(*faculty stamp*)

COURSE DESCRIPTION

1. Course title: PRINICPLES OF DESIGN IN AUTOCAD	**2. Course code**
3. Validity of course description: 2017/2018	
4. Level of studies: 1st cycle of higher education	
5. Mode of studies: intramural studies	
6. Field of study: MACROCOURSE: INDUSTRIAL AND ENGINEERING CHEMISTRY	(FACULTY SYMBOL)
7. Profile of studies: common academic	
8. Programme: na.	
9. Semester: 6	
10. Faculty teaching the course: Faculty of Chemical and Process Engineering,	
11. Course instructor: dr inż. Robert Kubica	
12. Course classification: optional courses	
13. Course status: elective	
14. Language of instruction: English	
15. Pre-requisite qualifications: Technical drawing, English, Unit operations, Industrial Equipment	
16. Course objectives: Main objective of the course is to provide practical fundamentals within computer aided design, where the working environment is AutoCAD suite. Introduction to CAD systems is provided. Recent developments by computer aided design as well as application of CAD techniques by chemical engineering and technology are discussed. Principles of technical documentation In the electronic form based on the AUTOCAD 2007 PL software are introduced.	

17. Description of learning outcomes:

Nr	Learning outcomes description	Method of assessment	Teaching methods	Learning outcomes reference code
1.	One knows techniques and means of computer aided design	Assessment of separate models quality	Lecture, laboratory	K1A_W04+ K1A_W14+
2.	One can adjust working environment to own requirements and standards used, can manage the layers, formats and styles	Assessment of separate models quality	Lecture, laboratory	K1A_W14+ K1A_U05+
3.	One can solely develop a complete technical drawing documentation of given 2D model in an electronic form	Assessment of separate models quality	Laboratory	K1A_U01+ K1A_U03+ K1A_U04++ K1A_U05+ K1A_U07+
4.	One can process a drawn model for dissemination in either hardcopies and electronic printouts	Assessment of separate models quality	Laboratory	K1A_U01+ K1A_U03+ K1A_U05+
5.	One is well prepared to self-reliant work, demonstrates commitment and follows the ethic rules	Participation in tuorials, observation	Laboratory	K1A_K03+++
6.	One is conscious of a need of a sustained drive to raise the competences and update of knowledge within computer aided design	Observation	Laboratory	K1A_K01++

18. Teaching modes and hours

Lecture 15h / **Laboratory** 45h

19. Syllabus description:

The basics of 2D drawing are introduced, including: drawing primitives and their properties, modification of the drawing elements (objects), dimensioning, layers and layer management, formatting options, line styles, dimensioning styles, drawing layouts, plot options and settings, plot styles, blocks (drawing and file), block attributes, objects embedding. Students practice on separate working stations to deliver their jobs, which are introduced and described before each practical classes. The set of exemplary jobs include assembly and workshop drawings of selected chemical and processing apparatus as well as auxiliary equipment, schematic diagrams.

20. Examination: na.

21. Primary sources:

T. Dobrzański: Rysunek techniczny. WNT, Warszawa 1985-2000
A. Pikoń; AutoCAD 2007 PL. Pierwsze kroki. Warszawa: Helion, 2007

22. Secondary sources:

23. Total workload required to achieve learning outcomes

Lp.	Teaching mode :	Contact hours / Student workload hours
1	Lecture	15/15
2	Classes	/
3	Laboratory	45/30
4	Project	/
5	BA/ MA Seminar	/
6	Other	/15
	Total number of hours	60/60

24. Total hours: 120

25. Number of ECTS credits: 4

26. Number of ECTS credits allocated for contact hours: 2

27. Number of ECTS credits allocated for in-practice hours (laboratory classes, projects): 3,5

26. Comments:

Approved:

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(date, Instructor's signature)

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(*date , the Director of the Faculty Unit signature)*