



POLYTECHNIC OF MEĐIMURJE IN ČAKOVEC

COURSE SYLLABUS

ACADEMIC YEAR: 2020/2021

1. GENERAL COURSE INFORMATION

1.1 Course name	BUILDING CONSTRUCTION			
1.2 Study program/s	Undergraduate professional study Sustainable Development			
1.3 Course status (O,E)	Required	1.6 Mode of instruction (number of hours)	Lectures	30
1.4 Course code	4017		Exercises	45
1.5 Course abbreviation	ZGRAD		Seminars	
1.6 Semester	III		E-learning	
1.7 ECTS	6	1.7 Place and time of instruction	Premises of Polytechnic of Međimurje in Čakovec, according to the schedule published on the website	

2. TEACHING STAFF

2.1 Course leader/s-title	Jasmina Ovčar, mag.ing.arh.i urb. senior lecturer	contact	jovcar@mev.hr
		contact	
2.2 Assistant/s- title		contact	
		contact	
2.3 Instruction held by-title		contact	

3. COURSE DESCRIPTION

3.1 Course goals	<p>Finally, the student must independently (with consultations and corrections) draw up a snapshot of the existing situation (project 1) and the conceptual design of the residential house 100 to 200 gross m² (project 2), in order to complete the acquired knowledge with his own creative freedom and architectural expression.</p> <p>Preparation of documentation projects is realized through work in bim system on exercises of this coelegia, and the skills of students were mastered in the 2nd semester through the course CONSTRUCTION MODELLING</p>
3.2 Prerequisites	<p>For joining the zgr course, the technical drawing course (semester I) and CONSTRUCTION MODELLING (semester II) and the acquired ability to use the graphic program for computer technical drawing (autoCad, archiCad, using BIM technology) are required.</p> <p>The condition for taking the exam in the course ZGR is passed the exam TECHNICAL DRAWING-OG,EI (semester I) and CONSTRUCTION MODELLING-OG,EI (semester II).</p>
3.3 Course outcomes	<p>After successfully mastering the course, students will be able to:</p> <p>I1 – recognize and know how to develop a constructive scheme and parts of a building (foundations, load-bearing walls, serklaži, columns, beams, roofing, roof) / R 6 I2 – calculate and analyse thermal losses of external walls of the building / R 4 I3 – evaluate, recommend and present the use of certain materials according to the specific requirements of the building and according to the positions in the building / R 5</p>

	<p>14 – create an architectural solution respecting the rules and recommendations for function, construction and aesthetics / R 6</p> <p>15 – on the basis of the created conceptual design create and design and computer plan the conceptual design with all components / R 6</p> <p>16 – present your architectural conceptual design and argue its acceptability / R 6</p>																																																																	
3.4 Course content	<p>The student must familiarize himself with the basics of architect's constructions, recognize wearables from non-supporting elements of the building, know building materials, modular coordination system, basics of building physics. In the field of architectural design, the student must familiarize himself with the types of buildings, and focus on the rules and instructions for designing residential buildings. Knowledge of architectural structures must be used accurately and precisely in the work of architectural design tasks.</p>																																																																	
X3.5 Types of coursework	X	Lectures	X	Exercises		Blended e-learning	X	Individual activities		Laboratory																																																								
		Seminars and workshops		Distant learning	X	Field classes		Multimedia and network		Mentorship																																																								
		Other																																																																
3.6 Language of instruction	Croatian/English																																																																	
3.7 Monitoring students' work (enter the number of ECTS credits for each activity so that the total number of ECTS credits is equal to the total ECTS value of the course, 1 ECTS = 30 hours)	2,5	Class attendance				Seminars			Essay																																																									
	0,5	Class activity		1	Project			Report/paper																																																										
		Midterm exams				Practical task			Continuous knowledge check																																																									
	1,0	Written exam				Experimental work																																																												
	1,0	Oral exam				Research																																																												
3.8 Assessment and evaluation of students' work during classes and at the final exam	<table border="1"> <thead> <tr> <th>Activity specification</th> <th>Percent %</th> <th>Points</th> </tr> </thead> <tbody> <tr> <td colspan="3" style="text-align: center;">Assessment during instruction</td> </tr> <tr> <td>Attendance</td> <td>5%</td> <td>5</td> </tr> <tr> <td>Class activity</td> <td>5%</td> <td>5</td> </tr> <tr> <td>Project 1</td> <td>20%</td> <td>20</td> </tr> <tr> <td>Project 2</td> <td>20%</td> <td>20</td> </tr> <tr> <td colspan="3" style="text-align: center;"><i>Exam assessment for the students who failed to fulfil all the obligatory requirements during the semester</i></td> </tr> <tr> <td>Written exam</td> <td>20%</td> <td>20</td> </tr> <tr> <td>Oral exam</td> <td>30%</td> <td>30</td> </tr> <tr> <td>Total:</td> <td>100%</td> <td>100</td> </tr> </tbody> </table>										Activity specification	Percent %	Points	Assessment during instruction			Attendance	5%	5	Class activity	5%	5	Project 1	20%	20	Project 2	20%	20	<i>Exam assessment for the students who failed to fulfil all the obligatory requirements during the semester</i>			Written exam	20%	20	Oral exam	30%	30	Total:	100%	100																										
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Outcome 6			15	15		30																																																												

	Outcome not-related	5	10				15
	Total	5	10	35	35	15	100
	Grading of outcomes (in order to pass the mid-term exam/exam the student must achieve more than 60% points for each learning outcome)						
	Points	Grade					
	91 – 100	excellent (5)					
	81 – 90	very good (4)					
	71 – 80	good (3)					
	61 – 70	pass (2)					
	0 – 60	fail (1)					
3.10 Specific features related with taking the course	Through lectures and exercises, students receive enough knowledge to create 2 independent tasks (at home, with regular corrections at exercises and regular consultations). A satisfactory level of elaboration of both projects is a prerequisite for a certificate of completion of the course and for taking the written exam.						
3.11 Students obligations	Full-time students are required to attend at least 70% of the total number of hours of lectures and exercises in order to exercise the right to take the exam. Part-time students are required to attend at least 30% of the total number of hours of lectures and exercises in order to exercise the right to take the exam. If the student has not fulfilled all the obligations provided for in the course, he/she is obliged to attend lectures again and meet the requirements for taking the exam. Incomingness can be compensated by online consultations, organized webinars and added tasks set by teachers. One class lasts 45 minutes, and more hours make up the unit. Absence from one unit counts as one absence. Delays and notes are recorded separately. In this case, the student has been absent with more than 50% of the lessons, and has a legitimate reason/apology, the application should be submitted to the Department Council, which then decides on the justification of student absences with the obligatory opinion of the holder of the course.						
3.12 Written assignments	1) a snapshot of the existing state of the house's own living space (project 1) 2) conceptual design of a residential house 100 to 200 gross m ² (project 2)						
3.13 Required reading	1.	Lj.Biondić: Uvod u projektiranje stambenih zgrada, Arhitektonski fakultet Sveučilišta u Zagreb, Zagreb,2011.					
	2.	A.Mohorovičić: Graditeljstvo u Hrvatskoj – arhitektura i urbanizam, Zagreb, Školska knjiga, 1992.					
	3.	Z.Vrkljan, I.Kordiš: Opreme građevinskih nacrti, Fakultet građevinskih znanosti Zagreb, 1982.					
	4.	G.Knežević, I.Kordiš: Stambene i javne zgrade(V izdanje) Tehnička knjiga, Zagreb, 1981.					
	5.	Đ.Peulić: Konstruktivni elementi zgrada I i II, Tehnička knjiga, Zagreb, 1980.					
3.14 Additional reading	1.	V.Simović: Leksikon građevinarstva, Zagreb, MAS medija, 2002.					
	2.	Z.Pađen: Arhitektura i druge umjetnosti, Zagreb, Školska knjiga, 2009.					
	3.	W.Muller, G.Vogel: Atlas arhitekture I i II, Institut građevinarstva Hrvatske, Zagreb, 1997.					
	4.	G.Knežević: Višestambene zgrade, Tehnička knjiga, Zagreb, 1986.					
	5.	V.Šimetin: Građevinska fizika, skripta, Građevinski institut, Zagreb, 1983.					
4 ADDITIONAL COURSE INFORMATION							
4.1 Quality control	The quality of the program, teaching process, teaching skills and level of mastery of the material will be established by conducting a written evaluation						

	based on questionnaires, and in other standardised ways and in accordance with the by-laws of the Polytechnic of Međimurje in Čakovec.
4.2 Contact the teacher	Students can contact the teacher during the office hours and during classes, while for short questions and explanations they can contact him/her any day during working hours by coming in person or by landline. It is also possible to ask questions by e-mail, which will be answered in 48 hours at the latest. It is desirable for students to come as often as possible for any possible questions during the teacher's office hours.
4.3 Information about the course	It is the obligation of each student to be regularly informed about the course. All notifications about the classes or possible postponement of classes will be posted on the bulletin board and on the website of the Polytechnic at least 24 hours in advance.
4.4 Course contribution to the study program	<p>GENERIC LEARNING OUTCOMES</p> <p>I1 - Interpret information, ideas, problems and solutions to professional and general audiences</p> <p>I2 - Use new technologies and techniques as part of the lifelong learning process</p> <p>I3 - Use foreign languages in professional communication and use of professional literature</p> <p>I4 - Represent an ethical approach in work and according to project team associates</p> <p>I5 - Critically judge arguments, assumptions and data in order to create opinions and adhesion troubleshooting</p> <p>SPECIFIC LEARNING OUTCOMES</p> <p>I6 - Solve engineering problems of sustainable development using mathematics, physics, chemistry and biology</p> <p>I7 - Analyse collected data in the field of sustainable development</p> <p>I8 - Interdisciplinary to solve engineering problems of sustainable development</p> <p>I9 - Plan the circular economy in accordance with the legal framework in the Republic of Croatia</p> <p>I10 - Interpret European Union legislation on sustainable development</p> <p>I17 - Create an architectural and urban solution using basic principles of designing low-energy buildings using modern computer systems</p> <p>I18 - Perform an energy audit and create an energy card, energy renovation and griffiff of the building</p> <p>I21 - Propose selection of environmentally friendly materials in sustainable construction</p>