

Civil Engineering Student Handbook



**The University of Texas at Tyler
College of Engineering**

2017-2018

CONTENTS

2017-2018	1
Introduction	3
Civil Engineering Mission Statement.....	3
Student Assistance	3
Mentors	3
Advisors	4
Advising Procedure for Course Enrollment.....	4
Student Responsibility	4
Graduation Requirements	4
Civil Engineering Program Educational Objectives	5
Objective Evaluation.....	5
Civil Engineering Program Outcomes	5
Outcome Assessment	6
Course and Graduation Requirements	6
Transfer Students Who Have Completed a Pre-Engineering Program	7
Technical Electives.....	7
Core Curriculum	7
Gateway Exams	7
Senior Design Eligibility	7
Conduct and Ethics.....	8
Engineering Societies	8
American Society of Civil Engineers (ASCE).....	9
Society of Woman Engineers (SWE).....	9
Dean of the College of Engineering	10
COE Advising Staff	10
Civil Engineering Faculty	10
Engineering Study Skills	12
Appendix.....	A1
Figure 1: CENG Curriculum Plan	A2
Figure 2: CENG Curriculum Plan 4+1	A3
Figure 3: ENGR Prerequisite Courses/Civil Approved Electives	A4
Figure 4: CMGT Minor Courses	A5
Figure 5: CENG Core Curriculum.....	A6
Figure 6: UT Tyler Honor Code	A7

INTRODUCTION

Welcome to the Civil Engineering (CE) 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 CE 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.

CIVIL ENGINEERING MISSION STATEMENT

The faculty and staff provide the opportunity for civil engineering 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 civil engineering solutions to significant regional, national, and global issues.

STUDENT ASSISTANCE

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 in which you 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.

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 Engineering 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.

Advising Procedure for Course Enrollment

Each currently enrolled CE major is required to be advised for the following semester or summer term by a member of the College Advising Team during a period set aside each semester for this purpose. Notices of the advising period will be announced in engineering classes and 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. 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 Civil Engineering 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 CE curriculum requirements
4. Register for the FE exam review course.
5. Take the National Council of Examiners for Engineering and Surveying (NCEES) Fundamentals of Engineering examination.

The NCEES Fundamentals of Engineering (FE) examination is offered four times each year, in two month blocks (Jan-Feb; April-May; July-Aug; Oct-Nov), and may be taken more than once. A student should take the examination at least one semester prior to the semester in which the student plans to graduate. Students expecting to complete their course work for an engineering degree in April or May should take the FE exam in October/November or January/February. Those expecting to complete their course work in December should take the exam the preceding July/August or October/November.

Detailed information about the FE exam content, exam schedule, registration for the exam and review sessions is available at <http://www.ncees.org>.

CIVIL ENGINEERING PROGRAM EDUCATIONAL OBJECTIVES

Program Objectives are statements developed by the CE 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 earning their degree, our graduates:

1. Have the knowledge, skills, and attitudes necessary to become engineering leaders and assume responsibility for multidisciplinary engineering design; project, construction, and asset management; and ethical decision making in professional practice.
2. Continue to grow intellectually and professionally through participation in professional society activities, continuing engineering 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. Become licensed professional engineers.

Objective Evaluation

After graduation from the CE program, the department plans 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.

CIVIL ENGINEERING PROGRAM OUTCOMES

Program Outcomes are statements developed by the CE faculty and the College of Engineering and Computer Science 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 civil engineering graduates can:

1. Apply knowledge of traditional mathematics, science, and engineering skills, and use modern engineering tools to solve problems.
2. Design and conduct experiments, as well as analyze and interpret data in more than one civil engineering sub-discipline.
3. Design systems, components, and processes and recognize the strengths and areas for possible improvement of their creative designs within realistic constraints such as regulatory, economic, environmental, social, political, ethical, health and safety, constructability, and sustainability.
4. Work independently as well as part of a multidisciplinary design team.
5. Identify, formulate, and solve engineering design problems using engineering models in the four of the five sub-disciplines civil engineering: structural engineering, transportation engineering, construction management, hydrology and/or environmental engineering.
6. Analyze a situation and make appropriate professional and ethical decisions.
7. Demonstrate effective oral, written, and graphical communication skills.
8. Show a commitment to learning and continued professional development outside the classroom, incorporate contemporary issues during problem solving, and determine the impact of engineering solutions in a global and societal context.
9. Explain professional practice issues, leadership principles and attitudes, management concepts and processes, and concepts of business, public policy, and public administration.

Outcome Assessment

As a student in the CE 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 Civil Engineering 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 <http://www.uttyler.edu/catalog>. The course requirements for a Bachelor of Science in Civil Engineering are provided in the Appendix, the degree requires you to complete the 128 hours of course work described in the course requirements document and present a grade of C or higher in each course. In order to understand prerequisites, a flow chart of course requirements is presented in **Error! Reference source not found.** In the Appendix.

Transfer Students Who Have Completed a Pre-Engineering Program

Students transferring to UT Tyler after *completing a pre-engineering Associate degree program* at a junior or community college should be able to complete their BSCE degrees in two more years. Students should have completed courses such as twelve credits of calculus through multivariate, differential equations, introductory chemistry with lab, eight credits of university physics, a Statics course equivalent to UT Tyler ENGR 2301, a Dynamics course equivalent to ENGR 2302, and a Mechanics of Materials course equivalent to CENG 3306. in the Appendix shows the recommended courses that should be taken in the pre-engineering program as those taken within the first two years at UT Tyler, and the courses in the last two semesters as those left to be taken at UT Tyler. The CE degree for all students requires completion of one course in each of the stated disciplines (CENG 2336, CENG 3325, CENG 3336, CENG 3351, CENG 3371, and CENG 4339) representing the breadth of civil engineering and at least 3 courses in design of these elements representing the depth.

Technical Electives

In the senior year you are able to select at least one three-hour Technical Elective each semester for a total of 9 hours. In the Appendix, **Error! Reference source not found.**, you will find a list of acceptable technical Figure electives with the associated prerequisites.

Core Curriculum

Courses in social sciences, humanities, and related non-technical areas are an integral part of all engineering degree programs, so that engineering 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 42 hour core curriculum requirements of the University (see Figure in the Appendix).

Gateway Exams

During the spring semester of the sophomore and/or junior year, every civil engineering student will take an FE styled exam over the course material completed during that year.

Sophomore	Junior
CENG 3306	CENG 3310
CENG 2336	CENG 3325
ENGR 2301	CENG 3336
	CENG 3351
	CENG 3361
	CENG 3371
	CENG 3434
	CENG 4339

These exam questions are a good indication of the students' preparation for the FE exam.

SENIOR DESIGN ELIGIBILITY

The civil engineering sub-discipline focus is a hallmark of the CE experience and preparation in the UT Tyler program. In order to be considered a senior eligible to enroll in Senior Design I (CENG 4115), a student must have completed (6) of the (7) sub-discipline courses and 5 must be at a course grade of "C" or better. For

students entering the program in Fall 2017, the eligibility for Senior Design I (CENG 4115) is (5) of (6) sub-disciplines courses with a course grade of “C” or better.

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, entitled “A Student Guide to Conduct and Discipline at the University of Texas at Tyler.” This document can be reviewed at <http://www.uttyler.edu/mopp/documents/8-student-conduct-discipline.pdf>. Additionally, there is a Code of Conduct established for Engineering Students. A copy is presented in Figure of the Appendix, please review it carefully. The University honor code states that every member of the UT Tyler community embraces:

Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

As a professional engineer you will be asked to uphold the National Society of Professional Engineers Code of Ethics. A complete listing of the Code can be found at the NSPE website: <http://www.nspe.org/>. Below we have listed the Fundamental Canons of a Professional Engineer, so you can become familiar with the obligations of your chosen profession.

NSPE Code of Ethics for Engineers

Preamble: Engineering is an important and learned profession. As members of this profession, engineers are expected to exhibit the highest standards of honesty and integrity. Engineering has a direct and vital impact on the quality of life for all people. Accordingly, the services provided by engineers require honesty, impartiality, fairness and equity, and must be dedicated to the protection of the public health, safety, and welfare. Engineers must perform under a standard of professional behavior that requires adherence to the highest principles of ethical conduct.

Fundamental Canons: Engineers, in the fulfillment of their professional duties, shall

1. Hold paramount the safety, health and welfare of the public.
2. Perform services only in areas of their competence.
3. Issue public statements only in an objective and truthful manner.
4. Act for each employer or client as faithful agents or trustees.
5. Avoid deceptive acts.
6. Conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the honor, reputation, and usefulness of the profession.

ENGINEERING SOCIETIES

Consider joining one or more engineering societies. Society student chapters are led by engineering students who plan activities and programs. Engineering societies provide an opportunity to network with professional engineers employed in the community and to 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 an engineering society

and continue to develop professional connections and technical competencies through your involvement with the society.

American Society of Civil Engineers (ASCE)

The mission of the UT Tyler student chapter of ASCE shall be the advancement and dissemination of the theory and practice of civil engineering, the presentation of proper perspective of engineering work, the opportunity to become acquainted with the personnel and activities of the Society as well as to promote professional consciousness and fellowship, and to have fun. Membership is open to all engineering majors. Dr. Michael Gangone is the faculty advisor for ASCE.

Society of Woman Engineers (SWE)

The mission of the UT Tyler student chapter of SWE shall be the advancement and dissemination of the theory and practice of engineering to women who are not normally a majority in engineering. The chapter will provide the opportunity to become acquainted with the personnel and activities of the Society as well as to promote professional consciousness and fellowship and to have fun. Membership is open to all engineering majors.

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

CIVIL ENGINEERING FACULTY

Dr. J. Torey Nalbone, Chair
Associate Professor of Civil Engineering and Chair
Ph.D., Texas A&M University
RBS 1005, 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. Michael McGinnis
Associate Professor of Civil Engineering
Ph.D., Lehigh University
RBS 1006, 903-566-5870

Dr. McGinnis' research interests are primarily nondestructive evaluation of structures, structural fire behavior, fire dynamics, and applied mechanics. He has experience in private practice designing pressure hulls, bulkheads, and other primary structures of nuclear submarines in a multi-disciplinary design-build environment. Dr. McGinnis joined the Civil Engineering Faculty in August 2007. He was elected as the interim dean in the fall of 2015

Dr. Michael Gangone
Assistant Professor of Civil Engineering
Ph.D., Clarkson University
RBS 1009, 903-565-5872

Dr. Gangone received his B.S., M.S. and Ph.D. from Clarkson University in Civil and Environmental Engineering focusing on structural engineering. His areas of research interest include innovative bridge research and design methods along with the development of structural health monitoring strategies for infrastructure systems. His work has led to the publishing of more than 40 technical papers and reports. He also has a strong commitment to teaching and improving engineering education.

Dr. Gokhan Saygili
Assistant Professor of Civil Engineering
Ph.D., University of Texas at Austin
RBS 1007, 903-565-5516

Dr. Saygili received his Ph.D. degree from the University of Texas at Austin in 2008 and began working at Norwegian Geotechnical Institute (NGI) the same year. He joined the faculty at the University of Texas at Tyler in the fall of 2013. Dr. Saygili's research studies are related to geotechnical earthquake engineering with specific emphasis on the probabilistic assessment of geohazards (e.g. earthquake-induced ground failure and soil liquefaction).

Dr. Mena Souliman
Assistant Professor of Civil Engineering
Ph.D., Arizona State University
RBS 1008, 903-565-5892

Dr. Mena Souliman received his Ph.D. degree from Arizona State University in 2012. He has more than 7 years of experience in pavement analysis, design and characterization. Dr. Souliman has participated in several state and national projects during his employment at Arizona State University and University of Nevada, Reno. He had previously worked as a postdoctoral scholar at University of Nevada, Reno with the materials and transportation group. Dr. Souliman was selected to be a lifetime fellow by the International Road Federation in 2009.

Dr. Zafer Miqdadi

Lecturer, Department of Civil Engineering

Ph.D., Moscow Institute of Hydrotechnical Engineering, Russia.

HEC A213, 713-718-6553

Dr. Miqdadi has extensive experience in teaching diverse courses in higher education institutions, including math, environmental science, and civil engineering courses. He served on the faculties of several Universities and colleges in Russia, Jordan, and the United States prior to joining the UT Tyler faculty in 2014. His research interest was water hammer in water supply systems. Dr. Miqdadi worked as civil/ water and wastewater engineer.

Tanya Larson

Lecturer, Department of Civil Engineering

M.S. – Texas A&M University

HEC A212, 903-566-6117

Ms. Larson earned her bachelor's and master's degrees in Civil Engineering at Texas A&M University. She worked as a structural engineer in the offshore oil industry for several years and then transitioned into teaching. She currently teaches civil and mechanical engineering courses for the University of Texas at Tyler Houston Engineering Center.

ENGINEERING STUDY SKILLS

Engineering 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.
- ✓ 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 engineering school.

✓ 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



**Bachelor of Science / Masters of Science in Civil Engineering
4+1 Curriculum
2017-2018 Catalog**

The University of Texas at Tyler (Undergraduate)

Freshman Year					
Fall Semester			Spring Semester		
Course	Title	SCH	Course	Title	SCH
ENGL 1301	College Composition I	3	SPCM 1315	Fundamentals of Speech Communication	3
MATH 2413	Calculus I	4	PHYS 2325	University Physics I	3
CHEM 1311	General Chemistry I	3	PHYS 2125	University Physics I Lab	1
CHEM 1111	General Chemistry I Lab	1	MATH 2414	Calculus II	4
ENGR 1201	Introduction to Engineering	2	ENGR 1204	Engineering Graphics	2
POLS 2306	Introductory Texas Politics	3	ENGL 1302	College Composition II	3
Semester Credit Hours		16	Semester Credit Hours		16

Sophomore Year					
Fall Semester			Spring Semester		
Course	Title	SCH	Course	Title	SCH
PHYS 2326	University Physics II	3	PHIL 2306	Intro to Ethics	3
PHYS 2126	University Physics II Lab	1	HIST 1303	History of Tech and Innovation in US Soc	3
HIST 1301	United States History I	3	ECON 2301	Principles of Macroeconomics, OR	3
MATH 3404	Multivariate Calculus	4	ECON 2302	Principles of Microeconomics	3
ENGR 2301	Mechanics - Statics	3	MATH 3305	Differential Equations	3
POLS 2305	Introductory American Government	3	ENGR 2302	Mechanics - Dynamics	3
			CENG 3306	Mechanics of Materials	3
Semester Credit Hours		17	Semester Credit Hours		18

Junior Year					
Fall Semester			Spring Semester		
Course	Title	SCH	Course	Title	SCH
CENG 3434	CE Materials, Codes & Specifications	4	CENG 3361	Applied Engineering Hydrology	3
CENG3310	Fluid Mechanics	3	CENG 3371	Intro to Environmental Engineering	3
MATH 3351	Probability & Statistics for Engineers	3	CENG 3336	Soil Mechanics	3
CENG 4339	CE Construction Management	3	CENG 3325	Structural Analysis	3
	Additional Science Elective	3	CENG 3351	Transportation Engineering Systems	3
Semester Credit Hours		16	Semester Credit Hours		15

Senior Year					
Fall Semester			Spring Semester		
Course	Title	SCH	Course	Title	SCH
CENG 4412	Concrete & Steel Design	4	CENG 4315	Senior Design II	3
	2 Design Electives from *	6	CENG 4341	Leadership, Public Policy & Asset Mgmt	3
	Addtl. Design or approved tech. elective	3		Creative Arts	3
CENG 4351	Traffic Design *		CENG 53XX	CE Technical Elective (Graduate)	6
CENG 4381	Foundation Design *		Semester UG Credit Hours		9
CENG 4371	Environmental Engineering Design *		Semester Graduate Credit Hours		6
ENGR 4009	FE Exam Preparation	0	Total		15
ENGR 4109	Senior Seminar	1	Summer Semester		
CENG 4115	Senior Design I	1	CENG 5399	Independent Study or	3
			CENG 5371	Graduate Internship	
Semester Credit Hours		15	Semester Graduate Credit Hours		3

Graduate Year					
Fall Semester			Spring Semester		
Course	Title	SCH	Course	Title	SCH
MATH 53XX or CENG 53xx	Advanced Math or Analysis Course (May choose from graduate courses as recommended by Advisor)	3	CENG 53XX	CE Content Course	3
			CENG 53XX	CE Graduate Course	3
			CENG 53XX	CE Graduate Technical Elective	3
CENG 53xx		3	CENG 5396	Thesis II	3
CENG 53xx		3	CENG 5393	Advanced Design Project	
CENG 5395	Thesis I	3			
CENG 5399	Independent Study				
Semester Graduate Credit Hours		12	Semester Graduate Credit Hours		12
		(9)			(9)

Undergraduate Degree Total Credit Hours 128
Graduate Degree Total Credit Hours 30

4+1 Total Credit Hours (includes 6 hours of UG and G overlap) 152

Figure 2: CENG Curriculum Plan 4+1

CIVIL ENGINEERING UNDERGRAD COURSE PRE-REQUISITES				
Course Number		Course Title	Pre-Requisites	
ENGR	2301	Statics	PHYS 2325, PHYS 2125, MATH 2414	
ENGR	2302	Dynamics	ENGR 2301	
CENG	2336	Geomatics	ENGR 1204 & ENGL 1316	
CENG	3306	Mechanics of Materials	ENGR 2301	
CENG	3310	Fluid Mechanics	Pre-Req: ENGR 2302 & MATH 3305 Co-Req: MATH 3404	
CENG	3325	Structural Analysis	CENG 3306	
CENG	3336	Soil Mechanics	CENG 3306	
CENG	3351	Transportation Engineering	MATH 3351	
CENG	3361	Engineering Hydrology	CENG 3310	
CENG	3371	Intro to Environmental Engineering	CHEM 1311/CHEM 1111	
CENG	3434	CE Mats, Codes & Specs	CENG 3306	
CENG	4115	Senior Design I	SPCM 1315 & Department chair approval	
CENG	4199	Independent Study	Department chair approval	
CENG	4299	Independent Study	Department chair approval	
CENG	4314	Advanced Structural Design	CENG 3325	
CENG	4315	Senior Design II	CENG 4115	
CENG	4330	Water Resources Plan & Mgmt	CENG 3361, Co-listed with CENG 5330	
CENG	4339	CE Construction Management	ECON 2301 or ECON 2302	
CENG	4341	Leadership, Business, and Assests	Department chair approval	
CENG	4350	Topics in Civil Engineering	Department chair approval	
CENG	4351	Traffic Design	CENG 2336, CENG 3306, CENG 3351	
CENG	4355	Trasporation Management	CENG 4351,Co-listed with CENG 5355	
CENG	4370	Undergraduate Internship	Department chair approval	
CENG	4371	Environmental Engineering Design	CENG 3371	
CENG	4381	Foundation Design	CENG 3336	
CENG	4395	Undergraduate Research	Department chair approval	
CENG	4399	Independent Study	Department chair approval	
CENG	4412	Concreate & Steel Design	CENG 3325	
Electives Approved for Civil Engineering Majors				
Course Number		Course Title	Dual Listed	Semester offered
MATH	3315	Linear Algebra and Matrix Theory	No	Fall
EENG	3306	Electronic Circuit Analysis I	No	Fall
COSC	1336	Programing Fundamentals	No	Fall/Spring/Sum.
CMGT	3311	Construction Estimating	No	Fall
CMGT	3312	Advanced Estimating	No	Spring
CMGT	3365	Mechanical, Electical and Plumbing Syst.	No	Spring
CMGT	4331	Construction Scheduling	No	Fall
CENG	4314	Advanced Structural Analysis	Yes	Odd Fall
CENG	4316	Advanced Steel Design	Yes	Odd Spring
CENG	4330	Water Resources and Planning Mngt.	Yes	As needed
CENG	4350	Special Topics in Civil Engineering	No	Fall/Spring
CENG	4353	Introduction to Pavement Engineering	Yes	Spring
CENG	4370	Undergraduate Internship	Yes	Fall/Spring
CENG	4395	Undergraduate Research	No	As needed
CENG	4399	Independent Study (if approved)	No	As needed
MENG	3301	Thermodynamics I	No	Fall/Spring
MENG	3319	Materials Science and Manufacturing	No	
MENG	4317	Vibrations	No	Spring

Figure 3: ENGR Prerequisite Courses/Civil Approved 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 CIVIL ENGINEERING 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)**

CHEM 1311: General Chemistry I*

CHEM 1111: General Chemistry I Lab*

PHYS 2325: University Physics I*

PHYS 2125: University Physics I Lab*

Mathematics (3 Hours)**

Component Area Option: STEM (3 hours)

MATH 2413: Calculus I*

MATH 2414: Calculus II*

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 Civil Engineering major

**Additional courses required for Civil Engineering major

Figure 5: CENG Core Curriculum

The University of Texas at Tyler Code of Conduct for Engineering Majors

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. 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 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