

**COURSE SYLLABUS**  
**The University of Texas at Arlington**  
*College of Engineering*  
**Department of Civil Engineering**  
**CE 5387 – Construction Productivity**  
**(3 Credit Hours)**  
**Summer 2015**

**Name of Instructor:** Dr. Mohsen Shahandashti

**Office Number:** 401 Nedderman Hall

**Office Telephone Number:** 817-272-0440

**Email Address:** mohsen@uta.edu

**Faculty Profile:** <https://www.uta.edu/profiles/mohsen-shahandashti>

**Office Hours:** Tuesday and Friday: 3:00 – 5:00 PM – Additional Office Hours by Appointment.

**Teaching Assistant:** Navid Ahmadi Esfahani, email: [navid.ahmadiesfahani@mavs.uta.edu](mailto:navid.ahmadiesfahani@mavs.uta.edu), Office Hours: Monday 1:30-3:00pm and Wednesday - 1:30 to 3:00 PM, Civil Engineering Learning Center in NH 243

**Course Number, Section Number, and Course Title:**  
CE 5387 – Construction Productivity – Section 002 and 003

**Time and Place of Class Meetings:**  
Tuesday and Thursday, 1:00 – 2:50 PM, COBA 154

**Description of Course Content:** Evaluation of construction project management's effectiveness. An investigation of the advanced techniques required for improvement of construction projects including time, cost, quality management, preplanning, field evaluation techniques, time-lapse photography, safety, human factors, and communications. Prerequisite: CE 5379 and CE 5386; or consent of instructor.

**Student Learning Outcomes:** Upon completion of the course, the student will have:

- an ability to apply knowledge of mathematics, science, and engineering
- an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- an ability to identify, formulate, and solve engineering problems
- an understanding of professional and ethical responsibility
- an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

**Requirements:** CE 5379 and CE 5386; or consent of instructor.

**Course Text:** Adrian, J. J. (2004). "Construction Productivity: Measurement and Improvement," Stipes Publishing L.L.C., Champaign, Illinois. (ISBN: 1-58874-357-8)

**Reference Books:**

- Instructors' Lecture Materials, Notes and Handouts.
- Blackboard (course management)
- Oglesby, C.H., Parker, H.W., and Howell, G.A. (1989). "Productivity Improvement in Construction," McGraw-Hill, New York, NY.

**Descriptions of major assignments and examinations with due dates:** There will be two exams (one close to midterm, and one final which will be comprehensive), one project, and several homework assignments. See Course Outline for specific dates.

**Grading Policy:** Grades will be determined according to the following scale (the grading scale may be lowered at the discretion of the instructor, but will not be raised):

Grade	% Required
A	90 -100
B	80-89
C	70-79
D	60-69
F	Less than 60

Students will be required to accumulate points from the following:

Homework	15%
Class Attendance & Participation*	10%
Midterm Exam	25%
Term-Project & Presentation	20%
Final Exam	30%
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Total	100%

**Assignments must be uploaded on blackboard.**

**Late assignments will not be accepted.**

\*Online students should reply to the instructor's emails as soon as possible to answer his questions and facilitate a constant communication. They can also send their questions to the instructor via email. This constant communication via email will be considered as 10% of their grade, marked above as "Class Attendance and Participation".

**Make-up Exam Policy:** All students must take the exams. Only extenuating circumstances will be accepted as excuse for missing the exam. Health related excuses require **medical reports** and the **signature of a physician** that provided treatment.

**Grade Grievance Policy:** Refer to UTA Catalog for more information.

**Final Review Week:** A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

**Attendance Policy:** At the University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating his or her students' academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I have established the following attendance policy: students are expected to attend all classes. For total professional development, class participation and oral discussions will be encouraged. Everyone is asked to arrive and be seated promptly for duration of class to minimize the disruption to others.

**Drop Policy:** Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period,

students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://www.uta.edu/aao/fao/>).

**Americans with Disabilities Act:** The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA)*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

**Title IX:** The University of Texas at Arlington is committed to upholding U.S. Federal Law "Title IX" such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit [www.uta.edu/titleIX](http://www.uta.edu/titleIX).

**Academic Integrity:** Students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

*I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*

*I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

**Student Support Services Available:** UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to [resources@uta.edu](mailto:resources@uta.edu), or view the information at [www.uta.edu/resources](http://www.uta.edu/resources).

**Engineering Librarian:**

Sylvia George-Williams, Engineering Librarian  
UT Arlington Science & Engineering Library

Mailing address: B03B Nedderman Hall, Arlington, TX 76019. Phone: (817) 272 7519, Email: [sylvia@uta.edu](mailto:sylvia@uta.edu)

**Electronic Communication:** UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

**Student Feedback Survey:** At the end of each term, students enrolled in classes categorized as “lecture,” “seminar,” or “laboratory” shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

**Laptop use in the classroom:** In order to minimize distraction, the use of laptop and/or any other digital device (except standard scientific calculators) in the classroom is NOT allowed.

**Emergency Exit Procedures:** Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals.

**CE 5387 – Construction Productivity**  
**TENTATIVE COURSE OUTLINE**

Day	Date	Topic	General Description	Text Reference	Assignments Due
Week 1					
Tuesday	June 09	Introduction	Introduction to the course and construction productivity	Chapter 1	
Thursday	June 11	Project Owner	Productivity and the Project Owner	Chapter 2	
Week 2					
Tuesday	June 16	Project Designer	Productivity and Design	Chapter 3	
Thursday	June 18	Construction Firm	The Construction Firm’s Need to Increase Productivity	Chapter 4	
Week 3					
Tuesday	June 23	Construction Firm	Company and Jobsite Organization and Productivity	Chapter 5	Assignment 1
Thursday	June 25	Quantitative Management	Labor Productivity Standards	Chapter 8	
Week 4					
Tuesday	June 30	Quantitative Management	Scientific Models for Construction Productivity	Chapter 9	
Thursday	July 02	Quantitative Management	Total Quality Management (TQM)	Chapter 10	Assignment 2
Week 5					
Tuesday	July 07	MicroCYCLONE	Introduction to Simulation and MicroCYCLONE	N/A	
Thursday	July 09	Personnel Management	The role of supervisor in Improving Construction Productivity; Personnel Management and Construction Productivity	Chapter 6 & 7	Assignment 3
Week 6					
Tuesday	July 14	Lost Productivity	Change Orders and Productivity	Chapter 11	
Thursday	July 16	MIDTERM EXAM			
Week 7					
Tuesday	July 21	Lost Productivity	Impact Factors that Affect Productivity	Chapter 12	

Day	Date	Topic	General Description	Text Reference	Assignments Due
Thursday	July 23	Lost Productivity	Quantifying Lost Productivity	Chapter 13	Assignment 4
<b>Week 8</b>					
Tuesday	July 28	Productivity and Equipment	Construction Productivity and Equipment	Chapter 14	
Thursday	July 30	Project Management	Project Planning/Scheduling, and Productivity Improvement	Chapter 15	Assignment 5
<b>Week 9</b>					
Tuesday	August 04	Project Management	Estimating, Cost Control and Productivity Improvement; Managing Subcontractors Productivity	Chapter 16 & 17	
Thursday	August 06	Project Presentations			Project Due and Assignment 6
<b>Week 10</b>					
Tuesday	August 11	Project Presentations			
Thursday	August 13	Review and class survey			
<b>Week 11</b>					
Tuesday, 1:00 - 3:00 p.m., August 18		<b>FINAL EXAM</b>			

As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. – Dr. Mohsen Shahandashti.

**Emergency Phone Numbers:** In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone), 2-3003 (campus phone). You may also dial 911.