(*faculty stamp*)

COURSE DESCRIPTION

1. Course title: **CHEMICAL TECHNOLOGY**	2. Course code

3. Validity of course description: 2016/2017

4. Level of studies: 1st cycle of higher education

5. Mode of studies: intramural studies

6. Field of study: INDUSTRIAL AND ENGINEERING CHEMISTRY	(RCH)

7. Profile of studies: academic (general)

8. Programme:

9. Semester: V

10. Faculty teaching the course: Chemical Faculty, Department of Inorganic, Analytical Chemistry and Electrochemistry; Department of Chemical Organic Technology and Petrochemistry

11. Course instructors: dr hab. inż. Anna Chrobok, prof. Pol. Śl., dr hab. inż. Beata Orlińska, prof. Pol. Śl., dr inż. Maciej Gonet (coordinator)

12. Course classification: common courses

13. Course status: compulsory

14. Language of instruction: English

15. Pre-requisite qualifications: PROCESS THERMODYNAMICS, ORGANIC CHEMISTRY

16. **Course objectives:** The course is focused on the learning as well as solving problems connected with the sources and application of raw materials as well as unit operations used in organic chemical industry. After the course students should possess a general understanding of the most important processes used in the chemical industry.

17. Description of learning outcomes:

Nr	Learning outcomes description	Method of assessment	Teaching methods	Learning outcomes reference code
1.	Knowledge of the ideas of the most frequently used types of flowcharts in chemical industry	Classwork, exam	Lecture, classes	**K_W11** + **K_U24** +
2.	Knowledge of methods of manufacture the most important organic chemicals as well as principles of environment protection during manufacture processes	Classwork, exam	Lecture, classes	**K_W06** ++ **K_W08** +++ **K_W09** + **K_W17** + **K_U18** + **K_U21** + **K_U22** + **K_K01** ++ **K_K02** + **K_K06** +
3.	Ability to acquire information concerning chemical technology from literature and drawing correct conclusions; ability to use computer programs and communicate in English by various techniques	Classwork, exam	Lecture, classes	**K_U01** + **K_U03** + **K_U05** +
4.	Competence in distinguishing the types of chemical reactions and in their selection for particular processes as well as evaluation of hazard	Classwork, exam	Lecture, classes	**K_U10** ++ **K_U16** +

	due to process scale-up			
5.	Awareness of importance of professional behavior and compliance with professional ethics rules	discussion	Lecture, classes	**K_K03** +

18. Teaching modes and hours

Lecture 45 h / BA /MA Seminar / Class / Project / Laboratory

19. Syllabus description:
Scope of lectures:
  Principles of green chemistry
  Fossil fuels (crude oil, natural gas, and coal)
     -reserves,
     -processing methods
  Basic chemicals production and application in industrial synthesis: ethylene, propylene, olefins C4 and C45, synthesis gas, aromatic compounds
  Unit processes: Alkylation, Oxidation, Hydrogenation/dehydrogenation, Chlorination

20. Examination: no

21. Primary sources:
1. H. Wittcoff, B. Reuben, J. Plotkin, Industrial Organic Chemicals, 3rd Ed., Wiley, 2013
2. K. Weissermel, H.-J. Arpe, Industrial Organic Chemistry, Fourth Ed., Wiley-VCH GmbH&Co., Weinheim, 2003
3. Ullmann's Encyclopedia of Industrial Chemistry, Fifth Ed., Wiley-VCH GmbH, Weinheim, 1995
4. Fahim M. A.; Alsahhaf T.; Elkilani A., Fundamentals of Petroleum Refining, Elsevier, 2010

22. Secondary sources:

23. Total workload required to achieve learning outcomes

Lp.	Teaching mode :	Contact hours / Student workload hours
1	Lecture	45/45
2	Classes	/
3	Laboratory	/
4	Project	/
5	BA/ MA Seminar	/
6	Other	/
	Total number of hours	45/45

24. Total hours: 90

25. Number of ECTS credits: 3

26. Number of ECTS credits allocated for contact hours: 1,5

27. Number of ECTS credits allocated for in-practice hours (laboratory classes, projects): 0

28. Comments:

                            Approved:

   3.10.2016………………….   ……………………………………………
   (date, Instructor's signature)   *(date , the Director of the Faculty Unit signature)*