COURSE DESCRIPTION CARD – SPECIMEN

<table>
<tr><td colspan="10">Faculty of Mechanical Engineering</td></tr>
<tr><td>Field of study</td><td colspan="6">Mechatronics</td><td>Degree level and programme type</td><td>Bachelor's degree</td></tr>
<tr><td>Specialization/ diploma path</td><td colspan="6">common course</td><td>Study profile</td><td>Mechanics</td></tr>
<tr><td rowspan="2">Course name</td><td colspan="6" rowspan="2">Engineering Graphics</td><td>Course code</td><td>IS-FME-00159W</td></tr>
<tr><td>Course type</td><td>obligatory</td></tr>
<tr><td rowspan="2">Forms and number of hours of tuition</td><td>L</td><td>C</td><td>LC</td><td>P</td><td>SW</td><td>FW</td><td>S</td><td>Semester</td><td>winter</td></tr>
<tr><td>30</td><td>0</td><td></td><td>30</td><td></td><td></td><td></td><td>No. of ECTS credits</td><td>5</td></tr>
<tr><td>Entry requirements</td><td colspan="9">-</td></tr>
<tr><td>Course objectives</td><td colspan="9">The study of Engineering Graphics provide the student with practical experience in creation and understanding of engineering graphics as well as aims at helping the learner to develop a clear understanding the principles of
- mapping the theoretical and real objects in the plane,
- projection and dimensioning in mechanical engineering drawing.</td></tr>
<tr><td>Course content</td><td colspan="9">Lecture:
Images of the basic elements of space, and the associated elements in common. Basic elements and principles of design in the drawing of isometric and rectangular projections. Sections and views. General and specific principles of dimensioning. Tolerances on dimensions, shape and position. Connections inseparable and mutually exclusive. Simplification in the structure drawings. Elements of mechanical structures design.
Project class:
Images of point, line and plane. Common elements and belonging. Orthogonal. Views of machine parts and sections of the layout and dimensional tolerances. Connections of the machine. Assembly drawing. Simplification and diagrams.</td></tr>
<tr><td>Teaching methods</td><td colspan="9">lecture, description, discussion, practice methods</td></tr>
<tr><td>Assessment method</td><td colspan="9">lecture – written exam or tests; project – project completion, presentation and discussion, two tests</td></tr>
<tr><td>Symbol of learning outcome</td><td colspan="7">Learning outcomes</td><td colspan="2">Reference to the learning outcomes for the field of study</td></tr>
<tr><td>LO1</td><td colspan="7">Student defines the rules for graphical representation of machine components</td><td colspan="2">MK1_W02, MK1_W07</td></tr>
<tr><td>LO2</td><td colspan="7">Student defines rules for the dimensioning of machine components</td><td colspan="2">MK1_W07</td></tr>
<tr><td>LO3</td><td colspan="7">Student defines the relationships used in the construction of machine parts</td><td colspan="2">MK1_W07</td></tr>
<tr><td>LO4</td><td colspan="7">The student defines the methodology for the construction</td><td colspan="2">MK1_U06, MK1_U07</td></tr>
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	of mechanical devices	
LO5	Student maps the elements of the machine by means of Engineering Graphics	MK1_U06, MK1_U07
LO6	The student uses knowledge to create the correct technical drawing	MK1_U01, MK1_U10, MK1_K03
Symbol of learning outcome	**Methods of assessing the learning outcomes**	**Type of tuition during which the outcome is assessed**
LO1	Colloquium lecture, credit of projects and project documentation	L, P
LO2	Projects of machine parts made during classes and homework, test checking for lecture	L, P
LO3	Projects of machine parts made during classes, observation of work in the classroom	P
LO4	Projects of machine parts made during class and homework, test checking for lecture	L, P
LO5	Projects of machine parts made during classes, observation of work in the classroom	P
LO6	Projects of machine parts made during classes, observation of work in the classroom	P
Student workload (in hours)		**No. of hours**
Calculation	lecture attendance	30
	participation in classes, laboratory classes, etc.	30
	preparation for classes, laboratory classes, projects, seminars, etc.	15
	working on projects, reports, etc.	30
	participation in student-teacher sessions related to the classes/seminar/project	2
	implementation of project tasks	20
	preparation for and participation in exams/tests	20
	TOTAL:	**147**
Quantitative indicators		**HOURS** / **No. of ECTS credits**
Student workload – activities that require direct teacher participation		**62** / **2.5**
Student workload – practical activities		**100** / **4**
Basic references	1.Lewandowski Z.: Geometry. PWN, Warsaw 1984. 2.Dobrzanski T.: Technical drawings of machines. WNT. 2007. 3. Burcan J.: Fundamentals of technical drawing. WNT.W-wa 2010 4.Standards (PN, PN-EN, BS ENISO, ISO)-Technical drawing.	
Supplementary references	1. Simmons C. H. , Maguire D. E. , Phelps N.: Manual of engineering drawing : Newnes, Amsterdam, 2009 2.Bajkowski J.: Basics of writing structure. Publishing House P.W. W-wa 2005	
Organisational unit conducting the course	Department of Fundamentals of Machine Design and Operation	**Date of issuing the programme**

Author of the programme	Grzegorz Mieczkowski, Ph.D., Eng.	16.03.2021

L – lecture, C – classes, LC – laboratory classes, P – project, SW – specialization workshop, FW - field work, S – seminar