

Course code: .....

Plan position: .....

### A. INFORMATION ABOUT THE COURSE

#### B. Basic information

Name of course	<b>Research Project</b>
Field of studies	Chemical Technology
Level of studies	First degree
Profile of studies	General academic
Form of studies	Stationary
Specialty	1. Chemical process technology 2. Bioengineering 3. Chemistry and technology of cosmetics
Unit responsible for the field of studies	Faculty of Chemical Technology and Engineering/Division of General and Inorganic Chemistry
Name and academic degree of teacher(s)	Terese Rauckyte-Žak, PhD
Introductory courses	-
Introductory requirements	Methods for developing and interpreting results in analytical and graphical form

#### C. Semester/week schedule of classes

Semester	Lectures (W)	Auditorium classes (Ć)	Laboratory classes (L)	Project classes (P)	Seminar (S)	Field classes (T)	Number of ECTS points
Summer			30	30			12

### 2. LEARNING OUTCOME

No.	Learning outcomes description	The reference to the learning outcomes of specific field of study	The reference to the learning outcomes for the area
<b>SKILLS</b>			
U1	Obtains and appropriately interprets information from literature and databases.	TC_O1_K_U01	P6S_UW
U2	Communicates using a variety of techniques, including in a foreign language at ECTS level B2.	TC_O1_K_U03	P6S_UK
U3	Student has the ability for self-education.	TC_O1_K_U04	P6S_UU
U4	Performs chemical experiments, studies the course of chemical processes and interprets the results obtained results.	TC_O1_K_U06	P6S_UW

U5	Applies knowledge to the design of simple chemical processes and unit operations and explains the basic phenomena associated with relevant processes in chemical technology and engineering.	TC_O1_K_U07	P6S_UW
U6	Observes health and safety rules related to the performed work.	TC_O1_K_U14	P6S_UW
U7	Uses the principles of resource and energy conservation.	TC_O1_K_U16	P6S_UW
U8	Can apply appropriate methods to control the course of chemical processes.	TC_O1_K_U17	P6S_UW
U9	Solves simple engineering tasks related to with the implementation of unit processes and operations.	TC_O1_K_U17	P6S_UW
<b>SOCIAL COMPETENCES</b>			
K1	Understands the need for continuing education in order to improve his/her professional competences.	TC_O1_K_K01	P6S_KK
K2	Is aware of the responsibility for the carried out tasks.	TC_O1_K_K04	P6S_KK P6S_KO

### 3. TEACHING METHODS

#### A. Traditional methods used

Laboratory experiments and calculations (classes) performed by students under supervision of academic staff.

### 4. METHODS OF EXAMINATION

The student must prepare and defend a project. The final project is preceded by a review of the state of current industrial chemical technologies, e.g. the use of brine, treatment of production waste and the part consisting of control and measurement equipment for the basic reaction and the main reactor.

### 5. SCOPE

Classes and laboratories	The research topic depends on the thesis topic chosen by the student.
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### 6. METHODS OF VERIFICATION OF LEARNING OUTCOMES

LEARNING OUTCOME	Form of assessment					
	Oral examination	Written exam	Colloquium	Project	Report	Credit for experiments
U1				x		
U2				x		
U3				x		
U4				x		
U5				x		
U6				x		
U7				x		
U8				x		
U9				x		
K1				x		
K2				x		

### 7. LITERATURE

Basic literature	1. Literature dependent on the work topic.
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Supplementary literature	1. Materials prepared by lecturer.
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**8. TOTAL STUDENT WORKLOAD REQUIRED TO ACHIEVE EXPECTED LEARNING OUTCOMES EXPRESSED IN TIME AND ECTS CREDITS**

Student's activity		Student workload– number of hours
Classes conducted under a direct supervision of an academic teacher or other persons responsible for classes	Participation in classes indicated in point 1B	60
	Supervision hours	60
Student's own work	Preparation for classes	60
	Reading assignments	60
	Other (preparation for exams, tests, carrying out a project etc)	60
Total student workload		300
Number of ECTS points		<b>12</b>