

THE UNIVERSITY OF TEXAS AT TYLER

CMGT 3365 — MEP Systems

Fall 2026

See it. Understand it. Coordinate it.

Instructor	Buddy Siebenlist
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Office	RBS 1006
Office Hours	Monday & Wednesday: 9:00–10:00 AM and 1:00–2:00 PM; Tuesday & Thursday: by appointment
College of Engineering	903-566-7273
Lecture	Monday & Wednesday, 8:00–8:55 AM — RBS 1031
Laboratory	CMGT 3365-001L — Monday, 2:30–5:15 PM — RBS 1031

Course Overview

MEP Systems introduces the mechanical, electrical, plumbing, fire/life-safety, and related building systems necessary for buildings to function safely, comfortably, and efficiently. The course is taught from the perspective of the construction professional. Emphasis is placed on understanding what major building systems do, recognizing their principal components, reading and interpreting basic system information, understanding how systems interact with the building and with one another, and developing the coordination awareness necessary to manage construction successfully. Students are not expected to become MEP design engineers; the goal is to develop sufficient technical understanding to recognize, communicate, coordinate, question, and manage building systems intelligently.

Student Learning Outcomes

1. Identify the major components of mechanical, electrical, plumbing, and fire/life-safety systems.
2. Explain the basic purpose and operation of common building-system components.
3. Recognize how MEP systems affect architectural, structural, and construction decisions.
4. Interpret fundamental information presented on MEP drawings and related construction documents.
5. Describe basic principles of HVAC, plumbing and water systems, electrical distribution, lighting, controls, and fire/life-safety systems.
6. Recognize common coordination issues among MEP, structural, and architectural systems.
7. Discuss basic considerations of energy efficiency, sustainability, constructability, maintainability, and life-cycle performance.
8. Apply course concepts through practical laboratory exercises and observations of actual building systems.

Required Textbook and Course Materials

Mechanical and Electrical Systems for Construction Managers, 3rd Edition

ISBN: 978-0-8269-9363-2

Additional readings, lecture materials, assignments, and laboratory information will be provided through Canvas.

Course Philosophy

See it. Understand it. Coordinate it.

Building systems do not exist independently. Mechanical equipment requires electrical power; plumbing requires space and routing; electrical distribution competes for pathways; fire protection must coordinate with ceilings, lighting, ductwork, structure, and architecture. Successful construction management requires understanding both the individual systems and how those systems come together in a building. Throughout the course we will emphasize: Systems → Components → Function → Coordination → Construction.

Course Evaluation

Course Component	Weight
Homework / Assignments	20%
Laboratory Exercises / Projects	20%
Exam 1	20%
Exam 2	20%
Exam 3	20%
Total	100%

Grading Scale: A = 90–100%; B = 80–89%; C = 70–79%; D = 60–69%; F = below 60%.

Homework and Assignments

Assignments are intended to reinforce concepts introduced during lecture and laboratory activities. Unless otherwise stated, assignments will be submitted through Canvas. Students are expected to complete assigned textbook readings as directed. Where online textbook quizzes or exercises are assigned, specific instructions will be provided through Canvas.

Laboratory

The laboratory portion of CMGT 3365 provides practical application of lecture concepts. Activities may include observation and identification of building systems, MEP drawing interpretation, system coordination exercises, building-system documentation, practical field observations, individual and team exercises, and short student presentations. Laboratory exercises emphasize recognition, understanding, communication, and coordination rather than expert-level engineering design.

Laboratory Safety

Students shall follow all laboratory and field-safety instructions. Unless specifically instructed otherwise: Observe. Photograph. Do not disturb. Students shall not enter restricted areas, open energized equipment, operate building equipment, climb onto roofs, use ladders, or undertake any activity that presents unnecessary risk.

Attendance and Participation

Regular attendance is strongly encouraged. Much of the value of this course comes from explanation, discussion, examples, laboratory work, and professional experience presented during class that may not appear completely in posted slides. Students are responsible for material covered and assignments announced during any class they miss.

Late Work

Assignments should be submitted by the posted deadline. Students who anticipate difficulty meeting a deadline should communicate with the instructor before the deadline whenever reasonably possible. Late work may be accepted at the instructor's discretion depending upon the circumstances and nature of the assignment.

Exams and Make-Up Exams

Three examinations are planned during the semester. Exams will assess understanding of concepts, terminology, systems, and applications presented in lectures, assigned readings, laboratories, and course materials. Students who must miss an examination because of an emergency, university-sponsored activity, religious observance, or other legitimate circumstance should contact the instructor as soon as reasonably possible. Make-up arrangements will be determined based upon the circumstances.

Artificial Intelligence (AI) Tools

Students should consult with the instructor before using generative AI tools, including ChatGPT or similar technologies, for any course assignment or graded work. Permitted uses of AI, if applicable, will be identified by the instructor for specific assignments or activities.

Canvas and Communication

Canvas will be the primary location for course announcements, lecture materials, assignments, laboratory or supplemental materials, examination information, grades, schedule updates, and other course resources. Students are responsible for checking Canvas and their UT Tyler email regularly. Email to bsiebenlist@uttyler.edu is the instructor's preferred method of contact.

Tentative Course Topics

Module 1: Introduction to Building Systems — What is MEP? Systems thinking, coordination, and building-system recognition.

Module 2: Plumbing and Water Systems — Water supply, fixtures, sanitary drainage, storm drainage, and basic system concepts.

Module 3: Mechanical Systems — Thermal comfort, heating, cooling, refrigeration, HVAC equipment, air distribution, and ventilation.

Module 4: Controls and Building Automation — Control concepts, thermostats, sensors, and automated building systems.

Module 5: Electrical Systems — Electrical fundamentals, power distribution, panels, transformers, conductors, conduit, and equipment.

Module 6: Lighting and Related Systems — Lighting fundamentals, devices, controls, and coordination.

Module 7: Fire/Life-Safety Systems — Fire suppression, detection, alarm, emergency systems, and coordination.

Module 8: Integration and Coordination — MEP coordination, constructability, energy efficiency, commissioning concepts, maintenance, and life-cycle considerations.

Specific readings, assignment dates, laboratory activities, examination dates, and schedule adjustments will be posted in Canvas. The course schedule is subject to reasonable change as needed, with changes communicated to students.

University Policies and Student Resources

Current UT Tyler University Policies and Information and Student Resources are provided through the UT Tyler Canvas Syllabus Module. Students are responsible for reviewing and complying with applicable university policies.