**Republic of Iraq**

**Ministry of Higher Education and Scientific Research**
**Supervision and Scientific Evaluation Apparatus**

**College: Shatt Al-Arab University**

**Department: Civil Engineering**

**Stage: 1- stage**

**Lecturer name: Mohammed Mustafa Mohammed Nooruldin Ars**
**Academic title: Lecturer**

# Course Weekly Outline

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|---|---|
| **Name** | Mohammed Mustafa Mohammed Nooruldin Ars |
| **E-mail address** | Muhamad.mustafa.muhamad@sa-uc.edu.iq |
| **Course name** | Engineering Chemistry-1 |
| **Course objective** | The course aims to present the basic methods for interpreting the behaviour of various types of materials in terms of their chemical compositions. Emphasis was placed on the application of chemical principles and their relationship to civil engineering. |
| **Course description** | A- Cognitive objectives<br>A1- Studying and knowing the types of cement, chemical properties and equations involved in its composition.<br>A2- Study and knowledge of water, chemical properties and equations involved in its composition and water suitable for concrete mixture.<br>A3- Study and knowledge of the types of lime and gypsum, chemical properties and equations involved in its composition.<br>B – The skills objectives of the course.<br>B1 – Application of chemical equations and for the purpose of knowing the chemical properties involved in structural engineering.<br>B2 – Use basic knowledge to research new chemical techniques.<br>B3 – Deriving and evaluating the equations necessary for the application of structural engineering analysis methods. |

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|---|---|---|---|---|
| **References** | | | | |
| **External sources** | | | | |
| **Course assessment** | **Lab.** | **Quizzes and assessment** | **Mid-term exam** | **Final exam** |
| | | **40** | **10** | **50** |
| **General notes** | | | | |

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## Course Weekly Outline

| Week No. | Theoretical | Experimental | Aims |
|---|---|---|---|
| **1** | | Cement (composition and types) | The course aims to present the basic methods for interpreting the behaviour of various types of materials in terms of their chemical compositions. Emphasis was placed on the application of chemical principles and their relationship to civil engineering. |
| **2** | | Cement (composition and types) | |
| **3** | | Cement (composition and types) | |
| **4** | | Cement (composition and types) | |
| **5** | | Cement (composition and types) | |
| **6** | | Cement (composition and types) | |
| **7** | | Cement (composition and types) | |
| **8** | | Lime and gypsum | |
| **9** | | Lime and gypsum | |
| **10** | | Lime and gypsum | |
| **11** | | Lime and gypsum | |
| **12** | | Water and its composition | |
| **13** | | Water and its composition | |
| **14** | | Water and its composition | |

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|---|---|---|---|
| **15** | | Water and its composition | |