Course code: ……. **Plan position:** ……

A. INFORMATION ABOUT THE COURSE

B. Basic information

Name of course	***Research Project***
Field of studies	-
Level of studies	First degree
Profile of studies	General academic
Form of studies	Stationary
Specialty	-
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-Żak, 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
Winter/summer				45			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
KNOWLEDGE			
W1	Student knows the basic methods, techniques, tools and materials used in solving simple engineering tasks.	K_W08	P6S_WG
SKILLS			
U1	Obtains and appropriately interprets information from literature and databases.	K_U01	P6S_UW
U2	Communicates using a variety of techniques, including in a foreign language at ECTS level B2.	K_U03	P6S_UK
U3	Student has the ability for self-education.	K_U04	P6S_UU
U4	Performs basic physicochemical experiments, studies the course of industrial processes and interprets obtained results.	K_U06	P6S_UW

U5	Applies knowledge to the design of simple industrial processes and unit operations and explains the basic phenomena associated with relevant processes in technology and engineering.	K_U07	P6S_UW
U6	Can apply appropriate methods to control the course of technological processes.	K_U17	P6S_UW
U7	Solves simple engineering tasks related to with the implementation of unit processes and operations.	K_U18	P6S_UW
SOCIAL COMPETENCES			
K1	Understands the need for continuing education in order to improve his/her professional competences.	K_K01	P6S_KK
K2	Is aware of the responsibility for the carried out tasks.	K_K04	P6S_KK P6S_KO

3. TEACHING METHODS

A. Traditional methods used

Consultations, discussion, laboratory experiments and calculations (project classes) performed by students under supervision of academic staff.

4. METHODS OF EXAMINATION

The student must prepare and defend a project.

5. SCOPE

Project classes	The research topic depends on the thesis topic chosen by the student. The student solves the problem based on literature data, experiments and calculations. The final project is preceded by a review of the state of the art of industrial technologies, for example the use of brine, treatment of production waste as well as the part consisting of control and measurement equipment for the basic reaction and the main reactor or equipment.

6. METHODS OF VERIFICATION OF LEARNING OUTCOMES

LEARNING OUTCOME	Form of assessment					
	Oral examination	Written exam	Colloquium	Project	Report	Credit for experiments
W1				x		
U1				x		
U2				x		
U3				x		
U4				x		
U5				x		
U6				x		
U7				x		
K1				x		
K2				x		

7. LITERATURE

Basic literature	1. Literature dependent on the work topic find in Reaxys, Springer, Scopus databases. 2. Industry magazines, technical documentation of devices. 3. Patent review.

Supplementary literature	1. Materials prepared by lecturer.

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	45
	Supervision hours	30
Student's own work	Preparation for classes	70
	Reading assignments	80
	Other (preparation for exams, tests, carrying out a project etc)	75
Total student workload		300
	Number of ECTS points	**12**