



### COURSE SPECIFICATION

Course code	<b>M#1-S1-ME-104</b>
Course title in Polish	<b>Rysunek Techniczny</b>
Course title in English	<b>Technical Drawing</b>
Valid from (academic year)	<b>2019/2020</b>

### GENERAL INFORMATION

Programme of study	<b>MECHANICAL ENGINEERING</b>
Level of qualification	<b>first-cycle</b>
Type of education	<b>academic</b>
Mode of study	<b>full-time</b>
Specialism	<b>all</b>
Department responsible	<b>Department of Machine Design</b>
Course leader	<b>Robert Molasy</b>
Approved by	

### COURSE OVERVIEW

Course type	<b>basic</b>
Course status	<b>compulsory</b>
Language of instruction	English
Semester of delivery	<b>semester 1</b>
Pre-requisites	<b>None</b>
Examination required (YES/NO)	NO
ECTS value	<b>3</b>

Mode of instruction	lecture	class	laboratory	project	seminar
No. of hours per semester	<b>10</b>			<b>30</b>	

## LEARNING OUTCOMES

Category of outcome	Out-come code	Course learning outcomes	Corresponding programme outcome code
Knowledge	W01	They will have basic knowledge of the concepts and procedures in the field of Polish, European, and international standardization as well as awareness of the importance of standards related to quality management and data security.	MiBM1_W7
	W02	They will have knowledge of creating and analyzing technical documentation with elements of engineering design with the use of graphic and calculation programs.	MiBM1_W12
	W03	They will have the knowledge of the principles of designing machine parts and mechanical structures used in mechanics and machine design, and knows the rules for their selection and safety assessment.	MiBM1_W19
Skills	U01	Will be able to obtain information from literature, databases, and other sources in various languages, concerning mechanics and machine design; can combine the obtained information, analyze, interpret, and draw conclusions, formulate and justify opinions.	MiBM1_U03
	U02	They will be able to use the basic forms of communication for mechanical engineering purposes, especially for machine design, operation and maintenance such as technical drawings, computer algorithms and mathematical description.	MiBM1_U07
Competence	K01	On completion of this programme students will understand the need for and know the opportunities of gaining further professional qualifications (second cycle programmes, third cycle programmes, postgraduate non-degree courses, training courses) to enhance their professional, personal and social development.	MiBM1_K01

## COURSE CONTENT

Type of instruction*	Topics covered
lecture	1. Paper sizes, title block, folding, lines and linework, lettering, drawing scales, principles of orthographic projection
	2. Principles of orthographic projection – 1st angle projection (selection of the main view, minimum number of views).
	3. Sections and sectional views (offset sections, revolved sections).
	4. Dimensioning principles (dimension lines, projection lines, arrows, dimensions). Dimensioning principles
	5. Half sections, broken-out views, enlarged views,
	6. Partial views.
	7. Drawing of permanent joints (welded joints).
	8. Drawing of detachable joints (screwed fasteners, keys)
	9. Drawing of gears and shafts
	10. Evaluation.
project	1. Lettering and lineworks.
	2. Six-view drawing.
	3. Minimum number of views drawing
	4. Full section
	5. Offset section and revolved section
	6. Offset section and revolved section
	7. Drawing of axisymmetric parts
	8. Drawing of symmetric parts

	9. Half section
	10. Simplified representation of details
	11. Representation of a screw thread
	12. Drawing of a pulley
	13. Drawing of a gear
	14. Drawing of a shaft
	15. Test

\*) Please delete rows in the table above that are not applicable.

## ASSESSMENT METHODS

Outcome code	Methods of assessment <i>(Mark with an X where applicable)</i>					
	Oral examination	Written examination	Test	Project	Report	Other
W01			x	x		
W02			x	x		
W03			x	x		
U01			x	x		
U02			x	x		
K01						x

## ASSESSMENT TYPE AND CRITERIA

Mode of instruction*	Assessment type	Assessment criteria
lecture	non-examination assessment	The pass mark for three of five simple drawing assignments.
project	non-examination assessment	Regular class attendance. The pass mark is a minimum of 50% for the in-class test.

\*) Please delete rows in the table above that are not applicable.

## OVERALL STUDENT WORKLOAD

ECTS weighting							
	Activity type	Student workload					Unit
		L	C	Lab	P	S	
1.	Scheduled contact hours	10			30		h
2.	Other contact hours (office hours, examination)	2			2		h
3.	<b>Total number of contact hours</b>	<b>44</b>					h
4.	<b>Number of ECTS credits for contact hours</b>	<b>1.8</b>					ECTS
5.	<b>Number of independent study hours</b>	<b>31</b>					h
6.	<b>Number of ECTS credits for independent study hours</b>	<b>1,2</b>					ECTS
7.	<b>Number of practical hours</b>	<b>56</b>					h
8.	<b>Number of ECTS credits for practical hours</b>	<b>2.2</b>					ECTS
9.	<b>Total study time</b>	<b>75</b>					h

10.	<b>ECTS credits for the course</b> <i>1 ECTS credit = 25-30 hours of study time</i>	<b>3</b>	ECTS
-----	--	----------	------

### **READING LIST**

1. Machine drawing, Narayana K.L., Kannaiah P., Venkata K., New Age International (P) Ltd., 2006
2. Manual of Engineering Drawing, Simmons C.H., Phelps N., Maguire D.E., Elsevier, 2012
3. Engineering drawing & design, Jensen C., Helsel J. D., Short D.R., McGraw-Hill , 2007
4. Rysunek techniczny maszynowy, Dobrzański T., Wydawnictwo Naukowe PWN, WNT, Warszawa, 2019