# Course Specification

## (Bachelor)

| | |
|---|---|
| **Course Title:** | Building Construction |
| **Course Code:** | COE3402 |
| **Program:** | Bachelor of Construction Engineering |
| **Department:** | Civil and Environmental Engineering Department |
| **College:** | College of Engineering and Computing in Al-Qunfudhah |
| **Institution:** | Umm Al-Qura University |
| **Version:** | 4th |
| **Last Revision Date:** | 14 January 2025 |

## Table of Contents

## A. General information about the course:

### 1. Course Identification

| | | | | | |
|---|---|---|---|---|---|
| **1. Credit hours: ( 3 )** | | | | | |
| **2. Course type** | | | | | |
| **A.** | ☐University | ☐College | Department | ☐Track | Others |
| **B.** | Required | | ☐Elective | | |
| **3. Level/year at which this course is offered: ( Level 6 / Year 3 )** | | | | | |
| **4. Course General Description:** | | | | | |
| Introduction to the different systems of the building construction and the basic components of the construction. Providing a general knowledge about the building types as per the Saudi Building Code and an understanding of the construction processes as well as the stages of construction process. | | | | | |
| **5. Pre-requirements for this course** (if any)**:** | | | | | |
| Construction Materials COE3302 | | | | | |
| **6. Co-requisites for this course** (if any)**:** | | | | | |
| | | | | | |
| **7. Course Main Objective(s):** | | | | | |
| By the end of the course, students should be able to: know the fundamentals of building structures, recognize the components of a typical residential house and use the correct terminology, understand different types of foundations, demonstrate knowledge of the Building Code and building control processes, analyze dewatering, analyze basics of building heat transfer, and describe and sketch building stairs. | | | | | |

### 2. Teaching mode (mark all that apply)

| No | Mode of Instruction | Contact Hours | Percentage |
|---|---|---|---|
| 1 | Traditional classroom | **3 credit hours** | **100%** |
| 2 | E-learning | | |
| 3 | Hybrid<br>• Traditional classroom<br>• E-learning | | |
| 4 | Distance learning | | |

### 3. Contact Hours (based on the academic semester)

| No | Activity | Contact Hours |
|---|---|---|
| 1. | Lectures | 45 |
| 2. | Laboratory/Studio | |
| 3. | Field | |
| 4. | Tutorial | |
| 5. | Others (specify) | |
| Total | | 45 |

## B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

| Code | Course Learning Outcomes | Code of PLOs aligned with the program | Teaching Strategies | Assessment Methods |
|---|---|---|---|---|
| 1.0 | Knowledge and understanding | | | |
| 1.1 | Know the fundamentals of building structures | K1 | Interactive learning Self-directed learning | Midterm Exam |
| 1.2 | Recognize the components of a typical residential house and use the correct terminology for these components | K2 | | Midterm Exam |
| 1.3 | Describe the construction of high-rise commercial buildings | K1 | | Final Exam |
| 2.0 | Skills | | | |
| 2.1 | Compare the various house styles and architectural features of SA homes and the types of the main buildings services contained within high rise buildings | S1 | Interactive learning Self-directed learning | Final Exam |
| 3.0 | Values, autonomy, and responsibility | | | |
| 3.1 | Demonstrate an understanding of the SA Building Code and building controls process | V1 | Interactive learning Self-directed learning | Assignment |

## C. Course Content

| No | List of Topics | Contact Hours |
|---|---|---|
| 1. | Introduction to building construction practice | 3 |
| 2. | Building components, structure types, loads and stresses | 6 |
| 3. | Earthworks & dewatering calculations | 6 |
| 4. | Foundations | 6 |
| 5. | Saudi Building Code (SBC) and Building types as per SBC | 3 |
| 6. | Midterm Exam | 3 |
| 7. | High-rise buildings and their services | 3 |
| 8. | Finishes & insulation | 3 |
| 9. | Heat transfer in buildings | 6 |
| 10. | Stairs | 6 |
| Total | | 45 |

## D. Students Assessment Activities

| No | Assessment Activities * | Assessment timing (in week no) | Percentage of Total Assessment Score |
|---|---|---|---|
| 1. | Quizzes | 4, 6, 12 | 15% |
| 2. | Homework | 3, 9, 13 | 15% |
| 3. | Midterm Exam | 8 | 30% |
| 4. | Final Exam | 16 or 17 | 40% |

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

## E. Learning Resources and Facilities

### 1. References and Learning Resources

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|---|---|
| Essential References | Allen, E. (2019), "Fundamentals of Building Construction: Materials and Methods", 5thed., New York: John Wiley & Sons. |
| Supportive References | Menday, G. (2007) Building heat transfer. Chichester: Wiley. |
| Electronic Materials | |
| Other Learning Materials | |

## 2. Required Facilities and equipment

| Items | Resources |
|---|---|
| **facilities** (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.) | **Classroom with minimum capacity of 30 students** |
| **Technology equipment** (projector, smart board, software) | **Projector, whiteboard** |
| **Other equipment** (depending on the nature of the specialty) | |

## F. Assessment of Course Quality

| Assessment Areas/Issues | Assessor | Assessment Methods |
|---|---|---|
| Effectiveness of teaching | Lecturer / Students | Direct / Indirect (Grades, surveys) |
| Effectiveness of Students assessment | Faculty | Indirect (Barriers to understand successor course) |
| Quality of learning resources | Lecturer | Direct (Grades) |
| The extent to which CLOs have been achieved | Lecturer / Faculty | Direct (Grades) |
| Other | | |

**Assessors** (Students, Faculty, Program Leaders, Peer Reviewers, Others (specify)

**Assessment Methods** (Direct, Indirect)

## G. Specification Approval

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| **COUNCIL /COMMITTEE** | **Civil and Environmental Engineering Department Council in Al-Qunfudah** |
| **REFERENCE NO.** | **The fifteenth session of the academic year 1446** |
| **DATE** | **01/05/2025** |