

Engineering Faculty Document No. 15-18

February 28, 2019

TO: The Faculty of the College of Engineering
FROM: Division of Construction Engineering and Management
RE: New course in the Construction Engineering & Management curriculum (B.S. CNE)

The faculty of the Division of Construction Engineering and Management has approved the following new course titled CEM 18000: “Construction Engineering – Pre-Professional Development” as part of the B. S. CNE curriculum. This course is a professional development course for CNE undergraduate students.

The course is designed to provide essential professional development material for students prior to their first (of three) required internships including OSHA 10 Certification; workplace communication, construction terminology, and engineering ethics.

OBJECTIVES OF THE COURSE

By the end of the course, students should be able to:

- a) Demonstrate an ability to apply knowledge of mathematics, science and engineering.
- b) Demonstrate an understanding of professional and ethical responsibility.
- c) Demonstrate ability to communicate effectively.
- d) Demonstrate the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
- e) Demonstrate recognition of the need for, and an ability to engage in life-long learning.
- f) Demonstrate knowledge of contemporary issues.

This course integrates with CEM 280 and CEM 380. Previously approved as a 3-credit hour sequence.



Makarand Hastak, Professor and Head
Division of Construction Engineering & Mgmt.

Note: This syllabus is not a contract. This syllabus is subject to further change or revision, as needed, to best realize the educational goals of the course. Necessary revisions will be announced in class or on course materials with fair prior notice. Links for updated syllabus/schedule will be provided on Blackboard accordingly. Please check back on your syllabus/schedule as it will be updated throughout the semester.

Construction Engineering Pre-Professional Development

CEM 18000, 1 credit hour

2nd 8 week session of Spring semester, Maymester, 1st 8 week session of Fall semester

ONLINE

Instructor:

Brandon M. Fulk, P.E., Director of Internships Construction Engineering & Management

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Phone: 765-494-2242 / Email: fulk@purdue.edu

Office hours: by appointment to secure your time (utilize Boiler Connect to sign-up)

A. COURSE DESCRIPTION, OVERVIEW AND PURPOSES:

This online course consisting of 8 sessions and 1 module (10 hour OSHA training) is intended to be completed before the student's first work session in order to:

- Prepare the student in the form of oral and written communication that will assist them in being successful in their experiential learning opportunities within industry.
- Introduce the students to the construction industry relative to office and field requirements.
- Introduce the student to professional skills that will be needed for their experiential learning opportunities including but not limited to: verbiage and acronyms, tools, software platforms, and general business etiquette and ethics.

This course will preliminarily cover following topics to prepare the students for solid foundations of practical and academic construction knowledge.

1. Sessions
 - a. Professionalism in the Workplace: Email Etiquette
 - b. Tools and Terminology in Construction
 - c. Key Software Tutorials
 - d. Construction Project Sequencing
 - e. Plan and Specification Reading
 - f. History of the US Construction Industry and Career Paths
 - g. Engineering Ethics
 - h. Internship Preparation: Boot Camp
2. Module
 - a. Safety Management – OSHA 10 Certification

The students should expect timely review and processing of deliverable items and if grading is delivered in a timely fashion, the students should petition the instructor for the material. The student should note that the instructor's style is to be inquisitive, so you will find him answering your question with an additional question to invoke critical thinking and ownership of the work being completed. **The instructor for this course will be your mentor and coach which you can depend upon year round.**

B. EXPECTED LEARNING OUTCOMES:

The student is expected to seize the opportunity to explore and grow relative to the following components of the construction engineer's responsibilities within project management and field operations:

1. Demonstrate an ability to apply knowledge of mathematics, science and engineering.
2. Demonstrate an understanding of professional and ethical responsibility.
3. Demonstrate ability to communicate effectively.
4. Demonstrate the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
5. Demonstrate recognition of the need for, and an ability to engage in life-long learning.
6. Demonstrate knowledge of contemporary issues.

The course will provide the student with an opportunity to for the experiential learning opportunities that occur on the project jobsite during the internship period.

C. STUDENT REQUIREMENTS

1. Prerequisites

- a. No prerequisites
- b. No required text books

2. Attendance

Since this is an online course (asynchronous), there is no attendance policy.

3. Expected Time Commitment

The 8 sessions are expected to average 1 hour each. The module is a 10 hour OSHA training.

4. Assignments

The online sessions and module will be open on the first day of the course, and it is necessary to complete all sessions/module by the assigned due date. The assigned due dates are as follows:

- a. First 4 sessions due at the end of the 3rd week
- b. Second 4 sessions due at the end of the 6th week
- c. Module due at the end of the 8th week

The format of the session/module assignments will vary depending on the nature of the session/module.

5. Late Submission or Missed Work Policy

Refer to Section D and Section C.4 for specific information. In general, work that is not turned in on time will receive 0 points. The student must complete all assignments in order to pass the course; therefore, if the assignment is late the student should still submit.

6. Academic Dishonesty

Purdue prohibits "dishonesty in connection with any University activity. Cheating, plagiarism, or knowingly furnishing false information to the University are examples of dishonesty." [Part 5, Section III-B-2-a, University Regulations] Furthermore, the University Senate has stipulated that "the commitment of acts of cheating, lying, and deceit in any of their diverse forms (such as the use of substitutes for taking examinations, the use of illegal cribs, plagiarism, and copying during examinations) is dishonest and must not be tolerated. Moreover, knowingly to aid and abet, directly or indirectly, other parties in committing dishonest acts is in itself dishonest." [University Senate Document 72-18, December 15, 1972]

7. Use of Copyrighted Materials

Among the materials that may be protected by copyright law are the lectures, notes, and other material presented in class or as part of the course. Always assume the materials presented by an instructor are protected by copyright unless the instructor has stated otherwise. Students enrolled in, and authorized visitors to, Purdue University courses are permitted to take notes, which they may use for individual/group study or for other non-commercial purposes reasonably arising from enrollment in the course or the University generally.

Notes taken in class are, however, generally considered to be "derivative works" of the instructor's presentations and materials, and they are thus subject to the instructor's copyright in such presentations and materials. No individual is permitted to sell or otherwise barter notes, either to other students or to any commercial concern, for a course without the express written permission of the course instructor. To obtain permission to sell or barter notes, the individual wishing to sell or barter the notes must be registered in the course or must be an approved visitor to the class. Course instructors may choose to grant or not grant such permission at their own discretion, and may require a review of the notes prior to their being sold or bartered. If they do grant such permission, they may revoke it at any time, if they so choose.

8. Students with Disabilities

If you have a disability that requires special academic accommodation, please make an appointment to speak with me within the first three (3) weeks of the semester in order to discuss any adjustments. It is important that we talk about this at the beginning of the semester. It is the student's responsibility to notify the Disability Resource Center (<http://www.purdue.edu/drc>) of an impairment/condition that may require accommodations and/or classroom modifications

D. COURSE WORK & GRADING

Blackboard will be exclusively utilized for submissions of assignments unless instructed to the contrary. The opportunities are further described as:

1. Session Assignment

Students will have the opportunity to exercise and demonstrate their knowledge gained from outside class material on weekly bases using a variety of session formats. The session exercises will be delivered in a variety of different formats aligned with the overall assessment approach using rubrics and an apprentice approach in developing.

2. Module Assignment

Students will be required to complete the OSHA 10 hour online certification (access granted by the instructor to the online module). Submission of the certification of completion will satisfy the requirements for this assignment (post on Blackboard).

3. Quizzes

Students will be expected to take periodic quizzes during the sessions based on material learned in previous sessions. No make-up quizzes will be permitted.

4. Grading

Students will have multiple opportunities to exercise the knowledge they have gained in a deliberate and distributed approach with activities. The grading structure is summarized below:

- Sessions----- 400 pt
 - o 50 points x 8 sessions
 - OSHA 10 Module ----- 500 pt
 - Quizzes ----- 100 pt
- Total: 1,000 pt

Students must complete all sessions/module in order to pass the course.

A rubric may be developed for assignments prior to the actual delivery of the course. The rubric is summarized as:

Activities	Grading Standards				
	Outstanding (100%)	Excellent (75%)	Acceptable (50%)	Unacceptable (25%)	Late (0%)
Session Assignments	Students will be expected to provide specific “detail” within their deliverables for each submission. Each assignment will have an individual worth that is broken down into the multiple components of the deliverable. Components will be clearly defined in the assignment rubric and individual points specified.				Late Assignment
Module Assignments	Students will be expected to provide the certification of their OSHA 10 training.				Late Assignment
Quiz	Scores will be calculated as direct percentage of number of right answers divided by the number of total questions. Each question will be worth 5 points (typ.)				Missed quiz

General Rubric for Course Activities - It should be noted that each activity will be worth different points and the percentages provided indicate the maximum amount of points that will be awarded.

E. SCHEDULE

There is no meeting schedule for this class. Assignment due dates are outlined above in section C. 4. Assignments. Each offering of the course will provide calendar based dates based upon the session in which the course is offered.

F. COURSE POLICIES

We will follow all standard campus policies on accommodations for disabilities and religious practices, academic integrity, student conduct, and nondiscrimination:

<http://www.purdue.edu/studentuccess/academic/drc/>

http://www.purdue.edu/studentregulations/regulations_procedures/classes.html

<https://www.purdue.edu/odos/osrr/academic-integrity-brochure/>

http://www.purdue.edu/studentregulations/student_conduct/index.html

http://www.purdue.edu/purdue/ea_eou_statement.html

Email communication – the instructor will communicate with students via email in a professional manner

G. EMERGENCY



EMERGENCY PREPAREDNESS SYLLABUS ATTACHMENT

EMERGENCY NOTIFICATION PROCEDURES are based on a simple concept – if you hear a fire alarm inside, proceed outside. If you hear a siren outside, proceed inside.

- **Indoor Fire Alarms** mean to stop class or research and immediately **evacuate** the building. Proceed to your Emergency Assembly Area away from building doors. **Remain outside** until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave.
- **All Hazards Outdoor Emergency Warning Sirens** mean to immediately seek shelter (**Shelter in Place**) in a safe location within the closest building.
 - “Shelter in place” means seeking immediate shelter inside a building or University residence. This course of action may need to be taken during a tornado, an active threat including a shooting or release of hazardous materials in the outside air. Once safely inside, find out more details about the emergency*. **Remain in place** until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave.

**In both cases, you should seek additional clarifying information by all means possible...Purdue Emergency Status page, text message, Twitter, Desktop Alert, Albertus Beacon, digital signs, email alert, TV, radio, etc....review the Purdue Emergency Warning Notification System multi-communication layers at http://www.purdue.edu/ehps/emergency_preparedness/warning-system.html*

EMERGENCY RESPONSE PROCEDURES:

- Review the **Emergency Procedures Guidelines**
https://www.purdue.edu/emergency_preparedness/flipchart/index.html
- Review the **Building Emergency Plan** (available on the Emergency Preparedness website or from the building deputy) for:

- evacuation routes, exit points, and emergency assembly area
- when and how to evacuate the building.
- shelter in place procedures and locations
- additional building specific procedures and requirements.

EMERGENCY PREPAREDNESS AWARENESS VIDEOS

• **"Run. Hide. Fight. ®"** is a 6-minute active shooter awareness video that illustrates what to look for and how to prepare and react to this type of incident. See: https://www.youtube.com/watch?v=5mzI_5aj4Vs
(Link is also located on the EP website)

MORE INFORMATION

Reference the Emergency Preparedness web site for additional information:
https://www.purdue.edu/ehps/emergency_preparedness/