Faculty of Civil Engineering / MANAGEMENT IN CIVIL ENGINEERING / ELEMENTS OF BUILDINGS

Course:	ELEMENTS OF BUILDINGS			
Course ID	**Course status**	**Semester**	**ECTS credits**	**Lessons** (Lessons+Exercises+Laboratory)
180	Mandatory	2	5	2+1+1
Programs	MANAGEMENT IN CIVIL ENGINEERING			
Prerequisites				
Aims				
Learning outcomes				
Lecturer / Teaching assistant	Doc. dr Željka Radovanović - nastavnik, Mr Željka Beljkaš- saradnik			
Methodology				
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Introduction: term about the building, structural system, perform of project, methods of statements for building, modular coordination.			
I week exercises	Technical drawing: scale, dimensioning, principles of technical drawing, drawing section. Task - display the body in three projections.			
II week lectures	Foundations: basic types and properties of the soil, division of the foundation. Waterproofing: Isolation of ground moisture and ground water.			
II week exercises	Disposition plane of smaller residential building. Explanation of the task. Basic instructions for making The review of previous exercises.			
III week lectures	Massive structural system: classification of walls, masonry walls, reinforcement of walls, technology of construction. Masonry of brick walls: types of brick products, mortar for masonry, rules for the brick stacking. Chimneys and ventilation channels.			
III week exercises	Foundation of building: base of the foundation, characteristic details-foundations with display details of waterproofing.			
IV week lectures	Frame and mixed structural systems: base structural elements and transfer of forces through the structures, technology of construction. Partitions walls: external partitions walls and internal partitions walls, thermal properties of walls.			
IV week exercises	Base of the building and characteristics of cross section. Draw base plane of the building and cross sections and make positioning of the structural elements on them.			
V week lectures	Horizontal structural elements of the building: horizontal confined, beams and underscores of the ceiling (base types of the ceiling).			
V week exercises	Ceiling: On the base plane of building it is need to present the supporting of ceiling and characteristic details.			
VI week lectures	Floors and ceilings construction aspects of sound insulation Openings – doors and windows			
VI week exercises	Doors and windows: display in the layout, base plane and cross section.			
VII week lectures	FREE WEEK			
VII week exercises	FREE WEEK			
VIII week lectures	First test			
VIII week exercises	Visit the site at which the ongoing rough construction works			
IX week lectures	Vertical communication in the building - staircases, ramps and lifts. Elements of staircases. The forms of staircases. Calculation of stairs dimensions. Drawings of stairs.			
IX week exercises	Review of task.			
X week lectures	Vertical communication in the building - structures for support of staircase. RC staircases, wood staircase and movable staircases.			
X week exercises	Staircase: Drawing of the staircase in the base plane and in the characteristic cross section. Detail of tread.			

XI week lectures	Flat roofs: method of drainage, composition of the structure, edgings and penetrations.
XI week exercises	Flat roofs: Drawing of flat roof in the base plane and in the characteristic cross-sections. Details.
XII week lectures	Sloping roofs - roof structures: roofs resting on roof beams and roofs with corneal.
XII week exercises	Review of task.
XIII week lectures	Sloping roofs - roof structures: roof suspension, trusses roof beams. Covering of the roofs: roofs covers, drainage of roofs, water shoot.
XIII week exercises	Sloping roofs: Drawing of the staircase in the base plane and in the characteristic cross section. Details.
XIV week lectures	Finishing works on the buildings: tinsmithing works, cabinetwork, glazier works and locksmithing.
XIV week exercises	Final assessment and elaboration of study - final delivery term.
XV week lectures	Second test
XV week exercises	Visit the site at which the ongoing final works.
Student workload	

Per week	**Per semester**
5 credits x 40/30=6 hours and 40 minuts 2 sat(a) theoretical classes 1 sat(a) practical classes 1 excercises **2 hour(s) i 40 minuts** of independent work, including consultations	Classes and final exam: **6 hour(s) i 40 minuts x 16 =106 hour(s) i 40 minuts** Necessary preparation before the beginning of the semester (administration, registration, certification): **6 hour(s) i 40 minuts x 2 =13 hour(s) i 20 minuts** Total workload for the subject: **5 x 30=150 hour(s)** Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) **30 hour(s) i 0 minuts** Workload structure: **106 hour(s) i 40 minuts (cources), 13 hour(s) i 20 minuts (preparation), 30 hour(s) i 0 minuts (additional work)**
Student obligations	
Consultations	
Literature	Literatura: Prof. dr Božidar Đ. Milić: “Elementi i konstrukcije zgrada”, UCG Građevinski fakultet, Podgorica, 1999. Biljana Blagojević: “Građevinske konstrukcije“, Zavod za udžbenike i nastavna sredstva Beograd, 2000. Ranko Trbojević: “Arhitektonsk
Examination methods	
Special remarks	
Comment	

Grade:	F	E	D	C	B	A
Number of points	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points