

SUBJECT: Mechanical, Electrical, and Plumbing Systems Administrative Instructions

1. Welcome to CMGT 3365-031 (Electrical and Mechanical Systems), a course in critical construction building “design” focused on mechanical, electrical, water, and power systems for buildings. This course focuses on:
 - a. The proper application of water, electrical, heating, ventilation and cooling systems in construction.
 - b. The use of acoustic, date, lighting, and fire protection systems.
 - c. You will also be introduced to the principles of sustainable building design and construction
 - d. the basic principles associated with high performance (“green”) building design and construction. These principles include energy efficient building envelope design; optimum use of passive heating, cooling and daylighting; and the installation of the most energy efficient mechanical and electrical systems.
 - e. You will become familiar with the concept of “cost of ownership and maintenance” for systems in your structures and you will develop a skill on minimizing the life cycle costs for these systems.
 - f. You will acquire a basic level of “professional practice” thru the various “topic” labs in the course.
 - g. You will participate in a familiarization with basic welding techniques.
 - h. You will be required to build a “GREEN” college of engineering cart storage shed as a practicum for the course.

Taken in combination these basic building blocks will broaden your construction management knowledge into the domain of the architect and engineer.

2. We will meet *every Tuesday and Thursday (8:00am to 8.55am) in HEC-0C203. There is a lab time scheduled for every Monday from (2:30pm to 5:15pm in HEC-0D114)* IAW the course schedule (see Encl 1). LABS require lab safety dress (pants, shirts, closed toe shoes, get dirty) and you will be using safety glasses and ear protection (**bring your own**) for every lab!

- a. I will teach based on the schedule in Enclosure 1. If you will miss a scheduled class, you are still responsible for turning in the homework assigned for that day and the material and you will not get the participation points available for each lesson unless I have given an authorized absence.
- b. I teach every day in general -- always feel free to come by to see me IF I am in my office – BEST PRACTICE is to email me ahead of time to set up an appointment for when you would like to meet. My office hours are posted on my office door, HEC-0A221.

3. Class Room Procedures:

- a. Bring study notes, textbook, note-taking material, and calculator to every class. Class preparation is your individual responsibility.

Note: Just like a real job –showing up to class is a real-world obligation – there are no free classes. Anything not turned in by start of class is late. It is possible in extenuating circumstances to have a “COORDINATED LATE” submission that can occur when you contact me in advance. (That means 24 hours in advance except for real emergencies).

Note: I will often pick someone at random at the start of class to show how they accomplished the homework due that day – so be ready and be prepared.

4. Mandatory Textbook: *Mechanical and Electrical Systems for Construction Managers - 3rd Edition* (ISBN 978-0-8269-9663-2)

I will check for the text at next class!!

5. Grade Breakout and Cutoffs:

<u>Course Points</u>	<u>Grade Scale</u>
Midterm Exams (02Nos)	(30%)
Assignments/Professional	(10%)
Assignments (Ratliff Relay)	(10%) (See additional notes for Ratliff Relay 2025)
Final Exam	(30)
Semester Project/Lab	<u>(20%)</u>
	<i>100%</i>

Grades Scale: A = 90% of more
 B = 80 to 89%
 C = 70 to 79%
 D = 65 to 69%
 F = anything less than 65%

If you get less than a C (70%) as your final combined grade **you will fail the course**. Note that final grades are only A, B, C, D, F. *I will return all graded exercise to you – keep track of them – with them you know what your cumulative grade looks like.*

Note: There is no way to ADD to your grade once an exercise is graded –the cumulative grade is the FINAL grade – there are NO adjustments made at end of course – you worked hard for the grade and will honor that by making sure you get the grade you worked very hard for.

6. Exams:

- The dates for Exams are included in the course schedule. (Usually in lab period on Friday)
 Official reasons for missing an exam include official University participation, family emergency or other unforeseen circumstance. Regardless of the reason you are required to notify the instructor prior to the exam and as early as feasible. You are required to take a make-up Exam, regardless of your reason for missing the scheduled Exam. Report any conflict to me as soon as possible prior to the Exam.
- All the Exams and the Final are closed book and notes.
- The ONLY electronic device allowed in an exam is an approved calculator. Your exam will be collected and your grade will be a zero if you are caught using a non-approved electronic device/calculators.

8. Students Rights and Responsibilities. To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link:

<http://www.uttyler.edu/wellness/StudentRightsandResponsibilities.html>

9. Grade Replacement/Forgiveness. If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to do so will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates will receive grade forgiveness (grade replacement) for only three course repeats; graduates, for two course repeats during his/her career at UT Tyler.

10. State-Mandated Course Drop Policy. Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the 12th day of class (See Schedule of Classes for the specific date). Exceptions to the 6-drop rule include, but are not limited to, the following: totally withdrawing from the university; being administratively dropped from a course; dropping a course for a personal emergency; dropping a course for documented change of work schedule; or dropping a course for active duty service with the U.S. armed forces or Texas National Guard. Petitions for exemptions must be submitted to the Registrar's Office and must be accompanied by documentation of the extenuating circumstance. Please contact the Registrar's Office if you have any questions.

11. Disability Services. In accordance with federal law, a student requesting accommodation must provide documentation of his/her disability to the Disability Support Services counselor. If you have a disability, including a learning disability, for which you request an accommodation, please contact Ida MacDonald in the Disability Support Services office in UC 282, or call (903) 566-7079. [You MUST contact me for accommodation needs.](#) I will not contact you first.

12. Student Absence due to Religious Observance. Students who anticipate being absent from class due to a religious observance are requested to inform the instructor in advance for an excused absence and late submission of work.

13. Student Absence for University-Sponsored Events and Activities. If you intend to be absent for a university-sponsored event or activity, you and the event sponsor request must notify me at least two weeks prior to the date of the planned absence.

14. Social Security and FERPA Statement. It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

15. Emergency Exits and Evacuation. Everyone is required to exit the building when a fire alarm goes off. Follow your instructor's directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do Not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.

Encls

Amjad Hossain, P.E.
CMGT 3365-031/031L/ Fall-2025

Attachment 1

Initial Course Schedule *(Subject to change as needed throughout the semester)*

Date	Lesson #	Materials Covered	Assigned Reading	PS/Project Assignments
	1	Course Syllabus & What is MEP?	CH 1	
	2	Water PART 1 Where does it come from? What does it look like?	Canvas slides	Canvas Module UT Tyler safety EXAM and department lab statements
	3	Water PART 2- "Sourcing" and Management	Canvas slides	
	4	CM Plumbing / Water	Ch 1 & 2	
	5	Sanitary Drainage	Ch 3	
	6	Design & Sizing Sanitary Drainage	CH 4	Water homework lab results due
	7	Design & Sizing Water Supply Systems	CH 5	
	8	Water Systems	CH 6	
	9	Fixtures and Testing	CH 7	
	10	EXAM 1 – Water Systems	Ch 1-7	
	11	Comfort	Ch 8	
	12	Psychometrics 1	Ch 9	
	13	Psychometrics 2	CH9	
	14	Heating Systems	CH 10	
	15	Heating	CH 11	
	16	Refrigeration Principles	CH 12	
	17	AC Systems	CH 12	
	18	Heat Pumps	CH 13	
	19	TEST # 2	CH 8-13	
	20	Framing – Traditional/Advanced/Light Steel	Ch 14	
	21	Automated Control Systems	CH 15	
	22	Automated Control Systems	CH 15	
	23	Electrical Principles	CH 21 & 22	
	24	Ohm's Law - Series and Parallel Circuits	CH 23	
	25	Plans and Transformers	CH 24/28	

	26	Cables and Conduit	CH 26	
	28	Test # 3Electrical System /Survey		

	29		CH 28	
	30		CH 28	
	31	Semester Project/Lab		

MEP Lab Schedule/Fall-2025 *(Subject to change as needed throughout the semester)*

Date	Lesson #	Materials Covered	PS/Project Assignments
1		Water – How do we measure its “quality”?	
2		Water - How can we treat water to meet specs?	
3		Water - How can we filter water?	
4		Team Lab Project/ Water Purification-1	
5		Team Lab Project/ Water Purification-2	
6		Team Lab Project/Ratliff Relay	
7		Team lab Project/Psychrometric Chart	
8		Team Lab Project/Cooling Load Calculation	
9		Team Project/Green Means and Methodology in Construction	
10		Team Project/ Lab-2	
11		Team Project/Lab-3	
12		Team Project/Lab-4	
13		Final Presentation/ Lab	

CMGT 3365 MEP Systems**Course Objectives:**

1. List and define the major components of the electrical and mechanical systems of a building.
2. Explain how Indoor Environmental Quality is affected by the electrical and mechanical systems
3. Identify the fundamental considerations for building illumination
4. Analyze an illumination plan for adequacy and feasibility
5. Describe the basic consideration of building acoustics
6. Apply proper design considerations to the control of noise in a building
7. Prepare a plan for water use and recovery for a residential and commercial building
8. Organize water resources into a priority for efficient building design and construction
9. Describe basic fire control measures in a building
10. Describe the electrical systems and service for a building
11. Apply design specifications to the overall electrical system
12. Identify new technologies for the reduction of energy usage (energy efficiency) for a building
13. Describe devices for providing thermal control within a building
14. Describe and illustrate the heat flow within and throughout a building
15. Describe the necessary mechanical equipment for thermal control of an occupied space

University Policies**UT Tyler Honor Code**

Every member of the UT Tyler community joins together to embrace: Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

Students Rights and Responsibilities

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link; <http://www.uttyler.edu/wellness/rightsresponsibilities.php>

Campus Carry

We respect the right and privacy of students 21 and over who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at <http://www.uttyler.edu/about/campus-carry/index.php>.

UT Tyler a Tobacco- Free University

All forms of tobacco will not be permitted on the UT Tyler main campus, branch campuses, and any property owned by UT Tyler. This applies to all members of the University community, including students, faculty, staff, University affiliates, contractors, and visitors.

Forms of tobacco not permitted include cigarettes, cigars, pipes, water pipes (hookah), bidis, kreteks, electronic cigarettes, smokeless tobacco, snuff, chewing tobacco, and all other tobacco products.

There are several cessation programs available to students looking to quit smoking, including counseling, quitlines, and group support. For more information on cessation programs please visit www.uttyler.edu/tobacco-free.

Grade Replacement/Forgiveness and Census Date Policies

Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census date of the semester in which the course will be repeated. (For Fall, the Census Date is September 12, 2016). Grade

Replacement Contracts are available in the Enrollment Services Center or at <http://www.uttyler.edu/registrar>. Each semester's census date can be found on the contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar.

Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract.

The Census Date (Sept. 12th) is the deadline for many forms and enrollment actions of which students need to be aware. These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit.
- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a "W" grade)
- Being reinstated or re-enrolled in classes after being dropped for non-payment
- Completing the process for tuition exemptions or waivers through financial aid.

State Mandated Course Drop Policy

Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2 year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any that is dropped after the census date;

Exceptions to the 6 drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center. If you have any questions.

Student Accessibility and Resources

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University offers accommodations to students with learning, physical and/or psychiatric disabilities. If you have a disability, including non-visible disabilities such as chronic diseases, learning disabilities, head injury, PTSD or ADHD, or you have a history of modifications or accommodations in a previous educational environment you are encouraged to contact the Student Accessibility and Resources (SAR) office and schedule an interview with the Accessibility Case Manager/ADA coordinator, Cynthia Lowery Staples. If you are unsure if the above criteria applies to you, but have questions or concerns please contact the SAR office. For more information or to set up an appointment please visit the SAR office located in the University Center, Room 3150 or call 903-566-7079. You may also send an email to cstaples@uttyler.edu.

Student Absence due to Religious Observance

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor such absences by the second class meeting of the semester.

Student Absence for University-Sponsored Events and Activities

If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

Social Security and FERPA Statement

It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the

Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

Emergency Exits and Evacuation

Everyone is required to exit the building when a fire alarm goes off. Follow your instructor's directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.

Student Standards of Academic Conduct

Disciplinary proceedings may be initiated against any student who engages in scholastic dishonesty, including, but not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

i. "Cheating" includes, but is not limited to:

- copying from another student's test paper;
 - using, during a test, materials not authorized by the person giving the test;
 - failure to comply with instructions given by the person administering the test;
 - possession during a test of materials which are not authorized by the person giving the test, such as class notes or specifically designed "crib notes". The presence of textbooks constitutes a violation if they have been specifically prohibited by the person administering the test;
 - using, buying, stealing, transporting, or soliciting in whole or part the contents of an unadministered test, test key, homework solution, or computer program;
 - collaborating with or seeking aid from another student during a test or other assignment without authority;
 - discussing the contents of an examination with another student who will take the examination;
 - divulging the contents of an examination, for the purpose of preserving questions for use by another, when the instructors has designated that the examination is not to be removed from the examination room or not to be returned or to be kept by the student;
 - substituting for another person, or permitting another person to substitute for oneself to take a course, a test, or any course-related assignment;
 - paying or offering money or other valuable thing to, or coercing another person to obtain an unadministered test, test key, homework solution, or computer program or information about an unadministered test, test key, home solution or computer program;
 - falsifying research data, laboratory reports, and/or other academic work offered for credit;
 - taking, keeping, misplacing, or damaging the property of The University of Texas at Tyler, or of another, if the student knows or reasonably should know that an unfair academic advantage would be gained by such conduct; and
 - misrepresenting facts, including providing false grades or resumes, for the purpose of obtaining an academic or financial benefit or injuring another student academically or financially.
- ii. "Plagiarism" includes, but is not limited to, the appropriation, buying, receiving as a gift, or obtaining by any means another's work and the submission of it as one's own academic work offered for credit.
- iii. "Collusion" includes, but is not limited to, the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any section of the rules on scholastic dishonesty.
- iv. All written work that is submitted will be subject to review by Safe Assign

available on Blackboard. UT Tyler Resources for Students

- [UT Tyler Writing Center](https://www.uttyler.edu/writingcenter) (903.565.5995), writingcenter@uttyler.edu
- [UT Tyler Tutoring Center](https://www.uttyler.edu/tutoring) (903.565.5964), tutoring@uttyler.edu

- The Mathematics Learning Center, RBN 4021, this is the open access computer lab for math students, with tutors on duty to assist students who are enrolled in early-career courses.
- [UT Tyler Counseling Center](#) (903.566.7254)

Online Information:

Technical Information

If you experience technical problems or have a technical question about this course, you can obtain assistance by emailing itsupport@patriots.utt Tyler.edu or call 903.565.5555.

When you email IT Support, be sure to include a complete description of your question or problem including:

- The title and number of the course
- The page in question
- If you get an error message, a description and message number
- What you were doing at the time you got the error message

You may also visit the Help Tab in Blackboard for useful information or check out On Demand Learning Center for Students <http://ondemand.blackboard.com/students.htm>

Plug-ins and Helper Applications

UT Tyler online courses use Java, JavaScript, browser plug-ins, helper application and cookies. It is essential that you have these elements installed and enabled in your web browser for optimal viewing of the content and functions of your online course. Always ensure that you are using the most update version for the browser you choose to access the online learning content.

NOTE: Mozilla Firefox is the recommended browser for Blackboard. (URL: <http://www.mozilla.org/en-US/firefox/new/>)

- Adobe Reader allows you to view, save, and print Portable Document Format (PDF) files. (URL: <http://get.adobe.com/reader/>)
- Java Runtime Environment (JRE) allows you to use interactive tools on the web. (URL: <http://www.java.com/en/download/>)
- Adobe Flash Player allows you to view content created with Flash such as interactive web applications and animations. (URL: <http://get.adobe.com/flashplayer/>)
- QuickTime allows users to play back audio and video files. (URL: <http://www.apple.com/quicktime/download/>)
- Windows Media Player allows you to view, listen and download streaming video and audio. (URL: <http://windows.microsoft.com/en-US/windows/products/windows-media-player>)
- RealPlayer allows you to view and listen to streaming video and audio. (URL: <http://www.real.com/>)

Netiquette Guide

"Netiquette" is network etiquette, the do's and don'ts of online communication. Netiquette covers both common courtesy online and informal "rules of the road" of cyberspace.

Help/Support IT

Where to Get Technology Help

Phone: (903) 565-5555 or extension 555 on campus

Email: itsupport@uttyler.edu

Communication with Instructor

The best way to get in touch with the instructor is through email. Please allow 24 hours response to your email during the week. If you have a question during the weekend, it may take up to 48 hours, but the instructor will do everything to answer questions immediately. This becomes extremely important while you are taking an exam. Please contact me immediately if you are logged out of your exam or experience any issues. You will be responsible for making sure I understand any technical difficulties you are having or you may receive a failing grade on the exam. Do not wait till after the exam due date to notify me of any issues.

Job Site Tour/Liability Forms

The class may do jobsite visits throughout the semester if time permits. Due to weather conditions, scheduled tour dates may need to be moved to another time during the week or preceding weeks. All jobsite visits would be added to class participation points. Please get with the instructor in case of an emergency.

All students will fill out a Liability Waiver Form. This information will be provided at the beginning of the semester by the instructor. Return this information the 2nd class meeting.

Note to students about the Syllabus:

This syllabus is a statement of intent about how the course will be taught this semester. It outlines what we will cover, what you will need to do in the course, and it explains what and when you must do it to successfully complete the course and get a final grade. This syllabus is intended to protect you from arbitrary or untimely changes in course requirements and due dates. But I reserve the right to make changes as necessary to the syllabus with announcement of changes. As we learned during 2020, there are many circumstances outside of our direct course control that may require changes to this syllabus in content and schedule. These will always be announced in advance and the syllabus will be updated on Canvas so all can be aware of the required changes.

Additional Notes for Ratliff Relay 2025:

- **Ratliff Relay Event Date at HEC Campus: November 01, 2025**
- **The students will be notified for the Ratliff Relay assignments/ Report submission dead line.**
- **It is mandatory to attend this event.**
- **Ratliff Relay assignments/ Report is a part of the overall grade of the semester, please see score distribution at sheet # 02.**