

## FACULTY OF ENGINEERING STUDY COURSE DESCRIPTION

<b>Course Title:</b>	<b>Principles of Building Design II</b>			
<b>Course code (LAIS):</b>	<i>The course will be registered in the study administration system after accreditation</i>			
<b>Study programme:</b>	<b>Construction of sustainable buildings</b>			
<b>Level of Study programme:</b>	<input checked="" type="checkbox"/>	1st level professional higher education		
	<input type="checkbox"/>	Professional Bachelor		
	<input type="checkbox"/>	Professional Master		
	<input type="checkbox"/>	PhD level		
<b>Type of Study programme:</b>	<input type="checkbox"/>	Compulsory course (Part A)		
	<input checked="" type="checkbox"/>	Professional specialization courses (Part B, compulsory)		
	<input type="checkbox"/>	Professional specialization optional courses (Part B, optional)		
	<input type="checkbox"/>	Elective courses (Part C)		
<b>Course Workload:</b>	<b>ECTS</b>	<b>Academic hours</b>	<b>Contact hours</b>	<b>Independent work hours</b>
	3	75	30	45
<b>Course Author/ Tutor:</b>	<b>Marija Katrīna Dambe</b>			
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	Consultations: according to the consultation schedule for each semester			
<b>Course Form:</b>	Full time			
<b>Study year, semester:</b>	3 <sup>rd</sup> year 5 <sup>th</sup> semester			
<b>Language:</b>	Latvian, english			
<b>Prerequisites for the Course:</b>	Principles of Building Design I			
<b>Course Summary:</b>	The goal of the course is to help students identify and apply the design principles of sustainable buildings, as well as to provide comments and suggestions for ensuring the compliance of the object with the chosen principles of sustainability			
<b>The Type of Final examination</b>	Examination			
<b>Requirements for Credits:</b>	<p>Study assignment evaluation (<i>makes up 30 % of the final grade, 3 study assignments</i>);  Homework evaluation (<i>makes up 30 % of the final grade</i>);  A positive result (<i>as minimum – grade 4</i>) for the written examination (<i>makes up 40 % of the final grade</i>);  Study assignments and homework will be evaluated using a 10-grade scale, taking into account the following criteria:</p> <ul style="list-style-type: none"> <li>– <i>with distinction (10) – knowledge, skills and competence exceed the requirements set for the study course;</i></li> <li>– <i>excellent (9) – knowledge, skills and competence fully comply with the requirements set for the study course;</i></li> <li>– <i>very good (8) – the requirements set for the study course are fully met, however, understanding of some issues is not deep enough to apply the knowledge independently in solving more complex problems;</i></li> <li>– <i>good (7) – the requirements set for the study course are generally met, however, there is sometimes inability to apply the knowledge acquired independently;</i></li> <li>– <i>almost good (6) – the requirements set for the study course are met, however, at the same time understanding of the problem is not deep enough and there is inability to apply the knowledge acquired;</i></li> <li>– <i>satisfactory (5) – the requirements set for the study course are generally met, however, there is insufficient knowledge of some problems and inability to apply the knowledge acquired;</i></li> <li>– <i>almost satisfactory (4) – the requirements set for the study course are generally met, however, understanding of some basic concepts is insufficient and there are significant difficulties in applying the knowledge acquired;</i></li> <li>– <i>poor (3) – knowledge is superficial and incomplete, a student is not able to apply it in specific situations;</i></li> <li>– <i>very poor (2) – there is superficial knowledge only about certain problems, most of study course requirements are not met;</i></li> <li>– <i>very, very poor (1) – there is no understanding of the basic issues of study</i></li> </ul>			

	<p><i>course, there is almost no knowledge of the topics covered in this course.</i></p> <p>Results of the examination will be evaluated using a 10-grade scale. The examination will be passed if a student has answered 50 % of the questions correctly.</p>	
<b>Abiding by the Academic Ethics</b>	<p>Students must abide by the academic and research ethics, Vidzeme University of Applied Sciences Ethics Regulations, incl.:</p> <ul style="list-style-type: none"> <li>– study papers must be independently developed;</li> <li>– the study work should reference all statements, ideas and data used that have been authored by someone else;</li> <li>– appropriate data acquisition methods should be used in the acquisition of data, the research ethics must be respected, empirical data must be collected independently and cannot be distorted or falsified;</li> <li>– the examination must be carried out by the student independently, without the use of supporting materials and/or consultations with other students, unless the lecturer states otherwise.</li> </ul> <p>In the event of non-compliance with the academic and research ethics, punishment is imposed in accordance with the ViA Ethics Regulations and the study course must be re-taken, unless the punishment is extramarital</p>	
<b>Learning Outcomes</b>	<b>Learning Outcomes</b>	<b>The evaluation methods and criteria</b>
	<b>Knowledge</b>	
	Students have in-depth knowledge of the basic principles of sustainable building design.	Engagement in lectures, independent work, examination
	<b>Skills</b>	
	Ability to adjust, supplement building designs to meet the principles of sustainability.	Engagement in lectures, independent work, examination
	Ability to understand the impact of materials on building emissions, to apply the principles of circular economy and to perform the basic life cycle calculations.	Engagement in lectures, independent work, examination
<b>Competency</b>		
Students can independently work on a sustainable building design, make adjustments and provide recommendations for increasing sustainability of the building.	Engagement in lectures, independent work, examination	
<b>Course Compulsory literature:</b>	<ol style="list-style-type: none"> <li>1. Building code and effective standards;</li> <li>2. UN Sustainable Development Goals;</li> <li>3. Bokalders, Varis, 1944-. Ekoloģiskās būvniecības rokasgrāmata: kā projektēt veselīgas, racionālas un ilgspeļņīgas ēkas / Varis Bokalders, Marija Bloka; [no angļu valodas tulkoja Santa Andersone, Jānis Kiršteins, Ronalds Krūmiņš]. - Rīga : Domas spēks, c2013 (Jelgavas tipogrāfija). ISBN 9789984996196;</li> <li>4. Blumberga Andra. Ēku energoefektivitāte: vakar, šodien, rīt: zinātniskā monogrāfija / Andras Blumbergas redakcijā; autori: Dr.sc.ing. Andra Blumberga, Dr.hab.sc.ing. Dagnija Blumberga, Mg.sc.ing. Edīte Biseniece, Dr.sc.ing. Agris Kamenders, Mg.sc.ing. Kristaps Kašs [un vēl 2 autori]; recenzenti: Dr.sc.ing. Anna Volkova, Dr.sc.ing. Ritvars Sudārs; literārā redaktore Inga Ivanova; vāka dizains: Paula Lore; Rīgas Tehniskā universitāte. Enerģētikas un elektrotehnikas fakultāte. Vides aizsardzības un siltuma sistēmu institūts. - Rīga: RTU Izdevniecība, 2017. ISBN 9789934109386;</li> </ol>	
<b>Course additional literature:</b>	<ol style="list-style-type: none"> <li>1. Anne Grete Hestnes, Nancy Lea Eik-Nes Zero emission buildings. Fagbokforlaget, 2017;</li> <li>2. IPCC ziņojumi</li> <li>3. Annette Hillebrandt, Petra Riegler-Floors, Anja Rosen, Johanna-Katharina Seggewies. Manual of Recycling: Buildings as sources of materials. Detail, 2019</li> </ol>	
Course approval date:	10.12.2022	
Course last revision date:	05.11.2024	

**Study Course Plan:**

Date	Topic	Number of academic hours		Study form / Description of the organization and tasks of students'
		Contact	Independent	

		<b>hours</b>	<b>work hours</b>	<b>independent work</b>
<i>The date is specified before the course is taught</i>	Introduction to the context of architecture, location, suitability of selected methods and solutions.	3	5	Lecture, independent work
	Calculations of the full life cycles of the buildings. Examples of simplified calculations that affect emissions, related architectural solutions and problems.	4	5	Seminar, independent work
	Principles of the circular economy in detail. Material compounds, reuse, recycling. Solutions, problems and legal framework.	4	5	Seminar, independent work
	Circular economy in theory and reality. The main problems and solutions.	4	4	Field-trip to the construction waste sorting site
	Building material passports, examples and preparation.	4	6	Seminar, independent work
	An overview of planning documents and strategic documents in the field of building construction and sustainability that will affect the industry in the coming years.	3	4	Seminar, independent work
	Building design analysis, adjustment, selection, request of missing solutions.	4	6	Seminar, independent work
	Presentation of independent work – report.	4	10	Seminar
	<i>Total number of hours:</i>	<b>30</b>	<b>45</b>	

\* *The date is specified before the implementation of the course*