

PART I (Senate Approval)							
Offering School	Antalya Bilim University-Faculty of Fine Arts and Architecture						
Offering Department	Architecture						
Program(s) Offered to	Architecture					Must	
Course Code	ARC 2405						
Course Name	Building Science 1						
Language of Instruction	English						
Type of Course	Theory&Practical						
Level of Course	Undergraduate						
Hours per Week	Lecture: 3	Laboratory:	Recitation:	Practical: 1	Studio:	Other:	
ECTS Credit	6						
Grading Mode	Letter Grade						
Pre-requisites	ARC 1404						
Co-requisites	None						
Registration Restriction	Students of Architecture can take the course						
Educational Objective	The course, in general, present technical representation based information and knowledge about not only traditional but also contemporary building materials, construction systems and technologies						
Course Description	The education on building materials and technologies are presented to the students with three modules. This course is the second module. Thus initial presentation of basic building material and technologies knowledge introduced in ARC 1402, has been elaborated with review of mechanical and structural behaviours, hierarchy of combinations of these materials as building components to support the solidification of abstract design ideas. Theoretical information provided to students are encouraged to be practiced and implemented in student in-class projects which are resulted in 1/20 scale or bigger scale 2 dimensional and 3 dimensional technical representations with computer aided design and drafting tools						
Learning Outcomes	LO1	Describing the building material usage areas presented in the course content					
	LO2	Learning the mechanical, physical and structural behaviour of the materials, systems and principles					
	LO3	Acquiring a building systems and components from foundation to roof and rough-work construction to fine-work constructions					
	LO4	Learning the protection of building materials and systems from potential hazards due to environmental factors					
	LO5	Synthesize of teoritical knowledge and design talents to establish a building and building systems					
PART II (Faculty Board Approval)							
Basic Outcomes (University-wide)		Program Outcomes	LO1	LO2	LO3	LO4	LO5
	PO1	Ability to communicate effectively and write and present a report in Turkish and English.	X				
	PO2	Ability to work individually, and in intra-disciplinary and multi-disciplinary teams.		X	X		X
	PO3	Recognition of the need for life-long learning and ability to access information , follow developments in science and technology, and continually reinvent oneself.	X	X	X	X	
	PO4	Knowledge of project management, risk management, innovation and change management, entrepreneurship, and sustainable development.					
	PO5	Awareness of sectors and ability to prepare a business plan.			X	X	
	PO6	Understanding of professional and ethical responsibility and demonstrating ethical behavior.					X
Faculty Specific Outcomes	PO7	Gain the ability of conceptualizing, applying, analyzing, synthesizing and evaluating information effectively (Critical Thinking)	X	X	X	X	X
	PO8	Produce innovative ideas and products with creativity (Creativeness).		X	X	X	X
	PO9	Gain the ability of leadership, entrepreneurship and self-leadership skills (Leadership and Entrepreneurship).					
	PO10	Care about the ethical values and principles; behave in accordance with these in professional and social life (Ethical Behavior).					
	PO11	Understand, define and reach the information that they need; use information effectively and share it with others (Information Literacy).					

	PO12	Use information effectively and communication technologies while learning, and can share their knowledge and experience with others using technology and visual means (Information and Communication Technology Literacy).					
Discipline Specific Outcomes (program)	PO13	Learns the concepts of architectural design and theories of architecture as well as the intellectual, historical and cultural background to evaluate them from a critical perspective and use them in developing design solutions. One can express one's solutions verbally and in written form. (Knowledge and Ability)					X
	PO14	Knows to express each stage of the design process formally by using hand drawings together with the European Computer Driving Licence and other software technologies. (Knowledge and Communication Competence)					
	PO15	Designing space (environment, construction, building) on different scales that are sensitive to the natural and built environment within the framework of basic design and architectural principles. One also knows research methods. (Knowledge and Ability)					
	PO16	Speak at least one foreign language at B1 General Level of European Language Portfolio to express oneself and to follow developments in the field of architecture. (Knowledge and Communication Competence)					
	PO17	Executes an independent project or to take responsibility in multidisciplinary studies, to communicate effectively and share knowledge and competency during the design process. (Competency to work independently and take responsibility)					
	PO18	To knowledge and understanding to analyze building design and systems regarding architectural practice (from prehistoric times to the present). (Knowledge)					
	PO19	Develops a design that respectable to cultural heritage and sustainable by recognizing historical and cultural assets and understanding the importance of these values. (Knowledge and Ability)					
	PO20	The necessary knowledge and ability about contemporary restoration theories and preparation of restoration project by using research, documentation and different measurement methods in the process of documenting the current state of historic buildings and environments. (Knowledge and Ability)					
	PO21	Produces sustainable solutions to current problems by following the developments and technologies in the field of production. (Ability)					
	PO22	Knows to develop designs about environmental and social sustainability principles, the issues related to disasters and accessible designs that meet community needs. (Knowledge and Ability)					
	PO23	Gains the ability to use modern technologies in building and environmental design, to develop and produce innovative solutions; learns necessary information about building materials, techniques and structural behaviors, the laws, regulations and standards and includes them in the design process. (Knowledge and Ability)					
	PO24	To gain the basic knowledge of lighting, acoustics, air conditioning and energy use in the design of environmental systems. (Knowledge)					
	PO25	Knows the historical development of structural systems, types of structural elements such as foundation, wall, flooring, stairs, roof, design, and construction techniques of these elements and applies this information in the projects. (Knowledge and Ability)					
	PO26	Has competence in project management, organization, planning, and leadership for the realization of professional practice and informs individuals and institutions on issues related to a field and shares one's suggestions for solutions to the experts or non-experts in verbally and written form. To produce collaborations and projects with the awareness of social responsibility (Competence to take responsibility and social and Ability)					

PO27	Aware of lifelong learning and identifying the necessary needs for professional development and self-development. (Learning Competence)					
PO28	Has an awareness of professional and ethical behavior; collects data considering social, environmental, and ethical results. One is responsible for the environment, the professional problems and provides professional services like occupational health and safety within the legal frameworks. (Field Specific Competence)					

PART III (Department Board Approval)

Course Subjects, Contribution of Course Subjects to Learning Outcomes, and Methods for Assessing Learning of Course Subjects	Subject	Week	Subject Explanation	LO1	LO2	LO3	LO4	LO5
	S1	1	Introduction	X	X	X	X	X
	S2	2	Introduction to Building Science	X	X	X	X	X
	S3	3	Structural Systems	X	X	X	X	X
	S4	4	Structural Systems	X	X	X	X	X
	S5	5	Floor Systems	X	X	X	X	X
	S6	6	External Wall System I	X	X	X	X	X
	S7	7	External Wall System II	X	X	X	X	X
	S8	8	Midterm	X	X	X	X	X
	S9	9	Roof Systems I	X	X	X	X	X
	S10	10	Roof Systems II	X	X	X	X	X
	S11	11	Stairs / Ramps	X	X	X	X	X
	S12	12	Stairs / Ramps	X	X	X	X	X
	S13	13	Stairs / Ramps	X	X	X	X	X
	S14	14	Studio Work	X	X	X	X	X

No	Type	Weight	Implementation Rule	Make-Up Rule
A1	Exam	30%	There will be one midterm exam. Midterm exam date will be determined during the semester.	A make-up exam will be provided if the student provides an acceptable legitimate document, according to the school regulation
A2	Quiz		-	-
A3	Homework			-
A4	Project	40%	The project will end with a system detail drawing and hard model delivery of a building project.	
A5	Report		-	
A6	Presentation		-	
A7	Attendance/Interaction			
A8	Class/Lab./Field Work	30%	The students will make project developments	
A9	Others			
TOTAL		100%		

Evidence of Achievement of Learning Outcomes Students will demonstrate learning outcomes through class activities, debates and project assignments. These activities reflect a transdisciplinary approach, asking the student to make connections between different topics. Generally every topic is tested with at least one exam question.

Method for Determining Letter Grade	Upon successful completion of all assessment methods, the total scores will be averaged and converted into a final letter grade using the following percentages and grading criteria.							
	ASSESSMENT METHOD	EFFECT ON GRADING	GRADE	MARKS	VALUE	GRADE	MARKS	VALUE
	Studio work	30%	A+	-		C+	60-64	2,40
	Midterm exam	30%	A	95-100	4,00	C	55-59	2,20
	Project development	40%	A-	85-94	3,70	C-	50-54	2,00
			B+	80-84	3,30	D+	45-49	1,70
		B	75-79	3,00	D	40-44	1,50	
		B-	65-74	2,70	F	0-39	0,00	

No	Method	Explanation	Hours
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Time applied by Instructor			
1	Lecture	Lecturing and utilizing whiteboard and slides. Sample questions and answers to strengthen learning. In class exams.	3 hours (12 weeks) =36 hrs
2	Interactive Lecture	Asking questions	2 hours (12 weeks) =24 hrs
3	Recitation		
4	Laboratory		
5	Practical	Studio Practices	
6	Field Work		
Time expected to be allocated by student			
7	Project	studio work at the lecture	5 hours (11 weeks) =55 hrs
8	Homework		
9	Pre-class Learning of Course Material		
10	Review of Course Material	midterm preparation	1 hours (14 weeks) =14 hrs
11	Studio	Final exam preparation	1 hours (12 weeks) =12 hrs
12	Office Hour	meetings	1 hours (8 weeks) =8 hrs
TOTAL			150 Hours
IV. PART			
Instructor	Name		
	E-mail		
	Phone Number		
	Office Number		
	Office Hours	6 hours (according to school semestres)	
Course Materials	Mandatory	Lecture Notes	
	Recommended	Chudley, R., Greeno, R., (2010) BUILDING CONSTRUCTION HANDBOOK, 8th edition, Published by Elsevier	
Other	Scholastic Honesty	Violations of scholastic honesty include, but are not limited to cheating, plagiarizing, fabricating information or citations, facilitating acts of dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. Any form of scholastic dishonesty is a serious academic violation and will result in a disciplinary action.	
	Students with Disabilities	Reasonable accommodations will be made for students with verifiable disabilities.	
	Safety Issues		
	Flexibility	Circumstances may arise during the course that prevents the instructor from fulfilling each and every component of this syllabus; therefore, the syllabus is subject to change. Students will be notified prior to any changes.	

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