balances, equilibrium, rate processes (chemical reaction, heat, mass transfer);

A3 Understand the principles underlying methods of process/product of organic/inorganic technology measurements and investigation;

A4 To know multidisciplinary context of chemical and process engineering, to apply methods and processes of other study fields;

Engineering Analysis

B1 Have the ability to apply knowledge of material and energy balances, equilibrium, rate processes to identify, formulate and solve complex chemical engineering problems;

B2 Have the ability to select and apply modelling methods for organic/inorganic technological process/product with appropriate software or laboratory equipment;

Engineering Design

C1 Have an understanding of organic/inorganic materials technology process/product design, methodologies of engineering and usage of them;

C2 Have the ability to develop and realize organic/inorganic materials technology process/product design to meet defined and specified requirements;

Investigations

D1 Have the ability to conduct searches of literature, to use data bases and other sources of information about process/product engineering and contemporary issues;

D2 Have the ability to plan, perform simple organic/inorganic materials technology process/product engineering experiments with laboratory equipment, interpret the data and formulate conclusions;

Engineering Practice

E1 Have the ability combine theory and practice to select and use process/product instrumentation, methods, knows their limitations and have laboratory skills;

E2 Have the ability combine theory and practice of etic, environmental, commercial, management, fire safety and use it to solve engineering problems;

Engineering Practice

F1 Have the ability to communicate effectively with specialists and society in the engineering field;

F2 Have the ability work effectively individually and as team members;

F3 Have a holistic understanding of the impact of organic/inorganic materials technology process/product engineering solutions for social, environmental, economical, etic context according specified requirements and responsibility, project management and commercial aspects;

F4 Learn and improve individually, and recognize the importance of life-long learning, have the background for admission to engineering professional graduate programs;

Specialization description

1. Technology of Inorganic Materials

Graduate S/he has knowledge in the design and management of technologies, products and processes used in production of inorganic materials (binding materials, glass, ceramics, mineral fertilizers and acids).

2. Technology of Organic Materials

Graduate S/he has knowledge in design and management of technologies, products and processes used in production of organic materials (polymer, biopolymer, petroleum, paper, textile).

Special features of programme implementation

Access to further study

S/he has access to the second cycle studies

Professional status and career opportunities (including state regulated professions in case the qualification conferred gives such a right)

The graduate can be employed in all enterprises of industry that apply and implement modern technologies and develop new products that meet current needs as well as work in engineering organizations or carry out the activity of an expert-consultant.

Summary

A graduate is able to design and manage products, engineering systems, has fundamental knowledge needed to apply the principles of chemical, hydro-mechanical, heat and mass processes, has acquired a theoretical basis of processes of chemical technology. The graduate understands the threat of chemicals to the environment and people and has the ability and knowledge to apply corresponding protective measures, acquired skills of laboratory research methods and equipment.

Programme structure

Full-time studies

Code	F	Course	Cr.	Contact hrs	Semester								Coordinating Lecturer
					1	2	3	4	5	6	7	8	
General Subjects of University Studies													
		Electives of Philosophy 2019	6		x								
		Foreign Language Electives (Level C1) 2019	6			x							
Total of Credits:			**12**		**6**	**6**							
Core Subjects of Engineering													
P175B301	1	Information Technologies 1	3	32	x								Prof. E. Bareiša
T230B712	1	Engineering Graphics	3	40	x								Assoc. Prof. L. Šeduikytė
P175B302	1	Information Technologies 2	3	32		x							Prof. E. Bareiša
T240B003	1	Computer Drawing	3	40		x							Lect. A. Vasylius
T210B168	1	Engineering Mechanics	6	80			x						Assoc. Prof. V. Eidukynas
T190B271	1	Fundamentals of Electrical Engineering	6	80					x				Assoc. Prof. K. Otas
T350B125	1	Process Engineering 1	6	80					x				Assoc. Prof. Z. Valančius
T152B001	1	Materials Science	3	40						x			Assoc. Prof. J. Bendoraitienė
T350B126	1	Process Engineering 2	6	80						x			Assoc. Prof. Z. Valančius
T350B128	1	Process Engineering 2	6	80							x		Prof. R. Kaminskas
Total of Credits:			**45**		**6**	**6**	**6**		**12**	**9**	**6**		
Mathematics and Physical Sciences Subjects													
P130B001	1	Mathematics 1	6	80	x								Assoc. Prof. L. Saunorienė, Assoc. Prof. N. Listopadskis
P360B501	1	Inorganic Chemistry 1	6	80	x								Prof. I. Ancutienė
P130B002	1	Mathematics 2	6	80		x							Assoc. Prof. S. Petraitienė, Prof. E. Valakevičius
P190B101	1	Physics 1	6	80		x							Prof. G. Laukaitis
P360B502	1	Inorganic Chemistry 2	6	80		x							Prof. I. Ancutienė
P160B003	1	Theory of Probability and Statistics	6	64			x						Assoc. Prof. J. Dabulytė-Bagdonavičienė, Prof. E. Valakevičius
P390B301	1	Organic Chemistry 1	6	80			x						Prof. V. Martynaitis
P400B001	1	Physical Chemistry 1	6	80			x						Assoc. Prof. R. Šlinkšienė
Total of Credits:			**48**		**12**	**18**	**18**						
Social Sciences Subjects													
T350B117	1	Principles of Sustainable Development	3	32	x								Prof. L. Kliučininkas
		Electives of Personality and Health Development 2019	3		x								
		Electives of Socioeconomic Environment Knowledge 2019	6					x					

		Electives of Entrepreneurship Education 2019	6						x				
Total of Credits:			**18**		**6**			**6**	**6**				
Core Field Subjects													
T390B207	1	Polymer Technology	6	64			x						Prof. S. Grigalevičius
P300B503	1	Chemical Analysis	6	80				x					Assoc. Prof. V. Krylova
P390B302	1	Organic Chemistry 2	6	80				x					Prof. A. Šačkus
P400B002	1	Physical Chemistry 2	6	80				x					Prof. E. Valatka
T350B103	1	General Chemical Technology	6	80				x					Assoc. Prof. V. Valančienė
P250B100	1	Crystallography and Mineralogy	3	48					x				Prof. K. Baltakys
P300B603	1	Instrumental Analysis	6	80					x				Assoc. Prof. N. Dukštienė
P400B010	1	Chemical Thermodynamics	3	48					x				Prof. S. Kitrys
T350B127	1	Modeling of Processes	6	80						x			Assoc. Prof. A. Kantautas
Total of Credits:			**48**				**6**	**24**	**12**	**6**			
Major Field Subjects													
PR00B013	1	Chemical Engineering Design	6	80							x		Assoc. Prof. A. Eisinas
		Specialization Electives	33							x	x		
Total of Credits:			**39**							**15**	**24**		
Practice													
PR00B151	1	Professional Practice	15									x	Lect. A. Jaskūnas
Total of Credits:			**15**									**15**	
Final Degree Project													
PR00B197	1	Final Degree Project	15									x	Assoc. Prof. R. Klimavičiūtė, Prof. S. Petronienė
Total of Credits:			**15**									**15**	
Total of Credits													
Per Study Programme and per Semester			**240**		**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	

Specialization Subjects

Code	F	Course	Cr.	Contact hrs	Semester Recommended		Coordinating Lecturer
					6 sem. 15 cr.	7 sem. 18 cr.	
Technology of Inorganic Materials							
T350B005	1	Chemical Technology of Binding Materials	6	80	x		Prof. R. Kaminskas
T350B129	1	Fixed Nitrogen Technology and Equipment	9	80	x		Prof. S. Kitrys
T350B130	1	Technology of Ceramics and Glases	9	120		x	Prof. R. Šiaučiūnas
T350B131	1	Technology of Mineral Fertilizers and Acids	6	80		x	Assoc. Prof. R. Paleckienė
T350B132	1	Protection from Corrosion and Erosion	3	34		x	Prof. A. Šulčius, Assoc. Prof. E. Prichockienė
Technology of Organic Materials							
P370B101	1	Biopolymers	6	96	x		Prof. J. Ostrauskaitė
T370B001	1	Petroleum Chemistry	6	80	x		Assoc. Prof. L. Miknius
T390B010	1	Plastics and Elastomers	3	32	x		Prof. G. Buika
T350B133	1	Textile Chemistry and Technology	6	64		x	Assoc. Prof. J. Bendoraitienė
T350B134	1	Petroleum Refining Technology	6	80		x	Assoc. Prof. L. Miknius
T460B214	1	Paper Technology	6	64		x	Prof. J. V. Gražulevičius

General Electives

Code	F	Course	Cr.	Contact hrs	Semester Recommended				Coordinating Lecturer
					1 sem. 9 cr.	2 sem. 6 cr.	4 sem. 6 cr.	5 sem. 6 cr.	
Electives of Personality and Health Development 2019									
S264B001	1	Applied Psychology	3	32	x				Prof. R. Lekavičienė
S265B010	1	Basics of Communication	3	32	x				Assoc. Prof. J. Vizgirdaitė
S280B105	1	Career Creation	3	32	x				Assoc. Prof. V. Stanišauskienė
B710B001	1	Health Education for the Sportsmen Persons	3	32	x				Assoc. Prof. I. Klizienė, Assoc. Prof. A. Domeika
B710B195	1	Personal Health Education	3	32	x				Assoc. Prof. I. Klizienė, Assoc. Prof. A. Domeika
Electives of Philosophy 2019									
H120B111	1	Media Philosophy	6	64	x				Assoc. Prof. N. Čepulis
H120B031	1	Philosophy	6	64	x				Lect. A. Bingelis

Foreign Language Electives (Level C1) 2019									
H570B104	1	English Language (Level C1)	6	80		x			Prof. S. Petronienė
H460B104	1	French Language (Level C1)	6	80		x			Lect. R. Vingelienė
H530B101	1	German Language (Level C1)	6	80		x			Lect. J. Maksvytytė
H595B103	1	Russian Language (level C1)	6	80		x			Lect. L. Kravcova
Electives of Socioeconomic Environment Knowledge 2019									
S180B103	1	Engineering Economics	6	64			x		Assoc. Prof. V. Gižienė
S210B003	1	Sustainable Human Development	6	64			x		Assoc. Prof. A. Balžekienė, Prof. L. Kliučininkas, Prof. Ž. Stasiškienė
Electives of Entrepreneurship Education 2019									
S192B114	1	Fundamentals of Enterprises Accounting and Financial Management	6	64				x	Assoc. Prof. Š. Leitonienė
S190B377	1	Fundamentals of Enterprises Management	6	64				x	Assoc. Prof. K. Duoba
S191B017	1	Marketing	6	64				x	Lect. J. Maščinskienė
S000B177	1	Technology Entrepreneurship	6	64				x	Assoc. Prof. R. Jucevičienė, Assoc. Prof. A. Liutkevičius, Assoc. Prof. A. Domeika, Prof. D. Martuzevičius, Assoc. Prof. S. Japertas

Faculty implementing the programme

Faculty	Code
Faculty of Chemical Technology	02

Study programme committee

Study programme committee of ???? Faculty	Code
	CPI-KSPK

Programme coordinator

Position	Pedagogical title, research degree	Surname, name	Payroll No
Assoc. Prof.		BARAUSKAS Irmantas	B458

Date of programme last amendment and the Faculty Council which confirmed it

2018			

Programme renewal date

2018		