VIDZEMES AUGSTSKOLA

FACULTY OF ENGINEERING
STUDY COURSE DESCRIPTION

Course Title:	**Principles of Building Design I**				
Course code (LAIS):	*The course will be registered in the study administration system after accreditation*				
Study programme:	**Construction of sustainable buildings**				
Level of Study programme:	☒	1st level professional higher education			
	☐	Professional Bachelor			
	☐	Professional Master			
	☐	PhD level			
Type of Study programme:	☐	Compulsory course (Part A)			
	☒	Professional specialization courses (Part B, compulsory)			
	☐	Professional specialization optional courses (Part B, optional)			
	☐	Elective courses (Part C)			
Course Workload:	**ECTS**		**Academic hours**	**Contact hours**	**Independent work hours**
	3		75	30	45
Course Author/ Tutor:	**Marija Katrīna Dambe**				
	Guest lecturer, Mag. Sc.in Sustainable Architecture				
	marijakatrina.dambe@va.lv				
	Consultations: according to the consultation schedule for each semester				
Course Form:	Full time				
Study year, semester:	1st year 2nd semester				
Language:	Latvian, english				
Prerequisites for the Course:	-				
Course Summary:	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.				
The Type of Final examination	Examination				
Requirements for Credits:	1. Requirements for the course: 2. Active participation in lectures and seminars *(makes up 30 % of the final grade, 3 study assignments);* 3. Homework evaluation *(makes up 30 % of the final grade)*; 4. A positive result *(as minimum – grade 4)* for the written examination *(makes up 40 % of the final grade);*				
Abiding by the Academic Ethics	Students must abide by the academic and research ethics, Vidzeme University of Applied Sciences Ethics Regulations, incl.: – study papers must be independently developed; – the study work should reference all statements, ideas and data used that have been authored by someone else; – 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; – 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. 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				

Learning Outcomes	**Learning Outcomes**	**The evaluation methods and criteria**
	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
	Competency	
	Ability to independently recognize and apply sustainability concepts in the building designs.	Engagement in lectures, independent work, examination
Course Compulsory literature:	1. Building code and effective standards; 2. UN Sustainable Development Goals; 3. Bokalders, Varis, 1944-. Ekoloģiskās būvniecības rokasgrāmata : kā projektēt veselīgas, racionālas un ilgspējīgas 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;	
Course additional literature:	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	
Course approval date:	10.02.2022	
Course last revision date:	19.02.2025	

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	
The date is specified before the course is taught	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,	4	6	Lecture, independent work

	reduction of emissions and applied architectural methods and principles.			
	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.	4	4	Field-trip to a selected object on site
	Presentation of students' independent work – reports.	4	13	Seminar
	Total number of hours:	*30*	*45*	

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