

Construction Management Student Handbook



The University of Texas at Tyler
College of Engineering

2017-2018

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INTRODUCTION

Welcome to the Construction Management (CM) Department at the University of Texas at Tyler. Within these pages you will find information that should help you complete a degree within our program. Specifically, you should find information on the mission, objectives and outcomes of the CM program, on advising, and on the curriculum. In this handbook, we introduce you to the ethics expected of a professional engineer. We also provide an overview of societies and activities within the College. There is a section on how to develop study skills that are crucial for success in engineering. Finally, in order to get to know your faculty, we've provided a brief biographical sketch of each of us.

CONSTRUCTION MANAGEMENT MISSION STATEMENT

The faculty and staff provide the opportunity for Construction Management students to develop state-of-the-art engineering knowledge and skills through student-centered education and research. Teamwork, professionalism and the importance of life-long learning are hallmarks of our program. Students and faculty provide outreach through innovative Construction Management solutions to significant regional, national, and global issues. The department of Construction Management mission statement can be viewed at <https://www.uttyler.edu/engineering/cm/>.

MENTORS

All department majors will have a full-time faculty member assigned as a Faculty Mentor during their time in the program, beginning with your first semester until your graduation semester. These faculty are part of the resources available to you for success in your academic career and to assist in your preparation for your professional career. Students will meet with their mentor at least once during each academic year which are enrolled in the program. That visit may occur during a time period established at the convenience of the Faculty member and within the academic calendar for that year. Faculty will document your visit with them and this will also be added to your student file. Your enrollment may be delayed if you do not visit with your Mentor during the academic year.

ADVISORS

The College Recruiter/Advisor initially interviews and advises all new students, including transfers. After that initial meeting, during your first semester, you will meet with the department chair who will be your advisor for the first year. At a minimum, you must visit your advisor before you enroll in courses each semester. You should feel free to visit your advisor as often as you need. Your advisor can provide advice and guidance in all matters affecting your academic performance. Your advisor is also very willing to provide career counseling.

Advising Procedure for Course Enrollment

Each currently enrolled CM major is required to be advised for the following semester or summer term by a Construction Management Advisor during the period set aside each semester for this purpose. Notices of the advising period will be announced in engineering classes, posted on the Construction Management bulletin board, and sent by e-mail. Please review the following before meeting with your advisor.

Each student should:

- Continue to monitor their own progress for timely graduation using the copy of the degree audit they receive after each advising visit.
- Meet with the advisor during the advising period to establish the best plan of courses for the upcoming semester based on current progress. Students are encouraged to make appointments at least 24 hours in advance by using the signup sheet posted on the advisor's office door.

Advisors will review the entire degree plan during each visit to suggest changes as appropriate. The advisor will initial the form and provide a copy of the current plan and progress to the student after each meeting. The original copy of the audit form will be kept in the student's permanent file in the CM Academic Program Office. The department will then release the advising hold and you will be able to register in the courses agreed to and listed on your degree audit form.

Student Responsibility

The student, not the advisor, is responsible for meeting UT Tyler's graduation requirements. If you do not meet the graduation requirements, you will not graduate, regardless of the advice you have received. It is your responsibility to know the degree requirements and to be actively involved in developing a plan of study to meet these requirements.

Graduation Requirements

To graduate with a Bachelor of Science degree in Construction Management you must

1. Earn a grade of "C" or better in all courses required for the degree.
2. Complete the general baccalaureate degree requirements of the University,
3. Complete the CM curriculum requirements

CONSTRUCTION MANAGEMENT PROGRAM EDUCATIONAL OBJECTIVES

Program Objectives are statements developed by the CM faculty based on input from the program's constituencies. They are reviewed by the College of Engineering and Computer Science, our alumni

and the Departmental External Advisory Committee. The statements describe the expected accomplishments of graduates during the first few years after graduation.

After graduation, our graduates

1. Demonstrate the knowledge, skills, and attitudes necessary to become construction and project management leaders assuming responsibility for multidisciplinary construction project teams, client focused construction, asset management; and ethical decision making in construction management practice.
2. Continue to grow intellectually and professionally through participation in professional society activities, continuing construction manager education, graduate studies, and/or self-study during their professional career.
3. Demonstrate effective oral, written, and graphical communication skills to meet increasing professional demands.
4. Achieve professional level recognition in construction or project management.

Objective Evaluation

After graduation from the CM program, the department plans to contact you annually to stay in touch because we are interested in your professional progress. In addition, we will ask you and your employer to fill out a survey (normally one, four and eight years after graduation) to determine how well you (we) are meeting our Program Educational Objectives. We hope you will share with us how well you were prepared for your new job or graduate school and what you are doing to continue to learn and grow professionally. Your feedback will help us improve the program.

CONSTRUCTION MANAGEMENT PROGRAM OUTCOMES

Program Outcomes are statements developed by the CM faculty and the College of Engineering based on recommendations by the program's constituencies. The statements describe what students are expected to know and what they are able to do by the time of graduation. Faculty use the Program Outcomes to help develop the topics covered in each course and the assignments and grading procedures.

By the time of graduation, our Construction Management graduates can

1. Apply knowledge of traditional mathematics, science, and construction management skills, and use modern technology tools, such as software, to solve problems.
2. Design and conduct experiments, as well as analyze and interpret data in construction.
3. Design systems, components, and processes and recognize the strengths and areas for possible improvement of their creative designs within realistic constraints such as

economic, political, social, constructability, sustainability, public health and safety, environmental, and ethical.

4. Work independently as well as part of a multidisciplinary design team.
5. Identify, formulate, solve, and evaluate construction design problems using models in the discipline of construction management.
6. Analyze a situation and make appropriate professional and ethical decisions.
7. Demonstrate effective oral, written, and graphical communication skills.
8. Demonstrate a commitment to learning and continued professional development outside the classroom, incorporate contemporary issues.

Outcome Assessment

As a student in the CM program you will be asked to perform “self-evaluations” on how well you feel you are meeting the learning objectives within each course. We will also ask you to participate in a self-evaluation internal exam at the conclusion of your sophomore and junior years and an exit interview at the conclusion of your senior year. We are interested in your evaluation as one means of providing feedback to us so we can strive to continually improve the quality of the program.

COURSE AND GRADUATION REQUIREMENTS

The instruction and experiences built into the Construction Management Curriculum are the means by which you achieve the nine Program Outcomes described above. Courses provide the foundation upon which the curriculum rests. Course descriptions can be found in the UT Tyler catalog available at www.uttyler.edu/catalog. The course requirements for a Bachelor of Science in Construction Management are provided in the Appendix, Figure 1. The degree requires you complete the 120 hours of course work described in the course requirements document. In order to understand prerequisites, a flow chart of course requirements is presented in Figure 2 in the Appendix.

Technical Electives

In the senior year you are able to select at least one three-hour Technical Elective each semester for a total of 6 hours. In the Appendix, Figure 3, you will find a list of acceptable technical electives with the associated prerequisites.

Core Curriculum

Courses in social sciences, humanities, and related non-technical areas are an integral part of all construction management degree programs, so that graduates will be aware of their social

responsibilities, understand the impact of engineering in a global and societal context, and appreciate social and political constraints on viable engineering solutions. The courses also satisfy the core curriculum requirements of the University (see Figure 5 in the Appendix).

CONDUCT AND ETHICS

Students at the University of Texas at Tyler are expected to conduct themselves as adults accountable for their own actions. The University has published guidelines for conduct on campus, found at: <http://www.uttyler.edu/educpsych/files/HonorCode.pdf>. Additionally, there is a Code of Conduct established for students in the College of Engineering. A copy is presented in Figure 6 of the Appendix, please review it carefully.

CONSTRUCTION MANAGEMENT SOCIETIES

Consider joining a construction student organization societies. Society student chapters are led by UT Tyler students who plan activities and programs. Student societies provide an opportunity to network with professionals employed in the community, participate in projects, and learn about career opportunities. Student societies plan field trip and plant tours. Participating in an engineering society will permit you to meet your classmates and faculty members in a social environment. Upon graduation, you may become a full member of a construction management society and continue to develop professional connections and technical competencies through your involvement with the society.

Construction Management Student Association (CMSA)

We are managers in the making. As a part of CMSA we will further your knowledge in the real-world aspects of managing projects. We are a team of managers working to provide you with the necessary tools to be successful in your future endeavors.

DEAN OF THE COLLEGE OF ENGINEERING

Dr. Javier A. Kypuros

**Dean of the College of Engineering
Ph.D., University of Texas at Austin
RBS 2004, 903-566-7040**

Dr. Javier A. Kypuros received his masters and doctorate degrees in Mechanical Engineering from The University of Texas at Austin in 1998 and 2001, respectively. He has over 16 years of experience in higher education and is an expert in Dynamic Systems and Controls and Engineering Education Innovation. Dr. Kypuros began his career as a faculty member at The University of Texas at El Paso in the College of Engineering. Prior to joining The University of Texas at Tyler, he served as the Associate Dean of Academic Affairs and Professor of Mechanical Engineering in the College of Engineering and Computer Science at the University of Texas Rio Grande Valley (formerly The University of Texas Pan American).

COE ADVISING STAFF

Jennifer Scott, M.Ch.E., P.E.

**Engineering Recruiter/Advisor
RBS 2030, 903-565-5716**

Carlos Alvarez

**Undergraduate Advisor
RBS 2031, 903-565-7040**

Tyler Armstrong

**Academic Advisor
Houston Engineering Center, 903-566-6204**

CONSTRUCTION MANAGEMENT FACULTY

Dr. J. Torey Nalbone, Chair

**Associate Professor of Construction Management
Ph.D., Texas A&M University
RBS 1008, 903-565-5520**

Dr. Nalbone's research interests are health protection engineering (industrial hygiene) and air pollution control engineering. He has extensive experience in OSHA compliance and forensic analysis. Dr. Nalbone served on the faculties of Sam Houston State University and the University of Texas Health Center at Tyler prior to joining the UT Tyler faculty in January 2007.

Dr. Althea Arnold

Assistant Professor of Construction Management

Ph.D., Texas A&M University

RBS 1035, 903-566-7002

Dr. Arnold is currently working on Building a Prototype Roofing robot. She is also interested in Building Information Modeling (BIM) and its integration into the construction industry. The vision for BIM is that all aspects of building design, construction, commissioning, and lifecycle for a building will be contained in a 3-D data base. Dr. Arnold plans to integrate the prototype roofing robot with BIM information to direct the robot's tasks.

Joseph Boylan

Lecturer of Construction Management

MSEE, Pennsylvania State University, PA

RBS 1037, 903-565-5884

Mr. Boylan is an experienced senior program and logistics manager who has worked in start-up, high-growth, and leading-edge organizations. He has demonstrated effective leadership skills and a hands-on approach to operational performance development. He is accomplished in leading large-scale projects from definition and design through deployment and end-user acceptance. He has translated technical, customer, and operational needs into realistic and fiscally sound strategic business and operational plans.

COLLEGE STUDY SKILLS

Construction Management is one of the more demanding disciplines to study in a university. However, we all know talented people who can seem to do the work without effort. The truth is, these people have a strong set of study skills helping them. Here are their secrets revealed.

In Class

- ✓ The Professor Will Tell You How To Get An "A"
 - *Listen* to what the professor says. *Take notes!*
 - *Follow directions* given for assignments!
 - *Write* down all hints, tips, tricks the professor shares (especially stuff not in the text).

- ✓ Be a Sponge
 - Class time is *Golden* time – soak it up and get the *most* out of it (you're paying for it).
 - Come *prepared* (do the reading, even if you have to just skim).
 - *Take notes!* (even if the lecture is given using overheads). Writing things down helps fix the concepts in your mind.
 - Ask *questions* and participate. (Professors put a grade value on participation) ○ If you need to tape record the lecture, ask! Most professors will not mind.

Studying

- ✓ Assess the Courses
 - Each semester, decide on which courses will require special attention.
 - Assign priorities, and develop your time management plan.
 - Don't shoot for an "A" in a course with a very narrow "A" range and a very broad "B" range.
 - Never shoot for an "A" in one course at the expense of effort in other courses. One "A" and two "C's" makes less GPA than three "B's." Do the math!

- ✓ Use the Professors
 - *Start assignments early* enough so you can ask your professor for help on difficult problems.
 - The only stupid question is the one you don't ask.

- ✓ Homework
 - *Do the homework!* Virtually all learning in a course comes from the effort you put into understanding and completing homework assignments.
 - *Work the example problems* in the text yourself *by hand* – don't just browse the solutions.
 - *Make a written outline* of chapter material as you work. Writing helps fix concepts in your mind.

- ✓ Hybrid Courses
 - Many of the construction management courses are taught in the hybrid format. The online lectures are just as important as the face to face lectures. Keep up with all online assignments. It is very hard to "catch up" if you fall behind in a hybrid course.

- ✓ Study Group Etiquette
 - Identify a group of people whom you like and form a study group.
 - Work on assignments together, but come to your study group with every assignment attempted.
 - Discuss. Work together. Share solutions. But never just copy – you won't be learning anything.
 - Collaboration (the discussion of concepts between two people) is highly encouraged versus one student borrowing another student's work in order to occasionally look at it (not collaboration – copying) which is not acceptable.

- ✓ The Study Stove
 - Weekly, or even daily, decide on which courses or assignments get put on the *front burner*, and which get put on the *back burner*. Front burner topics get top priority. Rotate assignments and courses from front to back burners as the situation demands. This is called *multitasking*, and you will do it throughout your career.
 - Sometimes, you might have to "eat" an assignment to get a more "valuable" one turned in. But always go back and finish the incomplete assignment (and hand it in for late credit if possible).

✓ Quality Time

- *Recognize quality study time and use it!* If you find yourself reading a text, and can't remember what you just read, this is not quality time. Close the book and take a break.
- Don't attempt to study when you're tired, hungry, frustrated or otherwise distracted.
- Get proper sleep! Eat nutritious food! Exercise! Play! Don't try to operate below par physically or mentally.

Test Time

✓ Cramming

- *Do NOT cram.* Avoid studying the day of the test. This activity uses short-term memory, and the information stored can vanish quickly ... even during the test for which you crammed.
- Start studying for the exam a few days ahead of time. Review the material the day and evening before the test, and then get a *good night's sleep*. This requires discipline, but it allows the new information to get organized in your head.

✓ Preparing

- The time to study for the next test is *now!* Approach all homework and reading assignments as if you are studying for the next test.
- A test is the last place you want to encounter the material for the first time.
- Be prepared!
- While studying, *make a written outline* of the material, regardless of whether it is a closed book or open book test. This will help you fix and organize the subject matter in your mind.
- Review the Syllabus for specific Course Objectives. They might be keys to some exam problems.
- Look for the "big picture," and try to see the concepts ... it makes calculating the details easier.

✓ Test-Taking Skills

- Don't discuss the exam with your friends before the exam starts. Their possibly mistaken ideas can shake your confidence in what you know. Your careful preparation has created a balloon of confidence – don't allow your balloon to be deflated.
- *Read the entire test* before you start – and work the easiest problems first (this builds confidence).
- *Divide your time* among the problems according to the amount of points for each. Leave at least five minutes to review your work before handing the test in.
- *NEVER leave a problem blank!* Try at least to set up a solution. *Partial Credit* has carried more than one student through college.

✓ The Subconscious Mind

- Do NOT beat on a problem during the test. If you can't arrive at an answer after a reasonable effort ... move on. *Trust your subconscious mind* to continue working on the problem. Often, the solution will come to you while working on a different problem, allowing you to go back and complete the difficult one before the test ends.

Some Parting Wisdom

In school, grades are the “coin.” In the workplace, successful projects, customer satisfaction, professional advancement, etc. are the “coin.” Employers know that students who go for the coin in school are more likely to go for the coin on the job. Grades are important, but ... don’t obsess. Most employers feel that a student with a solid “B” average and good teamwork and participation skills will “mainstream” better than a straight “A” student who did nothing but study in school. Have a life!

APPENDIX

CONSTRUCTION MANAGEMENT UNDERGRAD COURSE PRE-REQUISITES			
Major	Course #	Description	Pre-Requisites
CMGT	3310	Intro to Construction Struct. Syst.	MATH 1316 & PHYS 1301/1101
CMGT	3312	Advanced Estimating	CMGT 3311
CMGT	3315	Construction Design Theory	CMGT 3310
CMGT	3320	Soils and Foundations in Construction	CMGT 3310
CMGT	3365	Mechanical and Electrical Systems	PHYS 1301/1101
CMGT	4313	Applied Construction Struct. Syst.	CMGT 3315
CMGT	4315	Construction Systems	CMGT 3315
CMGT	4331	Construction Scheduling	CMGT 3311
CMGT	4335	Construction Law and Ethics	BLAW 3301 or GENB 3301
CMGT	4375	Construction Admin and Economics	FINA 3311 & CMGT 3311
CMGT	4385	Commercial Construction	CMGT 3311
CMGT	4195	Construction Management Capstone I	Instructor Consent
CMGT	4395	Construction Management Capstone II	CMGT 4195 and Chair approval
FINA	3311	Principles of Finance	Econ 2301 or 2302 & ACCT 2301

Figure 2: CMGT Undergraduate Prerequisites

CMGT Technical Electives		
CMGT	4321	Historic Preservation
CMGT	4325	Sustainable Construction
CMGT	4399	Construction Management Independent Study

Figure 3: List of Approved Technical Electives

CMGT Minor

A minor in construction management is a valuable support field for many different majors, including business administration, human resources development, technology, mechanical engineering and civil engineering. The construction management minor requires successful completion of courses listed.

Freshman Spring Semester

CMGT 2302

Intro to Construction Management

Sophomore Fall Semester

CMGT 2303

Construction Materials and Methods

Junior Fall Semester

CMGT 3311

Construction Estimating

Junior Spring Semester

CMGT 3312

Advanced Estimating

*Prerequisite CMGT 3311

CMGT 3348

Construction Safety

Senior Fall Semester

CMGT 4331

Construction Scheduling

Figure 4: CMGT Minor Courses

42 HOUR CORE CURRICULUM FOR CONSTRUCTION MANAGEMENT MAJORS

American History (6 hours)

HIST 1301: United States History I

HIST 1302: United States History II

HIST 1303: United States History (Post Civil War Tech Emphasis)

Communication (6 hours)

Component Area Option (3 hours)

ENGL 1301: Grammar & Composition I

ENGL 1302: Grammar & Composition II

SPCM 1315: Fundamentals of Speech Communication**

(acceptable substitutes for SPCM 1315: SPCH 1311 or 1321)

Creative Arts (3 hours)

ART 1301: Introduction to Art

ART 2303: Art History Survey I

ART 2304: Art History Survey II

MUSI 1306: Music Appreciation

MUSIC 2301: Cultural Music of the Americas

THTR 1301: The Theater: Plays in Performance

THTR 1356: The Cinema: Films and Performers

Language, Philosophy & Culture (3 hours)

PHIL 2306: Introduction to Ethics**

Life and Physical Sciences (6 hours) [Labs required for selected course]**

PHYS 1301: College Physics I*

PHYS 1101: College Physics I Lab*

PHYS 1302: College Physics II

PHYS 1102: College Physics II Lab

BIOL 1306: General Biology I

BIOL 1106: General Biology Lab I

CHEM 1305: Introduction to Chemistry I

CHEM 1105: Introduction to Chemistry I Lab

Mathematics (3 Hours)*

Component Area Option: STEM (3 hours)

MATH 2312: Precalculus*

MATH 1324: Math for Business and Economics I*

MATH 1342: Statistics*

MATH 1342: Statistics*

Government/Political Science (6 hours)

POLS 2305: Introductory American Government

POLS 2306: Introductory Texas Politics

Social and Behavioral Sciences (3 hours)

ECON 2301: Macroeconomics

ECON 2302: Microeconomics

*Required for Construction Management

**Additional Courses Required for Construction Management

Figure 5: CMGT Core Curriculum

The University of Texas at Tyler Code of Conduct for College of Engineering Students

All students at The University of Texas at Tyler are required to conduct themselves in accordance with the *Student Guide to Conduct and Discipline at UT Tyler*. Students may obtain copies of this publication in the office of the Dean of Student Affairs. It is also published on the Student Affairs web site at <http://www.uttyler.edu/mopp/documents/8-student-conduct-discipline.pdf>.

The goal of this Code of Conduct is to foster the atmosphere of professionalism, mutual respect, and open communication necessary to the fulfillment of the educational mission of the Departments within the College Engineering and Computer Science. A University resource for ethics is the UT Tyler Center for Ethics which can be found at <http://www.uttyler.edu/center-for-ethics/about.php>.

Student contributions to maintaining this atmosphere include but are not limited to:

- Attending the classes for which they are enrolled
- Coming to class prepared to learn and to contribute
- Avoiding behaviors that cause distraction (e.g., having private conversations with other class members, engaging in in-class cellular telephone conversations or text messaging, or sleeping in class)
- Arriving on time and remaining in the classroom for the entire class period;
- Avoiding academic misconduct as described in the *Student Guide to Conduct and Discipline at UT Tyler* (e.g., plagiarism, submitting the work of another as one's own, providing work to another student to submit as his or her own, use of crib sheets or other aids not allowed by the instructor during an examination)
- Treating faculty, staff, and peers with respect.

A student whose behavior is detrimental to the learning environment in the classroom may be removed from the classroom at the discretion of the instructor. Repeated problems may result in disciplinary action, including possible dismissal from the class.

The importance of attending classes and completing online coursework cannot be overstated. Students who fail to attend class regularly are inviting scholastic difficulty. The *Handbook of Operating Procedures* of The University of Texas at Tyler states that an instructor may, with consent of his or her Dean, request that the Registrar drop a student from a course when the student's absences have jeopardized his or her academic success. Instructors will inform their students if their courses have specific attendance requirements.

“I embrace honor and integrity. Therefore, I choose not to lie, cheat, or steal, nor to accept the actions of those who do.”

Figure 6: UT Tyler Honor Code