



HASAN KALYONCU UNIVERSITY
Faculty of Engineering
Course Description Form

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| COURSE: Construction Materials | | | | | |
| CODE: CE242 | | SEMESTER: SPRING | | | |
| LANGUAGE: ENGLISH | | TYPE: COMPULSORY | | | |
| PRE-REQUISITES: - CO-REQUISITES: - | | THEORY | PRACTICAL | CREDIT | ECTS |
| WEEKLY HOURS: 4 | | 2 | 2 | 3 | 5 |

CONTENT OF THE COURSE:

This course is an introduction to the basic building materials, components and methods of production for these materials: timber, metal, lime, gypsum, stone, polymers, hydraulic cements, aggregates, concrete. Illustration of their applications in civil engineering. Also, the course includes; physical, mechanical and durability properties of fresh and hardened concrete, steel and wood. Load-time deformation characteristics of materials. Laboratory sessions consist of experiments on cementing materials, aggregates, concrete.

OBJECTIVE OF THE COURSE:

To enable students to understand the main properties of building materials in addition to their applications in civil engineering, and to have the opportunity to experience material capacity and behavior, as well as construction methods in demonstrations and lab experiments.

WEEKLY SCHEDULE

| Week | Topics |
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| 1 | Introduction to Construction Materials, Natural Stones |
| 2 | Classification of Aggregates, Qualitative Properties of Aggregates |
| 3 | Physical Properties of Aggregates |
| 4 | Granulometry of Aggregates - Aggregate Experiments |
| 5 | Binders; Plaster, Lime, Hydraulic Lime |
| 6 | Binders; Cement, Pozzolan, Admixtures |
| 7 | Binders - Cement Experiments |
| 8 | Midterm |
| 9 | Definition and Classification of Concrete |
| 10 | Fresh Concrete Properties |
| 11 | Concrete Mix Design |
| 12 | Hardened Concrete Properties - Concrete Experiments |
| 13 | Ceramics, Metals |
| 14 | Woods - Concrete Experiments |

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| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 |
|--|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|

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|--|---|---|---|---|---|---|---|---|---|---|---|
| LO1 | 3 | 3 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| LO2 | 3 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| LO3 | 3 | 3 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| PO: Program Outcomes LO: Learning Outcomes Values: 0: None 1: Low 2: Medium 3: High | | | | | | | | | | | |

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| INSTRUCTOR(S): | Assoc.Prof.Dr.Amjad Khabaz |
| FORM PREPARATION DATE: | 22.05.2019 |

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| LEARNING OUTCOMES OF THE COURSE: |
| <p>LO1: Understands the importance of construction materials for construction. LO2: Learns production process, types and usage areas of construction materials. LO3: Learns mechanical and physical properties of construction materials.</p> |

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| <p>CONTRIBUTION OF THE COURSE TOWARDS PROVIDING VOCATIONAL EDUCATION: Students learn especially about the mixing design of concrete from the building materials used in civil engineering, and learn about the behavior of concrete reinforcement. They also learn to use the knowledge they obtain about other building materials structure and behavior economically and safely.</p> |
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