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| | Ministry of Higher Education and Scientific Research - Iraq<br><br>University of Warith Al-Anbiyaa<br>College of Engineering<br>Civil Engineering Department | |

# MODULE DESCRIPTION FORM

| Module Information | | | | | |
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| **Module Title** | BUILDING CONSTRUCTION | | **Module Delivery** | | |
| **Module Type** | CORE | | ☒ **Theory**<br>☒ **Lecture**<br>☒ **Lab**<br>☐ **Tutorial**<br>☐ **Practical**<br>☐ **Seminar** | | |
| **Module Code** | CIV042 | | | | |
| **ECTS Credits** | 5 | | | | |
| **SWL (hr/sem)** | 125 | | | | |
| **Module Level** | 2 | | **Semester of Delivery** | 2 | |
| **Administering Department** | Civil engineering | | **College** | Engineering | |
| **Module Leader** | Abdullah Nassir Jawad | | **e-mail** | abdullan97@uowa.edu.iq | |
| **Module Leader's Acad. Title** | Assistant Lecturer | | **Module Leader's Qualification** | Ms.C | |
| **Module Tutor** | | | **e-mail** | | |
| **Peer Reviewer Name** | | | **e-mail** | | |
| **Scientific Committee Approval Date** | 20/10/2024 | | **Version Number** | 1.0 | |

| Relation with other Modules | | | |
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| **Prerequisite module** | Construction Materials | **Semester** | 2 |
| **Co-requisites module** | Engineering Drawing By Auto CAD | **Semester** | 1 |

| Module Aims, Learning Outcomes and Indicative Contents | |
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| **Module Objectives** | Building Construction is an introduction to the techniques, materials, and structural systems used in the construction process of any Building. Building Construction classes will focus on the main components of the building and their connections. The classes of Building Construction course have two parts, the first part is Theoretical class where all the required information for the practical part will be provided, and the second part is Practical class where the students will be asked to design and draw in the Drawing studios what they have learned during the Theoretical class. Topics of this course include Components, Materials and Techniques used in Building Construction process which include (Masonry walls (Brick & Block), Floors and Slabs (Concrete and Reinforced Concrete), Opening (Doors and Windows), Finishing Materials, and Connection Techniques). During the Course the students will be asked to visit material stores and Construction sites to have a clear idea about the available materials and techniques in the Local Market. |
| **Module Learning Outcomes** | 1. Identify the concepts and principles associated with the building, environment and technology of simple construction and be able to evaluate and interpret them using sketches, drawings or in written form.<br>2. Describe building elements and components in specific situations; how, when and where they would be favored; and the construction sequence for simple buildings.<br>3. Evaluate the appropriateness of different approaches, materials and construction in simple construction in accordance with building, environment and technology theories and sustainability.<br>4. Communicate accurately and reliably on building, environment and technology issues for simple construction, using structured coherent arguments and theory. |
| **Indicative Contents** | Indicative content includes the following.<br><br>The nature and relevance of the module together with communication methods/ drawing/ measurement Introduces the content of the module and describes how communication is carried out on building projects in the written form and through the use of drawings and sketches.[12 hrs]<br>Site works and foundations : Explains the importance of understanding the implications of basic soil conditions on the design of simple foundations for houses, how these soil conditions are investigated and describes how simple foundations are constructed.[8 hrs ]<br>The different methods of construction: Looks at the traditional method of |

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| | building houses in the Iraq and compares and contrasts this with a variety of different methods of construction [8 hrs]<br>Details of the above ground structure: Explores typical details of construction for the floors, walls, roof, windows and doors of a simple building and describes the principles and logic that affect the sequence ofbuilding a house. [12 hrs]<br>Materials: Looks at the properties of common building materials, such as concrete, brick and timber and how these materials are used in buildings. Also explores the properties of a wider range of materials, which can be used in simple buildings. [ 12 hrs ]<br>Sustainability of simple buildings : Describes how the energy implications, in terms of operating energy and the embodied energy of the building, can be minimised, and connects this to the provision of more economic buildings which are better places to live. [10 hrs ]<br>Building services and finishes : Explains how internal and external building services, such as water, gas, electricity and drainage are built into the fabric of the building and how the finishes to a building are chosen and fitted. [8 hrs ] |

| Learning and Teaching Strategies | |
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| **Strategies** | The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students. |

| Student Workload (SWL) | | | |
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| **Structured SWL (h/sem)**<br>الحمل الدراسي المنتظم للطالب خلال الفصل | 93 | **Structured SWL (h/w)**<br>الحمل الدراسي المنتظم للطالب أسبوعيا | 6 |
| **Unstructured SWL (h/sem)**<br>الحمل الدراسي غير المنتظم للطالب خلال الفصل | 32 | **Unstructured SWL (h/w)**<br>الحمل الدراسي غير المنتظم للطالب أسبوعيا | 2 |
| **Total SWL (h/sem)**<br>الحمل الدراسي الكلي للطالب خلال الفصل | **125** | | |

## Module Evaluation

| | | Time/Number | Weight (Marks) | Week Due | Relevant Learning Outcome |
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| **Formative assessment** | **Quizzes** | 2 | 10% (10) | 5 and 10 | LO #1, #2 and #3 |
| | **Assignments** | 2 | 5% (5) | 2 and 12 | LO #4 |
| | **Projects / Lab.** | 1 | 10% (10) | Continuous | All |
| | **Report** | 1 | 5% (5) | 13 | All |
| **Summative assessment** | **Midterm Exam** | 2hr | 20% (20) | 7 | LO #1 - #2 |
| | **Final Exam** | 3hr | 50% (50) | 16 | All |
| **Total assessment** | | | 100% (100 Marks) | | |

## Delivery Plan (Weekly Syllabus)

| | Material Covered |
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| **Week 1** | - A general introduction with a review of the curriculum and authorized sources and assistance.- Introduction: - stages of the construction of buildings, types of buildings, the development of the construction of buildings.- |
| **Week 2** | Earth works: - earth excavations, equipment types of mechanical drilling, rocks excavation, groundwater discharge |
| **Week 3** | Earth filling and compaction of the soil. , Foundations: - Definition of the foundation, the depth of the foundation, the nature of the soil and its relationship with foundations and types of foundations. The foundation wall and other continuous-related: the descent foundations, vibrations and foundations. |
| **Week 4** | Piles Works: -kinds of piles, drilling piles and hammer piles, hammer Equipment, Test of piles, details and drawing of piles. Bricks Works: -mud bricks, manufacturing methods, engineering properties, types of bricks |
| **Week 5** | Types of connectivity in the bricks, walls and types, suture and types. Details of bricks construction, Iraqi Specifications. |
| **Week 6** | Stones Works: - Introduction, geological classification of rocks, engineering properties of stone and stone common specifications, preparation of stone for building, linking when building in stone, other details |

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| **Week 7** | Mid-term Exam |
| **Week 8** | Molds and scaffolds: - types of molds, loads carried by the molds. The failure of the Works of the molds, remove molds, graphics molds. Columns: - Classification columns according to slenderness, ends cases of columns, classified columns |
| **Week 9** | Floors and ceilings: -loads kinds, wood floors and types and graphics. jack arching, reinforced concrete floors and floor finishing kinds. beams lintels types. |
| **Week 10** | Wooden Beams, Steel Beams, Reinforced Concrete Beams Concrete works: -concrete definition, types and components added to the concrete, formwork, concrete production, cranes ,curing for concrete |
| **Week 11** | Painting and plastering , cement and gypsum plastering , types of painting . |
| **Week 12** | Arches and upper and lower beams: - Introduction to the terminology used inarches, arches forms, the upper and lower beams. |
| **Week 13** | Contraindications humidity: -types of anti-moisture and classify, humidity, and damage others.<br>Stairs: -dimensions of stair an degrades and the design method and drawing Types of stair sand graphics, elevators |
| **Week 14** | Doors and windows: -timber, dry timber and timber types and graphics. Doors and types of windows and types. |
| **Week 15** | Joints in buildings: -structural joints, extension joints and others. General Review |
| **Week 16** | **Preparatory week before the final Exam** |

| **Delivery Plan (Weekly Lab. Syllabus)** | |
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| | **Material Covered** |
| **Week 1&2** | Structural plan of wall foundation Structural plan of load-bearing walls |
| **Week 3&4** | Structural plan of continuous foundation Structural plan of single foundation |
| **Week 5&6** | Structural plan of pile foundation Structural plan of mat foundation |
| **Week 7&8** | Drawing of a wall with German tie, Drawing of a wall with English tie |
| **Week 9&10** | Reinforced concrete lintel and typical details of reinforcement and a section of a wooden floor |
| **Week 11&12** | Concrete floor with one-way main reinforcement and two-way main reinforcement |
| **Week 13&14** | Drawing stairs and methods of moving between levels |
| **Week 15** | امتحان |

| Learning and Teaching Resources | | |
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| | **Text** | **Available in the Library?** |
| **Required Texts** | كتاب انشاء المباني (زهير ساكو و ارتين ليفون) | Yes |
| **Recommended Texts** | جميع كتب انشاء او تركيب المباني | No |
| **Websites** | - | |

## Appendix :

| **Grading Scheme** مخطط الدرجات | | | | |
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| **Group** | **Grade** | التقدير | **Marks %** | **Definition** |
| **Success Group (50 - 100)** | **A** - Excellent | امتياز | 90 - 100 | Outstanding Performance |
| | **B** - Very Good | جيد جدا | 80 - 89 | Above average with some errors |
| | **C** - Good | جيد | 70 - 79 | Sound work with notable errors |
| | **D** - Satisfactory | متوسط | 60 - 69 | Fair but with major shortcomings |
| | **E** - Sufficient | مقبول | 50 - 59 | Work meets minimum criteria |
| **Fail Group (0 – 49)** | **FX** – Fail | راسب (قيد المعالجة) | (45-49) | More work required but credit awarded |
| | **F** – Fail | راسب | (0-44) | Considerable amount of work required |
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**Note:** Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

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