

**FACULTY OF ENGINEERING
STUDY COURSE DESCRIPTION**

Course title:	Principles of Building Design I					
Course code (LAIS):						
Study programme:	Construction of sustainable buildings					
Level of the study programme:	<input checked="" type="checkbox"/>	1 st level professional higher education				
	<input type="checkbox"/>	Professional Bachelor				
	<input type="checkbox"/>	Professional Master				
	<input type="checkbox"/>	Academic Master				
	<input type="checkbox"/>	PhD level				
Type of the study programme:	<input type="checkbox"/>	Mandatory course (Part A)				
	<input checked="" type="checkbox"/>	Professional specialization courses (Part B, mandatory)				
	<input type="checkbox"/>	Professional specialization limited elective courses (Part B, limited elective)				
Course workload:	<input type="checkbox"/>	Elective courses (Part C)				
		Credits	ECTS	Academic hours	Contact hours	Independent work hours
		2	3	80	32	48
Lecturer:	Marija Katrīna Dambe					
	Guest lecturer, Mag. Sc.in Sustainable Architecture					
	marijakatrina.dambe@va.lv					
	Consultations: according to the consultation schedule for each semester					
Study form:	Full time studies					
Study year, semester:	1 st year 2 nd semester					
Language of tuition:	Latvian					
Prerequisites for the course: <i>(if any)</i>	-					
Course summary:	<p>The goal of the course is to provide students with the knowledge of the basic principles of designing and graphic representation of sustainable buildings, to develop skills of reading drawings not only in terms of technical solutions, but also in terms of principles of sustainability to which they are related. Students are required to write a report (15-20 pages) during their independent work on a previously selected topic-building which is approved by the lecturer, as well as to prepare a presentation of 5-10 minutes to inform the audience and the lecturer of the goal, tasks, main part, conclusions of the report. After the presentation, the lecturer and the audience ask questions about the topic of the report.</p>					
Form of the final examination:	Examination					
Requirements for obtaining credits and criteria for evaluation of learning outcomes:	<p>Requirements for the course: Active participation in lectures and seminars (<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>);</p> <p>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"> - <i>with distinction (10) – knowledge, skills and competence exceed the requirements set for the study course;</i> - <i>excellent (9) – knowledge, skills and competence fully comply with the requirements set for the study course;</i> - <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> - <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> - <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> - <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> - <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> - <i>poor (3) – knowledge is superficial and incomplete, a student is not able to apply it in</i> 					

	<p><i>specific situations;</i></p> <ul style="list-style-type: none"> - <i>very poor (2) – there is superficial knowledge only about certain problems, most of study course requirements are not met;</i> - <i>very, very poor (1) – there is no understanding of the basic issues of study course, there is almost no knowledge of the topics covered in this course.</i> 	
Adherence to academic ethics	<p>Students must adhere to academic and research ethics, the Regulations of Ethics of Vidzeme University of Applied Sciences, incl.:</p> <ul style="list-style-type: none"> - study projects must be developed independently; - study projects must contain references to all statements, ideas and data of other authors; - appropriate data collection methods should be used in data collection, research ethics must be adhered to, empirical data should be collected independently and may not be distorted or falsified; - an examination must be taken by a student independently, without the use of aids and consulting other students, unless the lecturer states otherwise. <p>In the event of non-compliance with academic and research ethics, a penalty is imposed in accordance with ViA Regulations of Ethics and the study course must be retaken, unless the penalty is exmatriculation.</p>	
Learning outcomes and evaluation methods:	Learning outcomes	Methods of evaluation of learning outcomes
	Knowledge	
	Students have acquired the basic principles of sustainable building design.	Engagement in lectures, independent work, examination
	Skills	
	Ability to read, edit and comment on building projects.	Engagement in lectures, independent work, examination
	Ability to understand the life cycle of a building, its components and impact on the next steps of the life cycle, the principles of circular economy in architecture, ability to identify applicable strategies and problems.	Engagement in lectures, independent work, examination
	Ability to understand passive and active building design methods.	Engagement in lectures, independent work, examination
Competence		
Ability to independently recognize and apply sustainability concepts in the building designs.	Engagement in lectures, independent work, examination	
Mandatory literature:	<ol style="list-style-type: none"> 1. Building code and effective standards; 2. UN Sustainable Development Goals; 3. Bokalders, Varis, 1944-. Ekoloģiskās būvniecības rokasgrāmata : kā projektēt veselīgas, racionālas un ilgtspējīgas ēkas / Varis Bokalders, Marija Bloka ; [no angļu valodas tulkoja Santa Andersone, Jānis Kiršteins, Ronalds Krūmiņš]. - Rīga : Domas spēks, c2013 (Jelgavas tipogrāfija). ISBN 9789984996196; 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; 	
Supplementary literature and other sources of information:	<ol style="list-style-type: none"> 1. Anne Grete Hestnes, Nancy Lea Eik-Nes Zero emission buildings. Fagbokforlaget, 2017; 2. IPCC ziņojumi 3. Annette Hillebrandt, Petra Riegler-Floors, Anja Rosen, Johanna-Katharina Seggewies. Manual of Recycling: Buildings as sources of materials. Detail, 2019 	
Date of approval of the course description:	10.02.2022.	
Date of updating the course description:	-	

Study course plan:

Date	Topic	Number of academic hours		Study form / Description of the organization and tasks of students' independent work
		Contact hours	Independent work hours	
<i>The date is specified before the course is taught</i>	Introduction to sustainable architecture, its history and modern sustainable architecture, its main problems, misunderstandings and future strategies.	3		Lecture
	Introduction to building design and drawings. Sketches, drawings, architectural solutions of the building design. Designations, graphic elements, formatting.	4	4	Lecture, independent work
	Building design, continued. Building components, 3D, plans, cross-sections and other visual representation.	4	4	Lecture, independent work
	Passive and active methods in designing sustainable buildings and related architectural solutions.	3	6	Lecture, independent work
	Circular economy in architecture, applied architectural methods and principles (DfD, adaptability of buildings, etc.); Life cycle of buildings, its components, reduction of emissions and applied architectural methods and principles.	4	6	Lecture, independent work
	Examples of sustainable building designs. Design analysis, comments, justification of the chosen methods, main problems.	4	8	Seminar, independent work
	Sustainable building design. Design analysis, comments, justification of the chosen methods.	6	4	Field-trip to a selected object on site
	Presentation of students' independent work – reports.	4	16	Seminar
	<i>Total number of hours:</i>	32	48	