# Course Description Form

| 1. Course Name |
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| Construction Materials |
| 2. Course Code |
| **CIV016** |
| 3. Semester / Year: |
| first/2023- 2024 |
| 4. Description Preparation Date |
| 20/3/2024 |
| 5. Available Attendance Forms: |
| Theoretical and Practical Classes |
| 6. Number of Credit Hours (Total) / Number of Units (Total) : 175/7 |
| **16 weeks=175 hours per semester/7units** |
| 7. Course administrator's name (mention all, if more than one name) |
| Name: Asst. Lect. Huda Mohammed Hasan<br>Email: huda.mo@uowa.edu.iq |
| 8. Course Objectives |

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| **Course Objective** | 1. Highlighting the basic material to introduce students to the basic concepts of different building materials.<br>2. Identify raw materials and solids<br>3. Identify the engineering properties of building materials<br>4. Identify the requirements of standard specifications for the use of building materials<br>5. Identify the laboratory tests that are performed on building materials for the purposes of quality control<br>6. Identify the different uses of materials in the construction industry |

| 9. Teaching and Learning Strategies | |
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| **Strategy** | 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. |

10. Course Structure

| Week | Hours | Required Learning Outcomes | Unit or subject name | Learning method | Evaluation method |
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| 1 | 4 | Classified of Engineering Materials its properties, Mechanical properties materials, type of forces. Exercises on Mechanical properties materials. | Material properti | 1. Classic theoretical classes. 2. Practical classes and experimental measurements using laboratory equipment. 3. E-learning Discussion and responding to students' questions. | 1.The initial exam by adopting the method of participating in the lecture 2.Continuous evaluation by conducting a set of exams with multiple options 3.Diagnostic evaluation through conducting scheduled tests at specific times and assigning students to perform specialized projects 4.Final exam |
| 2 | 4 | Clay Brick, Definiti Classification of clay brick , R materials, Production methods clay brick, Stages of clay br industry and type of furnaces us , | Building unit | | |
| 3 | 4 | Engineering properties of c brick and tests of brick, | Building unit | | |
| 4 | 4 | Other types of brick (Concr Blocks and sand-lime bri ck , autoclave aerated concr blocks ) | Building unit | | |
| 5 | 4 | Building Stone: Definiti Geological Classification of sto Preparation of stone, Utilizati Engineering properties of stone | | | |
| 6 | 4 | Mid-term Exam | | | |
| 7 | 4 | Tiles: Definition, Types of ti Terrazzo tiles, Ordinary tiles, R materials and indust Engineering properties of ti Utilization of tiles | tiles | | |
| 8 | 4 | Bonding materials: Definiti Types of bonding materi Utilization of bonding materi Cement Mortar, Definiti Utilization, Properties, Lir Definition, Classification, R material and industry | Bonding materia | | |
| 9 | 4 | Utilization of lime, Properties lime mortar, and cement and li mortar, Gypsum: Definiti Classification, Raw materials a industry, Utilization of Gypsu Properties of gypsum of mort Tests of gypsum | Bonding materia | | |
| 10 | 4 | Cement: Definition, Raw materi and industry, Utilization, Chemi composition of cement and physical properties, Types Portland and non-Portland cem | Portland cement | | |
| | 4 | Wood: Definition, Types if wo Utilizations of wood construction, Engineer properties of wood, methods | wood | | |

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| 11 | | drying and chemical treatment wood, Dimensional changes wood, Defect of wood, Tests wood. | | | |
| 12 | 4 | Metals: Definition, Classificatior minerals, preparation of met Cast Iron, Wrought Iron, St Steel connections | metals | | |
| 13 | 4 | Metals: how to draw stress str curves for metals | metals | | |
| 14 | 4 | Introduction to polymers. | | | |
| 15 | 4 | **Preparatory week before t final Exam** | | | |
| 16 | 4 | | | | |

## 11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned
to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc.

## 12. Learning and Teaching Resources

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| Required textbooks (curricular books, if any) | 1.Building Materials,S. K. Duggal 3rd ed., 2008 ,New Delhi |
| Main references (sources) | 2.Civil Engineering Materials, N. Jackson and V. K. Dhir , 5th ed. 1996. |
| Recommended books and references (scientific journals, reports...) | 3.Materials for civil and construction engineers, M. S. Mamlo and J. P.Zaniewski, 3rd ed.2011, Pearson. |
| Electronic References, Websites | - |