



University/Academy: Arab Academy for Science, Technology & Maritime Transport
Faculty/Institute: College of Engineering & Technology
Program: B.Sc. Architectural Engineering and Environmental Design

Form no. (12): Course Specification

1- Course Data

Course Code: AR 252	Course Title: Building Technology 2	Academic Year/Level: 2nd year /4th semester
Specialization: Architecture	No. of Instructional Units Credit 3 Lecture 2 Tutorial 4	Prerequisite AR251

2- Course Aim

The course focuses on the relation between the used building materials and the related adequate construction systems. Students study the basic elements of a building (roofs, floors and walls) and are introduced to different materials (reinforced concrete, wood and steel) for both construction and finishing of these basic building elements.

The course aims to:

- Build students knowledge of the basic elements of a building (walls, floors and roofs) and enhance their understanding of different materials, methods of construction and finishing.

3- Intended Learning Outcomes

a- Knowledge and Understanding	Through knowledge and understanding, students will be able to: <ul style="list-style-type: none"> • Classify different concepts, methods and techniques of building construction processes and their installation. • Identify and articulate building technology problems. • Identify different materials of the main building elements & (roofs, floors and walls) the connection between them.
b- Intellectual Skills	Through intellectual skills, students will be able to: <ul style="list-style-type: none"> • Analyze the building elements and solve their structural problems. • Apply the knowledge working drawing, symbols, indications and details as well as properties of building materials. • Differentiate between construction and finishing materials. Select materials that are suitable for specific purposes.
c- Professional Skills	Through professional and practical skills, students will be able to: <ul style="list-style-type: none"> • Prepare and interpret technical drawings using manual drawing techniques.
d- General Skills	Through general and transferable skills, students will be able to: <ul style="list-style-type: none"> • Use traditional or modern materials and information technologies required for sound professional practice. • Discuss and present ideas in a professional way. • Express components of the basic elements of building and their different connections through detailed drawings. • Listen and critically respond to the views of others.

4- Course Content

Week No.1	Introduction & general review of Building Technology 1.
Week No.2	Roofing & Flooring Different materials and related construction systems (R.C., wood and steel).
Week No.3	R.C. Roofs (Slab & beam, Flat slab)
Week No.4	R.C. Roofs (Hollow Block slab)
Week No.5	R.C. Roofs (Waffle Slab and grid beam)
Week No.6	Steel Roofs (Horizontal and Pitched roof covering).
Week No.7	Continuation of the previous lecture and evaluation.
Week No.8	Wood Roofs (Horizontal and Pitched roof covering).
Week No.9	Presentation.
Week No.10	Floor finishing materials
Week No.11	Floor finishing materials
Week No.12	Continuation of the previous lecture and evaluation.
Week No.13	Walls: Materials, Types, Different components and different construction systems.
Week No.14	Presentation.
Week No.15	General Review.

5- Teaching and Learning Methods

The course comprises a combination of:
Lectures, site visits and class activities which include small supervised group projects, discussions, feedback on presentations and problem based exercises.

6-Teaching and Learning Methods for Students with Special Needs

- Consulting with lecturer during office hours.
- Consulting with teaching assistant during office hours.
- Private sessions for redelivering the lecture contents.
- For handicapped accessibility, please refer to program specification.

7- Student Assessment

Asses No.	Procedures used		Start Week No.	Subm. Week No.	Weighting of Asses.
	Type	To assess			
1	Discussion	All skills	2	2	5%
2	Research	All skills	3	3	5%
3	Problem-based exercise	Knowledge and intellectual skills Practical skills	3	4	5%
4	Problem-based exercise	Knowledge and intellectual skills Practical skills	4	5	5%
5	Problem-based exercise	Knowledge and intellectual skills Practical skills	5	6	5%
6	Problem-based exercise	Knowledge and intellectual skills Practical skills	6	7	5%
7	Drawing exam.	Knowledge and intellectual skills Practical skills	7	7	10%
8	Problem-based exercise	Practical skills.	8	9	5%
3	Problem-based exercise	Knowledge and intellectual skills Practical skills	3	4	5%
4	Problem-based exercise	Knowledge and intellectual skills Practical skills	4	5	5%
5	Problem-based exercise	Knowledge and intellectual skills Practical skills	5	6	5%
6	Problem-based exercise	Knowledge and intellectual skills Practical skills	6	7	5%
7	Drawing exam.	Knowledge and intellectual skills Practical skills	7	7	10%
8	Problem-based exercise	Practical skills.	8	9	5%
Total					100%

8- List of References:

a- Course Notes	Notes are handed out to the students throughout the semester.
b- Required Books (Textbooks)	<ul style="list-style-type: none"> • CHING, Francis D.K., <i>Building Construction Illustrated</i>. Van Nostrand Reinhold, 2009
c- Recommended Books	<ul style="list-style-type: none"> • ALLEN E., <i>Fundamentals of Building Construction, Materials and Methods</i>, NY: John Wiley & Sons, 1990. • BLANCA, <i>Internal Components</i>, Longman, 1994. • CHING, T., <i>Building Construction Illustrated- Second ED</i>.1991. • Hardy, Steve, <i>Time-Saver Details for Roof Design</i>, New York: McGraw-Hill, 1998. • Highfield, David, <i>Refurbishment and Upgrading of Building</i>, London: E & FN Spon,2000. • MCKAY W.B., <i>Building Construction (volume 1)</i>. Longman, 1963, 1970. • MOORE, Fuller, <i>Understanding Structures</i>, Boston: McGraw-Hill, 1999. • SEELY I.H., <i>Building Technology</i>, London: Macmillan, 1993. • SON, Lee & GEORGE, Yuen, <i>Building Maintenance Technology</i>, London: Lee How, 1993.
d- Periodicals, Web Sites, etc.	N/A