COURSE SYLLABUS

Course code	1070-ICGTE-MSA-301
Course name	Diploma Workshop
Course version	2027L
Level of education	second cycle programme
Form and mode of study	full-time study
Study profile	general academic profile
Field of study	Chemical and Process Engineering
Specialisation	Green Technologies in Chemical Engineering
Organizational unit	The Faculty of Chemical and Process Engineering
Implementing unit	The Faculty of Chemical and Process Engineering
Course unit	n/a
Course groups	-
Course status	Obligatory
Language of the course	English
Study stage code	ICZTC-S3-MSA-1070
Number of ECTS credits	8

Part I

01. Learning outcomes and the method of conducting classes	
Learning outcomes	see table "Learning outcomes"
Forms of classes and the number of hours in the semester	
laboratory	90.00 h

02. ECTS balance		
Number of ECTS credits	8	
Course workload	**Hours**	**ECTS**
Total number of hours and ECTS credits for the course:		
Hours and ECTS credits for courses involving direct participation of academic teachers	122	4.88
Hours and ECTS credits involving student's independent work	78	3.12
Total	200	8.00
Number of hours involving direct participation of academic teachers:		
Hours connected with class participation	90	
Other synchronous hours	32	
Total	122	
Number of hours involving student's independent work:		
Hours for student's independent work	78	

03. Course content	
laboratory	1. Familiarisation with the laboratory regulations and health and safety rules of the diploma laboratory. 2. Commissioning and testing of experimental research apparatus. 3. Execution of experimental research being the subject of the diploma thesis. 4. Analysis and interpretation of experimental results obtained.

Table: Learning outcomes	
Knowledge	
Outcomes code	P_W01
Description	Student has the knowledge necessary to correctly interpret the results of experimental and measurement data.

Part I

Related field-of-study learning outcomes	K2_W01
Outcomes code	P_W03
Description	Student has an extended knowledge useful for understanding the physical and chemical basis of basic chemical and process engineering operations and processes.
Related field-of-study learning outcomes	K2_W03
Outcomes code	P_W04
Description	Student has the knowledge necessary to carry out experimental investigations including momentum, mass and energy transfer phenomena.
Related field-of-study learning outcomes	K2_W04
Outcomes code	P_W07
Description	Student can model the course of chemical and biochemical processes.
Related field-of-study learning outcomes	K2_W07
Outcomes code	P_W09
Description	Student has knowledge of the multi-faceted and large-scale approach to process modelling currently representing the latest development trend in chemical and process engineering.
Related field-of-study learning outcomes	K2_W09
Skills	
Outcomes code	P_U01
Description	Student has the ability to use literature and internet data to solve set problems independently.
Related field-of-study learning outcomes	K2_U01
Outcomes code	P_U03
Description	Student is able to identify directions for further learning and implement the self-learning process.
Related field-of-study learning outcomes	K2_U03
Outcomes code	P_U04
Description	Student is able to use an advanced tool for computer-aided design of plants in the chemical industry
Related field-of-study learning outcomes	K2_U04
Outcomes code	P_U05
Description	Student has the ability to plan and conduct tests, use measuring instruments and interpret and analyse the results obtained.
Related field-of-study learning outcomes	K2_U05
Social competence	
Outcomes code	P_K03
Description	Student is able to think and act creatively and entrepreneurially.
Related field-of-study learning outcomes	K2_K03

Part II

04. Year and semester of studies	
Year	2027L
Semester	3

05. Course leader and course teachers	
laboratory	Łukasz Makowski
laboratory	Łukasz Makowski

06. Course objective

Part II

Course objective	1.Acquisition of practical skills for working in a laboratory research and scientific laboratory. 2. To learn how to operate and operation of specialised laboratory instruments and computer programmes for processing measurement data measurement data. 3. To acquire the ability to correctly interpretation of experimental and measurement data results.

07. Teaching methods and techniques	
laboratory	Laboratory - 90 hours per semester.

08. Methods of verifying learning outcomes	
Knowledge	
Outcomes code	P_W01
Description	Student has the knowledge necessary to correctly interpret the results of experimental and measurement data.
Verification methods	laboratory: written report
Outcomes code	P_W03
Description	Student has an extended knowledge useful for understanding the physical and chemical basis of basic chemical and process engineering operations and processes.
Verification methods	laboratory: written report
Outcomes code	P_W04
Description	Student has the knowledge necessary to carry out experimental investigations including momentum, mass and energy transfer phenomena.
Verification methods	laboratory: written report
Outcomes code	P_W07
Description	Student can model the course of chemical and biochemical processes.
Verification methods	laboratory: written report
Outcomes code	P_W09
Description	Student has knowledge of the multi-faceted and large-scale approach to process modelling currently representing the latest development trend in chemical and process engineering.
Verification methods	laboratory: written report
Skills	
Outcomes code	P_U01
Description	Student has the ability to use literature and internet data to solve set problems independently.
Verification methods	laboratory: written report
Outcomes code	P_U03
Description	Student is able to identify directions for further learning and implement the self-learning process.
Verification methods	laboratory: written report
Outcomes code	P_U04
Description	Student is able to use an advanced tool for computer-aided design of plants in the chemical industry
Verification methods	laboratory: written report
Outcomes code	P_U05
Description	Student has the ability to plan and conduct tests, use measuring instruments and interpret and analyse the results obtained.
Verification methods	laboratory: written report
Social competence	
Outcomes code	P_K03

Part II	
Description	Student is able to think and act creatively and entrepreneurially.
Verification methods	laboratory: written report

09. Required and recommended reading list	
Required reading	Literature selected in the course of the thesis topic.
Recommended reading	-

10. Other information	
Other information	-