

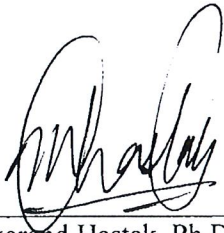
TO: The Faculty of the College of Engineering
FROM: The Faculty of the Division of Construction Engineering and Management
RE: New Course - CEM 32100 Construction Engineering Materials Lab

The faculty of the Division of Construction Engineering and Management has approved the following new course. This action is now submitted to the Engineering Faculty with a recommendation for approval.

Course no. **CEM 32100 Construction Engineering Materials Lab**
Semester 1, Lab 1, Cr. 1
Prerequisite: CE 23100 Engineering Materials I

Description: CEM 32100 will cover the nature and performance of materials under load stress. Important engineering materials for evaluation of physical and mechanical properties include ferrous and nonferrous metals, plastics, bituminous materials, Portland cement, aggregates, concrete, timber, and particulate systems.

Reason: CEM 32100 has been offered since the spring of 2012 as CEM 49700 CEM Materials Lab. The experimental version has been required and the Faculty has determined the course should be a permanent fixture in the Plan of Study in Construction Engineering.



Makarand Hastak, Ph.D., PE, CCP
Professor and Head of Construction Engineering and Management
Professor of Civil Engineering

APPROVED FOR THE FACULTY
OF THE SCHOOLS OF ENGINEERING
BY THE ENGINEERING
CURRICULUM COMMITTEE

ECC Minutes 4/29/14

Date 4/29/14

Chairman ECC Jeff L. [Signature]

CEM 49700-011

**CONSTRUCTION MATERIALS Lab
Fall Semester 2013**

Prerequisite or co-requisite: CE231 Eng. Materials

The nature and performance of materials under load stress. Important engineering materials for evaluation of physical and mechanical properties include ferrous and nonferrous metals, plastics, bituminous materials, Portland cement, aggregates, concrete, timber, and particulate systems.

Oversight Instructor: Victor Gervais, P.E.
Room: 1233
Civil Engineering Building
Phone: 494-0642
Email: vgervais@purdue.edu

Lab Meeting: Wednesday 11:30 am - 1:20 pm Lab: CIVL G150A

Lab Teaching Assistant: Kho Pin Verian
Room: G223
Civil Engineering Building
Office hours: Monday 10:00 am – 11.00 am
Phone: 494-6634
Email: kverian@purdue.edu

Lab Manual: Winslow Douglas, Experiments with Construction Materials – A Laboratory Manual, McGraw-Hill, 1990.

- References:
1. Beer, F. P., Johnston, E. R. Jr., and DeWolf, J.D., Mechanics of Materials, McGraw-Hill, Inc., New York, 2002.
 2. Callister, W.D. Jr., Materials Science and Engineering, 6th edition, John Wiley & Sons, Inc., 2003.
 3. National Center for Asphalt Technology (NCAT), Hot Mix Asphalt Materials, Mixture Design, and Construction, NAPA Education, Laham Maryland, 2nd Edition, 1996.

4. In class handouts.

- Objectives:
- A. Evaluate the behavior and properties of engineering materials.
 - B. Assess the nature and performance of materials under load: Theory vs. Reality.
 - C. Facilitate the understanding of the strength and weakness of major construction engineering materials and their application.
 - D. Design and conduct experiments, and analyze and interpret data.

Attendance: One unexcused absence will result in 5 points off your final grade. Two unexcused absences will result in 10 points off your final grade. More than three unexcused absences will result in a grade of "I" or "F", depending on whether or not the student is passing in all other aspects at the time of the fourth absence. A plant trip is not an excused absence.

Lab Reports After 7:30 a.m., 10% penalty
 After Lab, 20% penalty for late lab report
 One calendar day, 30% penalty for late lab report
 2-4 calendar days, 50% penalty for late lab report
 Five or more calendar days, 100% penalty for late lab report

CEM 49700 LAB TENTATIVE SCHEDULE FALL 2013 (Wednesday 11:30AM)

Week	Date	Winslow	Topic
1	8/21		Introduction 12:30 - 1:20
2	8/28		Aggregates Lecture
3	9/4		Flexure and Compression of Wood
4	9/11		Concrete I Lecture
5	9/18		Concrete II Lecture
6	9/25		Asphalt Lecture
7	10/2	11	Aggregate Properties – Particle Size and Density
8	10/9		No Lab
9	10/16		Calorimetry – Heat of Hydration
10	10/23	14	Concrete – Mixture Proportions
11	10/30	14	Concrete Testing
12	11/6		Asphalt Sample Prep
13	11/13	19	Asphalt Sample Testing
14	11/20	13	Soils Lecture
15	11/27		No Lab Soils Testing
16	12/4	13	Soils Testing
17	12/9-13		Finals Week

PURDUE UNIVERSITY
REQUEST FOR ADDITION, EXPIRATION,
OR REVISION OF AN UNDERGRADUATE COURSE
(10000-40000 LEVEL)

EFD 46-14

201510

DEPARTMENT Construction Engineering and Management EFFECTIVE SESSION Fall 2014 (201510)

- INSTRUCTIONS: Please check the items below which describe the purpose of this request.
- 1. New course with supporting documents
 - 2. Add existing course offered at another campus
 - 3. Expiration of a course
 - 4. Change in course number
 - 5. Change in course title
 - 6. Change in course credit/type
 - 7. Change in course attributes (department head signature only)
 - 8. Change in instructional hours
 - 9. Change in course description
 - 10. Change in course requisites
 - 11. Change in semesters offered (department head signature only)
 - 12. Transfer from one department to another

PROPOSED: Subject Abbreviation CEM Course Number 32100 Long Title Construction Engineering Materials Lab Short Title Construction Eng Mat Lab
 Abbreviated title will be entered by the Office of the Registrar if omitted. (30 CHARACTERS ONLY)

EXISTING: Subject Abbreviation _____ Course Number _____

TERMS OFFERED: Check All That Apply: Summer Fall Spring

CAMPUS(ES) INVOLVED: Calumet N Central Cont Ed Tech Statewide Ft Wayne W. Lafayette Indianapolis

CREDIT TYPE: 1. Fixed Credit: Cr. Hrs. 1
 2. Variable Credit Range: Minimum Cr. Hrs. _____ (Check One) To Or Maximum Cr. Hrs. _____
 3. Equivalent Credit: Yes No

COURSE ATTRIBUTES: Check All That Apply
 1. Pass/Not Pass Only 6 Registration Approval Type
 2. Satisfactory/Unsatisfactory Only Department Instructor
 3. Repeatable 7 Variable Title
 Maximum Repeatable Credit: _____ 8 Honors
 4. Credit by Examination 9 Full Time Privilege
 5. Fees Coop Lab Rate Request 10 Off Campus Experience
 Include comment to explain fee

Schedule Type	Minutes Per Mtg	Meetings Per Week	Weeks Offered	% of Credit Allocated
Lecture				
Recitation				
Presentation				
Laboratory	110	1	16	100
Lab Prep				
Studio				
Distance				
Clinic				
Experiential				
Research				
Ind. Study				
Pract/Observ				

Cross-Listed Courses
 RECEIVED
 APR 29 2014
 OFFICE OF THE REGISTRAR

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):
 The nature and performance of materials under load stress. Important engineering materials for evaluation of physical and mechanical properties include ferrous and nonferrous metals, plastics, bituminous materials, Portland cement, aggregates, concrete, timber, and particulate systems. Prerequisite: CE 23100

*COURSE LEARNING OUTCOMES
 A. Evaluate the behavior and properties of engineering materials. B. Assess the nature and performance of materials under load: Theory vs. Reality. C. Facilitate the understanding of the strength and weakness of major construction engineering materials and their application. D. Design and conduct experiments, and analyze and interpret data.

Calumet Department Head	Date	Calumet School Dean	Date
Fort Wayne Department Head	Date	Fort Wayne School Dean	Date
Indianapolis Department Head	Date	Indianapolis School Dean	Date
North Central Faculty Senate Chair	Date	Vice Chancellor for Academic Affairs	Date
West Lafayette Department Head	Date	West Lafayette College/School Dean	Date
		West Lafayette Registrar	Date

3/24/14 *4/29/14* *5/15/14*

OFFICE OF THE REGISTRAR

LAM 5/1/14