

# SYLLABUS

## Course description

Course code	Course	<b>ZAAWANSOWANE MODELOWANIE BRYŁOWE W SYSTEMACH CAD</b>		
MB / O / I / ST / C2A. 7		<b>ADVANCED SOLID MODELING IN CAD SYSTEMS</b>		
Language of instruction	English			
Academic year	2023/2024			
<b>field of study:</b>	Mechanics and machine construction			
<b>field of specialisation:</b>	Designing and Manufacturing of Machines			
Educational level	first-cycle studies			
Education profile	General academic			
Mode of study	Full-time studies			
Semester(s)	5			
Affiliation with a group of classes	Specialization module			
Course status	obligatory			
Types of classes, instruction hours, ECTS credits	Types of classes	Number of instruction hours	Number of ECTS credits	
	Lecture	[h]	2 ECTS	
	Classes	[h]		
	Laboratory	30 [h]		
Linkage of the course	with the education profile	is related to the ongoing scientific activity in the discipline to which the research area belongs.		2 ECTS
	with qualifications	is used for the student's acquisition of engineering competencies		2 ECTS
	with science discipline	mechanical engineering		2 ECTS
Form of teaching	Traditional – classes organized at the University /classes conducted using online learning methods and techniques			
Prerequisites	the student knows the basics of applying 2D and the basics of 3D design			
Department	Faculty of Mechanical Engineering			
Coordinator	Professor Wojciech Żurowski			
The website of the basic organizational unit	www.wm.uniwersytetradom.pl			
E-mail address, phone number of the coordinator	wojciech.zurowski@uthrad.pl, phone: 48 3617615			

**LEARNING OUTCOMES, CURRICULUM CONTENT, TEACHING CLASSES, VERIFICATION OF LEARNING OUTCOMES**

Learning Objective:	The purpose of classes is to deepen information in the field of computer-aided design and CAD the purpose of training is to increase the competencies necessary to apply computer-aided design methods to solve engineering issues the purpose of laboratory exercises is to effectively use computer-aided design systems to solve engineering issues
Curriculum Content:	The content of classes is related to the conducted scientific research. <b>Labs:</b> Expand messages about techniques and best practices for creating individual elements with complex geometries. Create complex assemblies with analysis of the kinematics system, FEM calculation methods, and data exchange and import from other 3D systems. The classes will use Solid Works, and Autodesk Inventor systems
Didactic (educational) methods:	Computer classes
Course assessment type, the criteria for assessing the achieved learning outcomes, and the method of calculating the final grade:	The subject enrolled on the basis of the assessment from the final colloquium, as well as the sum of points from partial individual classes during laboratory classes

Learning outcomes for the course in relation to the field of study learning outcomes and the type of classes				Methods of verifying learning outcomes	
Learning outcome number	Description of the learning outcomes for the course (PEU) A student who has passed the course ( <b>W</b> ) knows and understands / ( <b>U</b> ) can / ( <b>K</b> ) is ready to:	Field of study learning outcome (KEU)	Types of classes	Form of verification (credits)	Methods of testing and assessment
W1	a flat parametric	model of the learning process. K_wg04 K_WG11	Laboratories	Colloquium Laboratory	task correctness
W2	has knowledge in creating technical documentation for parts and assembly and assembly documentation for assembly	K_wg04 K_WG11 colloquium	Laboratory	Colloquium	task correctness
U1	can design simple assemblies, can use a library of standardized elements, and can perform assembly motion analysis	K_uw05 K_uw14 Colloquium	Laboratory	Colloquium	correct execution
U2	can design parts and assemblies using calculators and wizards available from CAD	systems K_UW05	Laboratories	K_UW14 Colloquium laboratory	correct execution of the task

Literature and teaching aids
<ol style="list-style-type: none"> <li>1. Mirosław Babiuch: SolidWorks 2006 w praktyce, Gliwice, Helion 2007</li> <li>2. Zaawansowane Modelowanie Części - Podręcznik szkoleniowy SolidWorks 2007, Solid Works Corporation</li> <li>3. Zaawansowane Modelowanie Złożeń - Podręcznik szkoleniowy SolidWorks 2007, Solid Works Corporation</li> <li>4. SolidWorks Rysunki - Podręcznik szkoleniowy SolidWorks 2007, Solid Works Corporation</li> <li>5. Zaawansowane tematy SolidWorks - Podręcznik szkoleniowy SolidWorks 2009, Solid Works Corporation</li> <li>6. Stasiak Fabian - Inventor. Ćwiczenia praktyczne, Helion 10/2002</li> <li>7. Stasiak Fabian - Autodesk Inventor 11 Zbiór ćwiczeń, ExpertBooks 2006</li> <li>8. Andrzej Jaskulski - Autodesk Inventor 2011PL/2011 Metodyka projektowania, Wydawnictwo Naukowe PWN 2011</li> <li>9. Andrzej Jaskulski - Autodesk Inventor Professional / Fusion 2012PL/2012+ Metodyka projektowania, Wydawnictwo Naukowe PWN 2012</li> <li>10. Paweł Maciąg - Autodesk Inventor ćwiczenia, Politechnika Radomska, Wydawnictwo 2008</li> </ol>

Student workload required to achieve the assumed learning outcomes –the balance of ECTS credits			
Attendance, participation	Student workload [h].		
	Other contact hours (IGK)	Student's self-study hours Classes without a teacher (ZBN)	Classes
Participation in ... lectures	X	X	X[h]
Participation in .... classes/laboratory classes	X	X	30[h]
Meeting with teachers during their duty hours	2 [h]	X	X
Preparation for lectures/classes/.... , Preparation for ... credit / exam	X	18 [h]	X
Total student workload	2 [h] / 0,1 ECTS	18 [h] / 0,7 ECTS	30[h] / 1,2 ECTS
ECTS credits for the course	50 [h] / 2 ECTS		

Additional information, comments
<p>In the case of students with special needs, including disabilities, and chronic illnesses, the methods and forms of verification of learning outcomes specified above (in the syllabus) are adapted to the individual needs of these students, as appropriate.</p> <p>Detailed rules and forms of support for students with special needs, including those with disabilities and chronically ill, during classes, credits, and exams are specified in: University Regulations (Regulamin Studiów Uniwersytetu Technologiczno-Humanistycznego w Radomiu), Study Regulations (Zasady Studiowania), and Procedure for Ensuring Accessibility of the Educational Process to Students with Special Needs, Including Those with Disabilities and Chronically ill (Procedura dotycząca zapewnienia dostępności procesu kształcenia studentom ze szczególnymi potrzebami, w tym: z niepełnosprawnością, przewlekłymi chorobami).</p>

