COURSE DESCRIPTION CARD – SPECIMEN

<table>
<tr><td colspan="10">Faculty of Mechanical Engineering</td></tr>
<tr><td>Field of study</td><td colspan="6"></td><td>Degree level and programme type</td><td>Bachelor's degree</td></tr>
<tr><td>Specialization/ diploma path</td><td colspan="6"></td><td>Study profile</td><td></td></tr>
<tr><td rowspan="2">Course name</td><td colspan="6" rowspan="2">Interim Work
Project (Computer Aided Design)</td><td>Course code</td><td>IS-MER0054S</td></tr>
<tr><td>Course type</td><td></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>summer</td></tr>
<tr><td></td><td></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">Computer Aided Design</td></tr>
<tr><td>Course objectives</td><td colspan="9">Solution a mechanical problem using CAx tools (CAD, CAM, CAE).
Preparation of information on the results of the project in the form of a multimedia presentation.</td></tr>
<tr><td>Course content</td><td colspan="9">Solve of selected technical problem from mechanical branch (e.g. mechanical device, test stand, vehicle etc.) using traditional methods and CAx (CAD, CAM, CAE) tools;
The report should contain:
Review of the theme issue. Conceptual design. Selection and justification of the methods and tools used in the design. 3D mechanical design using parametric CAD system (preferred SolidWorks). CAE analysis (e.g.: strength analyses, kinematical-dynamical and flow analyses). 2D documentation.</td></tr>
<tr><td>Teaching methods</td><td colspan="9">project</td></tr>
<tr><td>Assessment method</td><td colspan="9">project – assessment of report</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: properly defines design task</td><td colspan="2"></td></tr>
<tr><td>LO2</td><td colspan="7">is able to prepare a presentation on the task</td><td colspan="2"></td></tr>
<tr><td>LO3</td><td colspan="7">solves engineering problem</td><td colspan="2"></td></tr>
<tr><td>LO4</td><td colspan="7">calculates the critical stresses and displacements</td><td colspan="2"></td></tr>
<tr><td>LO5</td><td colspan="7">designs using CAx tools</td><td colspan="2"></td></tr>
<tr><td>LO6</td><td colspan="7">is able to modify the preliminary design</td><td colspan="2"></td></tr>
<tr><td>LO7</td><td colspan="7">can prepare 2D drawings and elaboration of project</td><td colspan="2"></td></tr>
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Symbol of learning outcome	Methods of assessing the learning outcomes	Type of tuition during which the outcome is assessed
LO1	assessment of report, discussion during class	P
LO2	assessment of report, discussion during class	P
LO3	assessment of report, discussion during class	P
LO4	assessment of report, discussion during class	P
LO5	assessment of report, discussion during class	P
LO6	assessment of report, discussion during class	P
LO7	assessment of report, discussion during class	P

Student workload (in hours)		No. of hours
Calculation	participation in project	30
	preparation for projects	30
	working on projects	30
	participation in student-teacher sessions related to the project	5
	implementation of project tasks	30
	preparation for presentation	5
	TOTAL:	130

Quantitative indicators	HOURS	No. of ECTS credits
Student workload – activities that require direct teacher participation	35	2
Student workload – practical activities	90	3

Basic references	1. Darbyshire A.: Mechanical Engineering, Elsevier, 2010 3. Nash, W.A.: Theory and problems of strength of materials, 4th ed., McGraw-Hill, New York, 1998; 4. Budynas R.G., Nisbett J.K.: Shigley's Mechanical Engineering Design, 11th edition, McGraw-Hill, 2019
Supplementary references	1. Kurowski P.: Engineering Analysis with SolidWorks Simulation 2020, SDC Publications 2. Steffen J.R. : Analysis of Machine Elements Using SolidWorks Simulation 2017, SDC Publications 3. youtube tutorials

Organisational unit conducting the course	Department of Mechanical Engineering and Machine Operation	Date of issuing the programme
Author of the programme	Andrzej Łukaszewicz. PhD	22.03.2021

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