

Abilene Approval Chart for Curriculum Changes

A = Approve I = Information Item R = Respond In Writing

Course Number: CMGT 364

or Degree Plan(s):

		Dept./School	College	Dean	TEC	AUAC/Grad	Provost
	Campus-Level Academic Review¹						
	Change to a Course Include signatures from all chairs/program directors for cross-listed courses. ¹						
1.	Title (description unchanged)	A	A	A	I	I	I
2.	Description (not affecting content)	A	A	A	I	I	I
3.	Course term(s)	A	I	A	I	I	I
4.	Content (change of course outcomes)	A	A	A	I	I	A
5.	Number of credit hours	A	A	A	A	A	A
6.	Course number within the hundred	A	A	I	I	I	I
7.	Course number beyond the hundred	A	A	A	A	A	A
8.	Prerequisites	A	A	A	I	I	I
9.	Course restriction (e.g., majors only, junior standing)	A	A	A	A	A	A
10.	Level change (U to G or G to U)	A	A	A	A	A	A
11.	Cross list course	A	A	A	A	A	A
12.	Department of record	A	A	A	A	A	A
13.	Open or close a course	A	A	A	A	A	A
	Change to a Degree Plan						
14.	Educational Program — Revise	A	A	A	A	A	A
15.	Educational Program — Adopt/revise admission requirements	A	A	A	A	A	A
16.	GPA — Revise program-required GPA	A	A	A	A	A	A
17.	Minor — Revise	A	A	A	A	A	A

		Dept./School	College	Dean	TEC	AUAC/Grad	Provost	Campus Faculty	Senior VPAA	President
	Full Review									
	Change to Catalog Information (for Campus)									
18.	General requirements for Bachelor's and Associate Degrees	-	-	-	-	A	A	A	A	I
19.	Policies governing academic probation and suspension	-	-	-	-	A	A	A	A	I
20.	Requirements for graduating with honors	-	-	-	-	A	A	A	A	I
	Change to a Degree Plan									
21.	Educational Program — Add or Discontinue ²³	A	A	A	A	A	A	A	A	I
22.	Educational Program — Discontinue (Provost-proposed)	R	-	R	A	A	A	A	A	I
23.	Minor — Add or Discontinue	A	A	A	A	A	A	-	A	I
24.	Minor — Discontinue (Provost-proposed)	R	-	R	A	A	A	-	A	I
25.	Degree — Add or Discontinue	A	A	A	A	A	A	A	A	I
26.	Degree — Discontinue (Provost-proposed)	R	-	R	A	A	A	A	A	I

		Dept./School	College	Dean	AUAC	Provost	UGEC	University Faculty	Senior VPAA	President
	Change to General Education Requirements for Undergraduates (System)									
27.	Change course outcomes of an included course	A	A	A	A	A	A	-	A	I
28.	Add or drop a required course from the General Education Requirements	A	-	A	-	A	A	A	A	I
29.	Add or drop a course from a menu within the General Education Requirements	A	-	A	-	A	A	-	A	I
30.	Comprehensive revision of General Education Requirements	-	-	-	-	A	A	A	A	I

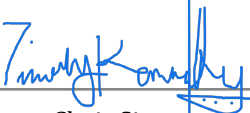
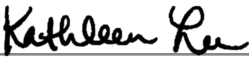
Notes

² Any change to a cross-listed course requires the signature of both department chairs or program directors overseeing the course to ensure that the courses stay in sync. This includes courses taught at other campuses (e.g. BIBL 101 and BIBO 101).

³ For undergraduate majors, a minimum of 30 hours is required. These programs must have a minimum of 6 elective hours, unless the requirements of external accrediting bodies make it impossible. Master's programs must include a minimum of 30 hours, and doctoral programs must include a minimum of 30 hours beyond the master's.

⁴ When a department/school or dean proposes closing a program, approval routing follows the typical process beginning with the department/school. An administrative proposal by the provost or senior vice president for academic affairs would follow the "provost-proposed" routing on the chart.

Updated 8/1/2023

Department/School(s)	
	3/7/2026
Chair Signature	Date
Chair/Program Director Signature	Date
College Academic Council(s)	
	04/02/2026
Chair Signature	Date
Chair Signature	Date
Dean(s)	
	4/7/2026
Signature	Date
Signature	Date
Teacher Education Council	
Signature	Date
Campus Academic Council: Abilene Undergraduate or Abilene Graduate	
Signature	Date
Provost	

Signature

Date

University General Education Council

Signature

Date

University Faculty

Abilene Faculty Senate Chair signature

Date

Dallas Faculty Council Chair signature

Date

Senior Vice President for Academic Affairs

Signature

Date

President

Signature

Date

Abilene New Course Application

You may delete the preceding instructional pages before submitting application.

Course ID (<i>Subject Code and Number</i>)	CMGT 364
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1. Systems and Catalog Information Complete each item.

A	Course Developer	Timothy Kennedy
B	Course Instructor	A member of the Civil Engineering or Construction Management Faculty
C	Course Title	Mechanical Electrical and Plumbing Construction
D	Course Abbreviation for Banner if title is more than 30 characters	MEP Construction
E	College	OSE - Onstead Science and Engineering
F	Department or School	PHYS - Engineering & Physics
G	Number of Credit Hours	3
G1	Number of Lecture Contact Hours	3
G2	Number of Lab Contact Hours	0
H	Is the course for a fixed or variable number of credit hours?	Fixed If variable, explain rationale:
I	Is the course repeatable for additional credit?	No
J	Maximum total number of credit hours a student can earn for this course	
K	Course Schedule Type	<u>Lecture (LEC)</u> See Schedule Type definitions in the Reference section.

L	Number of Faculty Workload Hours	3
M	Grading Mode	<u>Standard</u>
N	Maximum Enrollment	40
O	Catalog Description (50 words or less)	This course provides students with an understanding of MEP systems as they relate to building construction. Topics include system components, design intent, installation sequencing, coordination, code compliance, and construction plan review. Students learn how to manage MEP subcontractors, avoid spatial conflicts, and incorporate MEP systems into project schedules and estimates.
P	List any prerequisites (course/s, test scores, class standing, major, etc.)	PHYS 220, ENGR 217
Q	List any corequisites (these <i>must</i> be taken at the same time; note that a single requirement cannot be both a prerequisite <i>and</i> a corequisite)	NA
R	If the course is cross-listed, specify the subject code and course number of the other course	NA
S	Does this course require any additional student course fees?	<u>No</u> If yes, attach a completed course fee form (see form "Request to Add or Change Course Fees").
T1	Will the course be offered in fall terms?	<u>Yes, every year</u>
T2	Will the course be offered in spring terms?	<u>No</u>
T3	Will the course be offered in summer terms?	<u>No</u>

U	First semester this course will be offered under new Course ID. <i>May not be earlier than the coming fall semester.</i>	Fall 2028
V	Is this course required for a program(s)?	<u>Yes</u> If yes, submit a separate completed curriculum proposal to change the program(s).
W	Should the addition of this course be retroactively applied to the degree plan it supports? <i>This is rare, and rationale should explain compelling extenuating circumstances.</i>	<u>No</u> If yes, provide rationale:
X	Has this course been offered as a Special Topics course? <i>New courses are not required to be taught as Special Topics courses prior to approval.</i>	<u>No</u> If yes, provide course ID, term, and enrollment:
Y	List any courses in which the content overlaps the proposed course. (Course ID and Name). <i>Attach a statement from the instructor/dept chair of the existing course justifying the new offering.</i>	

2. Curriculum

- A. Explain any effects of this course on any degree plans. If the addition of the course alters program requirements, submit a separate [Approval Chart for Curriculum Change](#) to update the program.
This course is for the new Construction management degree and will not have affect on existing programs.
- B. Justify the addition of this course to the current curriculum, explaining the gap it meets.
This course is essential for the Construction Management program to meet American Council for Construction Education (ACCE) standards for accreditation (specifically Outcome 20). Peer programs include similar junior-level courses to ensure students are prepared for internships.

3. Course Design

- A. Audience and Course Goal
- Describe the intended audience, including prerequisite skills.
This course is designed for junior-level students enrolled in the Bachelor of Science in Construction Management program. It is specifically tailored for future project managers,

estimators, and site superintendents who will be responsible for coordinating the mechanical, electrical, and plumbing (MEP) trades—subcontractors that often represent a large portion of a commercial construction contract. Students should have some scientific understanding and some BIM knowledge.

2. State the overarching course goal(s) in performance terms.

The overarching goals of CMGT 364: MEP Construction are to equip students with the technical proficiency to evaluate, coordinate, and manage the mechanical, electrical, and plumbing systems that comprise the built environment. Students will demonstrate the ability to synthesize engineering principles and building codes to perform technical load calculations and comprehensive plan reviews for system compliance.s.

B. Student Learning Outcomes and Measurements

	Student Learning Outcome	Measurement
1	Define and classify terminology, theories, and components of mechanical, electrical, and plumbing systems.	Homework, Quiz, Exam
2	Interpret MEP construction documents.	Homework, Project
3	Calculate basic building loads for sizing HVAC, plumbing, and electrical components.	Homework, Quiz, Exam
4	Describe MEP installation methods and sequences for compliance with national building and energy codes.	Homework, Quiz, Exam, Project
5	Apply quantity takeoff methods to MEP systems for construction cost estimating.	Homework, Quiz, Exam

C. Text and Resources

Give the full publication information of the textbook/s and other required resources and outside readings. For **combined undergraduate/graduate** courses, make two lists:

- A. full publication information; label **Undergraduate**.
- B. full publication information; label **Graduate**.

- Mechanical and Electrical Systems in Buildings, Tao and Janis 6th edition (2021), Pearson. ISBN 9780137407897

4. Supporting Documentation

Required of all applications	
1	Approval Chart for Curriculum Changes
2	Syllabus — Attach the syllabus for the course based upon the anticipated first-semester offering.
4	Library — Submit new course application and syllabus to the Library dean's office. Attach the Library's memo.
Attach if applicable	
5	Content Overlap — Include one document for each course you listed in Section 1Y. Attach statement from instructor/dept chair of existing course justifying the new offering.
6	Departmental Resources — List the resources that support the course and are available only through the department, if applicable. Attach the list of the holdings and the location(s).
7	Resources — List resources (other than library or departmental resources) that are needed to support this course (computers, lab equipment, other technology, etc.). Attach a complete list of all items and indicate possible sources or estimated cost of each. List the sources of any needed funds.
8	Expenses — List additional expenses needed to implement this course (full-time or part-time faculty, graduate or lab assistants, student employees, travel, special student costs, room renovation, storage facility, etc.). Attach a complete list of all items, the estimated cost of each and the source of the funds.
9	Justification — Attach any documents to which you refer in Section 2B.

CMGT 364: MEP Construction

About the Course

Course number and title: CMGT 364: MEP Construction

Credit hours: 3

Semester and year: Fall 2028

Meeting time and place: OSC 342

Prerequisites: ENGR 217, PHYS 220

Catalog description: This course provides students with an understanding of MEP systems as they relate to building construction. Topics include system components, design intent, installation sequencing, coordination, code compliance, and construction plan review. Students learn how to manage MEP subcontractors, avoid spatial conflicts, and incorporate MEP systems into project schedules and estimates.

Intended audience: This course is intended for upperclassmen majoring in Construction Management.

About the Instructor

Professor's name, title, or rank: Timothy Kennedy, PhD, PE, Professor of Engineering and Physics

Office location (if available): OSC 113A

Phone number(s): 325.674.2854

Email address: tjk14a@acu.edu

Office hours/Contact expectations: MW 1:00-3:00 pm, TR 8:00-9:30 am

Mission Statements

ACU Mission: The mission of Abilene Christian University is to educate students for Christian service and leadership throughout the world.

College Mission: The mission of the Onstead College of Science and Engineering is to explore and understand God's creation in the natural world and apply the acquired knowledge and principles to address its issues and challenges.

Department Mission: To educate engineers and physicists for Christian service and leadership throughout the world

Unique Christian Perspective: ACU's Construction Management (CM) program strives to transform the job site into a mission field by viewing graduates as builders of communities. We go beyond plans to cultivate the physical spaces where people live, work, and worship. Our curriculum integrates faith and learning through three core pillars:

1. Human Dignity: Prioritizing job site safety and fair labor practices reflects our commitment to the Imago Dei (Image of God) in every worker.
2. Servant Leadership: By leading with integrity, graduates act as "salt and light" in a demanding industry.
3. Ethical Stewardship: We teach the responsible management of financial and environmental resources as a form of worship and global responsibility.

This program aligns with ACU's mission to launch career-focused professionals who meet market needs without compromising their Christian identity. It is our desire to empower students to make a tangible, positive impact on society, building structures that serve a higher purpose.

Course Content

Outline of topics:

This course provides an analytical foundation in the mechanical, electrical, and plumbing infrastructure that governs building performance and occupant comfort. Students examine HVAC system analysis, hydraulic plumbing design, fire suppression, and electrical power distribution through the lens of national building codes. The curriculum has a focus on system integration, trade sequencing, and the commissioning processes required to verify that building systems meet design specifications before occupancy.

Format of Class Course Format

Each module follows a structured progression consisting of a technical reading assignment, a foundational lecture on principles, and quantitative calculation examples. Many sessions conclude with a practical plan review exercise or a summary quiz to ensure mastery of the technical terminology and regulatory requirements encountered in the industry.

Instructional Materials

Textbook:

Mechanical and Electrical Systems in Buildings, Tao and Janis 6th edition (2021), Pearson. ISBN 9780137407897

Course Outcomes

	Student Learning Outcome	Measurement
1	Define and classify terminology, theories, and components of mechanical, electrical, and plumbing systems.	Homework, Quiz, Exam
2	Interpret MEP construction documents.	Homework, Project
3	Calculate basic building loads for sizing HVAC, plumbing, and electrical components.	Homework, Quiz, Exam, Project
4	Describe MEP installation methods and sequences for compliance with national building and energy codes.	Homework, Quiz, Exam, Project
5	Apply quantity takeoff methods to MEP systems for construction cost estimating.	Homework, Quiz, Exam

Class Activities and Grading

Activities	Weighting
Homework	20%
Quizzes	10%
Professionalism	10%
Exams	40%
Projects	20%
Total	100%

Final grade calculation:

Range of Points	Final Letter Grade
90%-100%	A
80%- 89%	B
70%-79%	C
60%-69%	D
Below 59%	F

University Resources

I care about your class experience. The university also has a number of resources in place to support the ACU community both in this class and all aspects of university life.

Reporting Violations / Concerns / Complaints

Incident reports alleging violations of Student Conduct or concerns/complaints can be submitted [here](#). Please use the form to submit information about an incident to Student Life / Office of the Dean of Students.

SOAR (Student Opportunities, Advocacy, and Resources):

SOAR partners with faculty, staff, parents and students to assist ACU students and connect them to resources available to support their path to success. For more information about SOAR or to make a SOAR recommendation, see <https://acu.edu/soar-program/>.

Mental Health Resources

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. Abilene Christian University is committed to supporting students addressing any of these concerns.

You can contact the [Medical and Counseling Care Center](#) at counseling@acu.edu, or by calling 325-674-2626. In addition, you can access free confidential counseling services through the Timely Care app by downloading their app on any device.

In a crisis situation contact the National Suicide Prevention Hotline open 24/7 by dialing 988, or call the Police at 911.

Another wonderful resource to help you learn how to manage your stress as a student can be found in your Compass app. The Wellness Badge is designed to help you understand how to manage your stress and how to do so on our campus. Completing each of the pathways earns you a chance at incentives, and completing the entire badge will earn you 200 chapel points. You can find the badge in your Compass app.

University and Course Policies

ADA Compliance Policy:

Abilene Christian University is dedicated to removing barriers and opening access for students with disabilities in compliance with ADA and Section 504 of the Rehabilitation Act. The ACU

website provides more information at <https://acu.edu/about/uap/overview-2/about-2/>.
Please contact me to discuss any approved accommodations that you require for this class.

Title IX Policy:

At ACU, we strive to comply with all applicable legal requirements prohibiting, preventing, and responding to sexual misconduct against any member of the ACU community. The full Title IX policy and process can be found at <https://acu.edu/human-resources/title-ix-and-sexual-misconduct-information/>.

Academic Integrity Policy:

Academic integrity is demonstrated by behavior that honors the learning environment, regardless of setting, context, location or modality. ACU's Academic Integrity Policy can be found at <https://acu.edu/office-of-the-provost/academic-policies/>.

Course Policies: Professional Standards for MEP Construction

Attendance

Attendance is recorded at the commencement of each session. In the MEP sector, project coordination relies on the simultaneous presence of all trade leads; therefore, students are required to notify the instructor and make prior arrangements if an absence is unavoidable. Each unexcused absence will result in a 10% reduction of the final professionalism grade. Because this course emphasizes integrated system coordination and team-based problem solving, your absence directly impacts the progress of your project group.

Tardiness and Professionalism

In the mechanical and electrical trades, arriving "on time" is considered late; being "early" is the industry standard for professional reliability. Tardiness is defined as entering the classroom after the scheduled start time or failing to have required engineering materials (laptop, software, or architectural scales) ready when instruction begins.

Impact on Attendance: Two (2) instances of tardiness are recorded as one (1) unexcused absence.

Participation:

Active engagement is mandatory. You are expected to operate not as a passive observer, but as a member within a project team. Students must have laptops active with relevant mechanical/electrical plan sets or coordination software. Participation includes contributing to "Clash Detection" simulations, analyzing technical specifications for plumbing or electrical equipment, and performing peer-reviews of system load calculations.

Late Assignments and Examinations

Students are accountable for all technical content missed during an absence and must independently review lecture materials to meet established deadlines. If an assignment or MEP project is not uploaded correctly to Canvas, a 50% point deduction will be applied automatically. Technical issues must be resolved via the Help Desk or instructor well in advance of the deadline.

In the construction industry, MEP subcontractors must submit bids and submittals by a precise time or face disqualification. We abide by this industry practice: Late work is not accepted. Any assignment submitted after the stated deadline will receive a grade of zero.

Technology Use

Mobile Devices: Cell phones must be powered off. Texting or unauthorized phone use is not tolerated during professional coordination sessions.

Professional Web Usage: Web surfing is strictly prohibited unless specifically required for researching building codes, equipment specifications, or assigned MEP project data.

Calendar

Week	Topic	Reading Materials	Learning Activities & Graded Work
Week 1	Introduction to MEP	Tao & Janis: Ch. 1-2	Course Overview; Thermodynamics Fundamentals
Week 2	HVAC: Thermal Comfort	Tao & Janis: Ch. 3	Psychrometrics; Heat Loss/Gain Calculations
Week 3	HVAC: Systems & Equip.	Tao & Janis: Ch. 4-5	Forced Air vs. Hydronic; Cooling Towers & Chillers
Week 4	Air Distribution & Ducting	Tao & Janis: Ch. 6	Quiz 1 ; Duct Sizing and Static Pressure Labs
Week 5	Water Supply Systems	Tao & Janis: Ch. 10	Fixture Units; Pipe Sizing; Water Heating
Week 6	DWV & Storm Water	Tao & Janis: Ch. 11	Drainage, Waste, & Vent (DWV) Isometric Drawing
Week 7	Fire Protection Systems	Tao & Janis: Ch. 13	Sprinkler Systems; Life Safety Code Compliance
Week 8	Midterm Review & Exam	Modules 1-7	Midterm Examination (Quantitative & Theory)
Week 9	Electrical: Fundamentals	Tao & Janis: Ch. 15	Ohms Law; Power Factors; Service Entrance
Week 10	Power Distribution	Tao & Janis: Ch. 16-17	Branch Circuitry; Grounding; National Electric Code
Week 11	Lighting Design	Tao & Janis: Ch. 18	Lumen Method; LED Technology; Lighting Plans
Week 12	Building Automation (BAS)	Tao & Janis: Ch. 21	Smart Buildings; Low Voltage; Comm. Systems
Week 13	Coordination & BIM	Instructor Notes	Project 1 Due : BIM Clash Detection Assignment
Week 14	Sustainability & Commissioning	Tao & Janis: Ch. 23	LEED Credits; System Commissioning & Startup
Week 15	Final Project	Comprehensive	Final MEP Plan Review Presentation
Finals	Final Examination	All Chapters	Final Exam (Comprehensive)

****This schedule subject to change in order to facilitate class learning outcomes and objectives.**

ABILENE CHRISTIAN UNIVERSITY

LIBRARY

M E M O R A N D U M

DATE: February 27, 2026
TO: Dr. Tim Kennedy
FROM: Mark McCallon, Associate Dean for Library Services
RE: New Course Proposal, CMGT 364 – MEP Construction

The library has examined the course application and syllabus and is able to support the proposed course. Thank you for letting us review the course proposal.



February 25, 2026

Dr. Tim Kennedy
Department Chairperson, Engineering
Onstead Science Center, Rm. 113A
timothy.kennedy@acu.edu

Re: MEP Construction (CMGT 364)

Dear Dr. Kennedy,

Thank you for submitting MEP Construction (CMGT 364) to us for review. I have reviewed it based on the ACU Syllabus Guidelines. I found that the syllabus meets all aspects of the checklist.

Please note that this letter is intended as a reference, which will be read by the department chair and council members, who may also have questions or comments of their own. If you have any questions, please feel free to let me know.

Please also let me know if we can help in the design and facilitation of this course.

Sincerely,

A handwritten signature in black ink that reads "Amy Boone". The signature is written in a cursive, flowing style.

Amy Boone
Teaching and Learning Specialist, Adams Center