

To: The Engineering Faculty
From: Division of Construction Engineering and Management
Re: CEM 50100

The Division of Construction Engineering and Management has approved the following new graduate course, now submitted to the Engineering Faculty with a recommendation for approval.

- 1) Leadership and Advanced Project Management
- 2) CEM 50100
- 3) 3 credit hours, lecture
- 4) The course will focus on the first (10) years of the student's professional career. It will introduce concepts relating to; 1) development of the leader-manager, 2) advanced project management techniques that will assist the student towards success in the construction industry, and 3) Developing a business plan on starting a small engineering or construction company.
- 5) This course is focused on advanced students to develop their entrepreneurial skills and address the essential leadership skills that are required to push the construction industry forward.

Reason: This course has been provided as an experimental course for many years as CEM 497 (and CE 497/597) and is always in high demand by both undergraduate (typically seniors) and graduate students in construction engineering and other fields. Offering the course at the graduate level allows those graduate students who have a programmatic desire to take an undergraduate course the ability to take this course as well. CEM undergraduate enrollment has consistently been in the upper 20's representing nearly all CEM graduating seniors.

Supplemental Information:

- 1) Syllabus – see attached
- 2) The course has been taught as CEM 49700/CE 49700/59700 over 10 times before.
- 3) Prior (recent) course enrollments:

Term	Total	CE 497	CE 597	CEM 497
Fall 2023	65	13	26	26
Fall 2022	64	16	25	23
Fall 2021	69	16	29	24
Fall 2020	41	7	7	27
Fall 2019	70	15	29	26
Fall 2018	66	31	5	30

Makarand Hastak

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

PURDUE UNIVERSITY
COLLEGE OF ENGINEERING
DIVISION OF CONSTRUCTION ENGINEERING AND MANAGEMENT

COURSE SYLLABUS
CEM 497/CE 497/CE 597
LEADERSHIP AND ADVANCED PROJECT MANAGEMENT

A. Schedule

Professor: Dr. Robert L. Bowen, P.E.

Office: HAMP 1221

Email: bob@bowenengineering.com

Office Hours: Tuesday/Thursday

1:00 pm – 2:30 pm

All conferences by appointment

Lectures: Tuesday/Thursday 3:00 pm – 4:15 pm

Forney G124

Teaching Assistants: James Edward Seibert

Office HAMP 1221

Email: seibertj@purdue.edu

Phone: 812-480-7631

Office Hours: Friday

9:00 am – 12:00 am

B. Course Material

Texts:

- Harvard Cases Studies
 - Individual case studies will be distributed throughout the semester.
- 10 Essential Principles of Entrepreneurship – Michael S. Maurer
- Lean Construction, A Small Contractor’s Journey – Charlie Garbutt
- It Takes More Than Concrete – Robert L. Bowen
- StrengthsFinder 2.0 From Gallup – Tom Rath
- Five Practices of Exemplary Leadership – Kouzes & Posner
 - Book will be distributed in class.

Catalog Description:

The course will focus on the first (10) years of the student’s professional career. It will introduce concepts relating to; 1) development of the leader-manager, 2) advanced project management techniques that will assist the student towards success in the construction industry, and 3) Developing a business plan on starting a small engineering or construction company.

Objectives of the Course:

The course is designed to introduce students to the concepts regarding their interpersonal skills development and the tricks of the trade that will expand their project management expertise.

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

- a. Recognize the importance of their personal values, attitudes, and communication skills in developing the leader-manager within.
- b. Understand that modern leadership is “Taking people from where they are to where they have never been” and that “Leaders build leaders”.
- c. Work within a team atmosphere and understand conflict management.
- d. Develop their planning skills with specific focus on Lean Construction and story boarding & resource leveling techniques.
- e. Understand the importance and impact that marketing and relationship development can have on the individual construction company’s success and survival.
- f. Expand their financial and cash management skills, including real estate development.
- g. Develop business plans for an emerging engineering or construction business.

Presenters:

- a. Dr. Robert L. Bowen, P.E. will be the lead instructor.

Robert Bowen is the founder and chairman of Bowen Engineering Corporation, a multi-market company specializing in water and energy construction. The company, based in the Indianapolis area, works in 15 states in the Midwest and Southeastern United States.

He attended Purdue University, receiving his bachelor's degree in civil engineering in 1962. In 1994 he completed the Harvard Business School OPM Program. Bob was bestowed with an honorary Doctor of Engineering degree from Purdue University and is a Distinguished Member of ASCE.

After several years as a project manager and stockholder at W. M. Lyles Construction Company in California, he returned to Indiana in 1967 to start his own company. Bowen Engineering has received seven AGC Build America Awards (the Oscar of the construction industry), including one for the \$57 million Lafayette Wastewater Treatment Plant Addition in 2004, and the Brookston, IN Wind Farm in 2010.

The Bowens also provided the leadership gift to Purdue for the Robert L. and Terry L. Bowen High Performance Civil Engineering Laboratory. They established the Bowen Family Foundation in 1994. To date the foundation has awarded over 1,800 scholarships to deserving minorities, totaling \$3.5 million.

- b. Various presenters will also participate in the individual sessions, as follows:

- Mike Berghoff, President, Lenex Steel (Purdue Board Chair)
- Michael Maurer, Chairman, National Bank of Indianapolis
- Dan Walsh, President, Walsh Construction
- Tom Shelby, President, Kiewit Energy Group
- Chris Traylor, President, Traylor Brothers Inc.
- Al Landes, President (retired), Herzog Construction
- Pete Quinn, President, Cushman & Wakefield Inc. (Sportscaster for Purdue Football)
- Don Aquilano, President, Allos Ventures
- Dave Pedersen, President, Sage Ltd.
- Mark Bowell, Marketing Director, TESCO
- Bob Nussmeier, Vice President, Baker Concrete
- Steve Nutt, VP of Marketing, Bowen Engineering Corporation
- Jeff Purdue, VP of Marketing, Bowen Engineering Corporation
- Brian Stater, VP of Marketing, Bowen Engineering Corporation
- Alan Dale, Project Manager, Bowen Engineering Corporation
- Mark Cvetkovich, Project Manager, Bowen Engineering Corporation
- Paul Creasy, Project Manager, Bowen Engineering Corporation
- Jared Redelman, Senior Scheduler, Bowen Engineering Corporation

C. Grading

Attendance:

In accordance with Purdue University Regulations: "Students are expected to be present for every meeting of classes they are enrolled, (unless there is an emergency/health issue). All matters relative to attendance, including the make-up of missed work, are to be arranged between the student and the instructor involved." Any anticipated absences must be cleared with the instructors, in advance if possible, with a word-processed memorandum stating the date and the reason for the absence or the absence will be considered unexcused.

Failure to be present at any class does not relieve the student of his/her obligations for the materials covered or assigned in class. No absences will be excused on days of scheduled exams. All assignments have to be turned in by the time and date specified or they will not receive any credit.

Character Standards:

You are expected to act ethically and professionally. Do not submit work (homework, quizzes, or exams) that is not entirely your own or your group's. Any evidence of cheating or any other form of dishonesty will result in grade penalties up to a failing grade in the course and the reporting of cheating to the Dean of Students.

Reading and Homework Assignments:

The case studies and supplementary materials play a major role in the presentation of the course. Students will be required to study these materials by completing the specified readings prior to a particular session.

Assignments that are submitted after the due date but by noon the following day will receive a penalty of 30%. From that point, assignments received up to one class session late will receive a penalty of 40%, and thereafter a 100% penalty. All assignments must be submitted in order to avoid receiving an "I" letter grade. It is each student's responsibility to deliver any late assignments to the instructor or the teaching assistant.

Exam and Business Plan:

There will be one final exam, and a business plan.

Grading:

• Homework assignments	30%
• Quizzes	10%
• Operations problems	10%
• Final exam	25%
• Business plan	<u>25%</u>
Total	100%

• A+	97%≥	• A	93%≥	• A-	90%≥
• B+	87%≥	• B	83%≥	• B-	80%≥
• C+	77%≥	• C	73%≥	• C-	70%≥
• D+	67%≥	• D	63%≥	• D-	60%≥
• F	60%<				

Major Campus Emergency:

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances.