Kielce University of Technology

FACULTY OF MECHATRONICS AND MECHANICAL ENGINEERING

Annex 9
to the Rector's Ordinance No. 35/19
of 12 June 2019

COURSE SPECIFICATION

Course code	**M#1-S1-ME-213**
Course title in Polish	**Rysunek techniczny maszynowy**
Course title in English	**Engineering Drawing**
Valid from (academic year)	**2019/2020**

GENERAL INFORMATION

Programme of study	**MECHANICAL ENGINEERING**
Level of qualification	**first-cycle**
Type of education	**academic**
Mode of study	**full-time**
Specialism	**all**
Department responsible	**Department of Machine Design**
Course leader	**Robert Molasy, BEng, PhD**
Approved by	

COURSE OVERVIEW

Course type	**basic**
Course status	**compulsory**
Language of instruction	English
Semester of delivery	**semester 2**
Pre-requisites	**Technical drawing, Fundamentals of Standardization and Innovation**
Examination required (YES/NO)	NO
ECTS value	**2**

Mode of instruction	**lecture**	**class**	**laboratory**	**project**	**seminar**
No. of hours per semester	**10**			**20**	

LEARNING OUTCOMES

Category of outcome	Out-come code	Course learning outcomes	Corresponding programme outcome code
Knowledge	W01	They will have a basic knowledge of the principles of design of mechanical components and systems.	MiBM1_W9
	W02	They will know how to develop and analyse technical documentation, which involves engineering design using graphics and calculation software.	MiBM1_W12
	W03	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	Will be able to select appropriate engineering materials to ensure the correct operation of the machine	MiBM1_U14
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. Manufacturing drawing – general rules.
	2. Surface roughness; nomenclature; machining symbols; indication of surface roughness
	3-4. Limits, tolerances and fits
	5-6. Geometric dimensioning and tolerancing
	7. Interpretation of GD&T
	8. Manufacturing drawing of a shaft (undercuts, centre holes)
	9. Assembly drawings – general rules, title block
	10. Test
project	1. Indication of surface roughness
	2. Indication of tolerances and fits
	3. Application of GD&T
	4. Drawing of a gear
	5. Drawing of a shaft
	6. Drawing of a coupling disc with spline
	7-8 . Assembly drawing
	9. Manufacturing drawing (of a part selected form assembly drawing)
	10. Test

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

ASSESSMENT METHODS

Outcome code	Methods of assessment *(Mark with an X where applicable)*					
	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**
1.	Scheduled contact hours	L	C	Lab	P	S	h
		10			20		
2.	Other contact hours (office hours, examination)	2			2		h
3.	**Total number of contact hours**	**34**					h
4.	**Number of ECTS credits for contact hours**	**1.4**					ECTS
5.	**Number of independent study hours**	**16**					h
6.	**Number of ECTS credits for independent study hours**	**0.6**					ECTS
7.	**Number of practical hours**	**33**					h
8.	**Number of ECTS credits for practical hours**	**1.3**					ECTS
9.	**Total study time**	**50**					h
10.	**ECTS credits for the course** *1 ECTS credit = 25-30 hours of study time*	**2**					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