COURSE GUIDE

Subject name	**Computer support for engineering projects**
Course of study	**Quality and Production Management**
The form of study	**Full-time**
Level of qualification	**First**
Year	**III**
Semester	**V**
The implementing entity	**Department of Production Engineering and Safety**
The person responsible for preparing	**dr inż. Justyna Żywiołek**
Profile	**General academic**
ECTS points	**3**

TYPE OF TEACHING – NUMBER OF HOURS PER SEMESTER

LECTURE	CLASS	LABORATORY	PROJECT	SEMINAR
15		**30**	**-**	**-**

COURSE AIMS

Cl. Understanding the theoretical foundations of Microsoft Office tools used in engineering.
C2. Understanding the basics of creating drawings in AutoCAD used in
    engineering.
C3. Learning about examples of computer-integrated manufacturing systems.

ENTRY REQUIREMENTS FOR KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1. The student knows the basic knowledge in the field of production management.
2. The student has a basic knowledge of mathematics.

LEARNING OUTCOMES

EU1. The student can use Microsoft Office tools.
EU2. Student is able to create drawings in AutoCAD.
EU3. The student has the ability to use literary sources to broaden his knowledge.
EU4. student knows the principles of dimensioning, can prepare them for the engineering project.

COURSE CONTENT

Type of teaching – LECTURE	Number of hours
W1. Computer-integrated CIM manufacturing systems.	4
W2. Computer simulations and visualization of production processes.	4
W3. Application of graphic programs in engineering works of CAD, CAM type - introduction.	7
Type of teaching - LABORATORY	**Number of hours**
L1. Use of Microsoft Office tools to create graphical data visualizations	10
L2. Using AutoCAD in Computer Aided Engineering. Understanding the basic functions of the AutoCad program: creating a form to work in the program, drawing settings, layout and types of coordinates, commands on the command line, use of layers, drawing tools, text formatting, modification tools, drawing viewing options and creating views, projection, dimensioning, creation breaks and cross-sections, precision drawing tools.	20

TEACHING TOOLS

1. Books and monographs.
2. MS Office software, AutoCAD.
3. Audiovisual presentation.

4. Case study.

WAYS OF ASSESSMENT (F – FORMATIVE, P – SUMMATIVE)
F1. Evaluation of the implementation tasks in the classroom.
F2. Observation of students' work in the classroom.
P1 Test.

STUDENT WORKLOAD

Form of activity		Average number of hours for realization of the activity		
		[h]	**ECTS**	**ECTS**
Contact hours with the teacher	Lecture	15	0.6	1.2
Preparation for exam		15	0.6	
Contact hours with the teacher	Laboratory	30	1.2	1.4
Preparation of the projects		5	0.2	
Getting acquainted with the indicated literature		5	0.2	0.2
Consultation		5	0.2	0.2
TOTAL NUMBER OF HOURS / ECTS POINTS FOR THE COURSE		**75**	**3**	

BASIC AND SUPPLEMENTARY RESOURCE MATERIALS
Basic resources
1. Kęsy M. CIM, Technical Education in Terms of Computer Integrated Manufacturing CIM. Dydaktyka Informatyki nr 10, 2015.
Supplementary resources
1. Borkowski S., Ulewicz R. Zarzadzanie produkcją. Systemy produkcyjne. Oficyna Wydawnicza Humanitas, Sosnowiec 2009.
2. Wróblewski P. MS Office 2013/365 PL w biurze i nie tylko. Wydawnictwo Helion, 2013.
3. Pikoń A. AutoCAD 2014 PL. Helion, 2015.

TEACHERS (NAME, SURNAME, E-MAIL ADDRESS)
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MATRIX OF LEARNING OUTCOMES REALISATION

Learning outcome	Reference of given outcome to outcomes defined for whole program (PRK)	Course aims	Course content	Teaching tools	Ways of assessment
EU1	K_W01, K_W02, K_W03, K_W06, K_W07, K_W08 K_U01, K_U02, K_U03, K_U04, K_U07, K_U08, K_U09, K_U10, K_K01	C1	W1, L1	1, 2, 3, 4	F1, F2
EU2	K_W01, K_W02, K_W03, K_W06, K_W07, K_W08 K_U01, K_U02, K_U03, K_U04, K_U07, K_U08, K_U09, K_U10, K_K01	C1, C2	W2, W3, L2	1, 2, 3, 4	F1, F2
EU3	K_W09, K_U07, K_U09, K_U10, K_K01	C2, C3	L1, L2	1, 2, 3, 4	F1, F2,
EU4	K_W07, K_W09, K_U09, K_K01	C1, C3	W1, W3, L2	1,2	P1

FORM OF ASSESSMENT - DETAILS

	grade 2	grade 3	grade 4	grade 5
EU1	The student can not use the Microsoft	The student can use Microsoft Office	The student is able to use Microsoft Office	The student is able to use Microsoft Office tools in

	Office tool.	tools.	tools in solving basic problems.	solving advanced problems in practice.
EU2	The student can not create drawings in AutoCAD.	The student can create drawings in AutoCAD.	Student is able to create drawings in an advanced AutoCAD program.	The student is able to create drawings in the advanced AutoCAD program and edit them.
EU3	The student does not have the ability to use literary sources to broaden their knowledge.	The student knows how to use the sources indicated by the instructor.	The student is looking for additional sources of literature to broaden his knowledge.	The student deepens his knowledge by searching for additional sources of literature, can compare the messages contained in them, draw conclusions from them.
EU4	The student does not know the principles of dimensioning, he can prepare them for the engineering project.	The student knows selected dimensioning principles, he can prepare them for the engineering project	The student knows the principles of dimensioning, can prepare them for simple engineering projects with help of teacher.	The student knows the principles of dimensioning, can prepare them for the engineering project.

ADDITIONAL USEFUL INFORMATION ABOUT THE COURSE

1. Information where presentation of classes, instruction, subjects of seminars can be found, etc. - presented to students during first classes, if required by the formula classes are sent electronically to the e-mail addresses of individual dean groups.
2. Information about the place of classes - Information can be found on the website of the Faculty of Management.
3. Information about the timing of classes (day of the week / time) - Information can be found on the website of the Faculty of Management.
4. Information about the consultation (time + place) - Information can be found on the website of the Faculty of Management.