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| logoCollege: Engineering Department: Civil EngineeringCourse Title: Concrete Technology Course No: : **0901314**Credit Hours: 3Semester: 2020-2021**About The Course**Course Title: Statics Class: second yearCourse No: **09011214**Credit Hours: 3 Lecture Room: 411Obligatory/ Optional: ObligatoryText Book: Concrete Technology by A M Neville**The Instructor**Name: Dr. Musab Rabi Title:Assistant ProfessorOffice Tel:Office No: Office Hours: **12:30-1:30**E-maile: musab.rabi@jpu.edu.jo |
| C**ourse Description** |

Introduction to concrete technology including construction material, cementing materials, concrete aggregates fresh concrete properties, Mixing, transporting, placing and compacting of concrete, admixtures, curing of concrete and strength development, hot and cold weather- concreting, strength determination and non-destructive testing, durability of concrete and concrete mix design, fiber reinforced concrete

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| **Course Objectives** |

*By the end of the course, you should be able to do the following:*

* *Normal Consistency & Setting Time of Cement Paste*
* *Fresh and Mechanical Properties of Mortar*
* *Sieve Analysis of Aggregate*
* *Specific Gravity of Aggregate*
* *Unit Weight of Aggregate and Abrasion test of Aggregate*
* *Fresh and Mechanical Properties of Concrete*
* *Mechanical Properties of Steel and wood*

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| **Learning Outcome** |

• After successfully completing this course, the students should be able to understand Construction materials.

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| **Course Outline and Time schedule** |

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| Course Outline | Week |
| Introduction to concrete technology including construction material | First week |
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| cementing materials | 2nd week |
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| concrete aggregates fresh concrete properties | 3rd week |
| Mixing, transporting, placing and compacting of concrete | 4th week |
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| Exam 1 | 5th week |
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| admixtures | 6th week |
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| curing of concrete and strength development | 7th week |
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| hot and cold weather- concreting, strength determination and non-destructive testing | 8th week |
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| durability of concrete  | 9th week |
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| durability of concrete | 10th week |
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| concrete mix design | 11th week |
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| concrete mix design | 12th week |
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| Exam 2 | 13th week |
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| fiber reinforced concrete | 14th week |
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| Final exam | 15thweek |
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**Presentation methods and techniques**

Methods of teaching varied according to the type of text, student and situation. The following techniques are usually used:

1. Lecturing with active participations.

Involve the civil engineering students in asking some questions related to the target topic of the course.

1. Problem solving.

Encourage the students to solve the given assignments and submit them at the definite time,

1. Cooperative learning.

By enhancing the students studying in groups .

1. Discussion.

To discuss the results and the answers of the target problems.

1. Learning by activities.

To encourage the students to some group activity.

1. Connecting students with different sources of information.
2. Connecting students with different sources of information

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| Sources of information and Instructional Aids |

Computer

power point

Wihte Board

Library sources

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| **Assessment Strategy and its tools** |

The assigned syllabus is assessed and evaluated

Through: feed back and the skills that are acquired by the students

The tools:

1. Formal (stage) evaluation

a) Class Participation 10%

b) Ist Exam 20%

c) 2nd Exam 20%

d) Group activity and Quizzes 10%

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| **Tool & Evaluation** |

Tests are permanent tools & assessment, in addition to the activity file which contains curricular and the co-cussiculor activities, research, report papers and the active participation of the student in the lecture.

The following table clarifies the organization of the assessment schedule:

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| **Grade** | **Date** | **Test** |
| 20% |  | First Exam |
| 20% |  | 2nd Exam |
| 20% | Students should be notified about their marks | Activities & Participation and Quizzez |
| 40% |  | Final Exam |

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| **Activities and Instructional Assignment** |

1. Practical assignments to achieve the syllabus objectives.
2. Quizes

**Regulations to maintain the teaching-Learning Process in the Lecture:**

1- Regular attendance.

2- Respect of commencement and ending of the lecture time.

3- Positive relationship between student and teacher.

4- Commitment to present assignments on time.

5- High commitment during the lecture to avoid any kind of disturbance and distortion.

6- High seuse of trust and sincerity when referring to any piece of information and to mention the source.

7- The student who absents himself should submit an accepted excuse.

8- University relevant regulations should be applied in case the studen,s behavior is not accepted.

9- Allowed Absence percentages is ( 15%).

**References :**

*1.ASTM C109 / C109M - 16a Standard Test Method for Compressive Strength*

*2.ASTM C143 in the United States, IS: 1199 – 1959 in India and EN 12350-2 in Europe.*

*3.http://www2.cement.org/PW2015/EB001\_15-Presentations/*

*4.http://civilblog.org/2013/05/10/compressive-strength-test-of-concrete-is516-1959/*

*5.https://www.iea.org/publications/freepublications/publication/Cement.pdf*

*6.https://igitgeotech.files.wordpress.com/2014/10/properties-of-concrete-by-a-m-neville.pdf*

**Syllabus Classification**

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| **Objectives** | ***Learning outcome*** | ***Assessment tools*** |
| * ***Introduction***
 | *Report Writing* | *By using solved problems.**Power point and weight board.* |
| * ***Consistency***
 | *Normal Consistency & Setting Time of Cement Paste.* | *By using solved problems.**Power point and weight board.* |
| * ***Mortar***
 | *Fresh and Mechanical Properties* | *By using solved problems.**Power point and weight board.* |
| * ***Aggregate***
 | *Unit Weight of Aggregate and Abrasion test of Aggregate* | *By using solved problems.**Power point and weight board.* |
| * ***Concrete***
 | *Fresh and Mechanical Properties*  | *By using solved problems.**Power point and weight board.* |
| * ***Steel and wood***
 | *Mechanical Properties* | *By using solved problems.**Power point and weight board.* |