The University of Texas at Tyler
Department of Civil and Construction Engineering and Management

CMGT 4331 CONSTRUCTION SCHEDULING
Course Syllabus (Fall 2025)

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Office Hours: Monday/ Wednesday 1:30 PM – 3 PM
　　　　　　　　Tuesday/Thursday 11 AM – 12:30 PM
　　　　　　　　By appointment

Lecture Room: Ratliff Building North 3039
Day: Tuesday/Thursday
Time: 3:30 PM – 4:50 PM

Course Overview
An introduction to construction project management scheduling covering concepts of project selection and scheduling, utilizing the estimate to predict the schedule, scheduling subcontracting, cost controls, project documentation, construction bonds, insurance, payments, and the elements of closeout; development of professional communication skills through student prepared multi-media presentations.

This course aims to provide the students with the necessary skills to adequately schedule and control residential, commercial, industrial, manufacturing, engineering, or business projects. Each student will generate bar charts and critical path networks, including early start, late start, early finish, late finish, durations, float, and identification of the critical activities that affect the project's timely completion. The students will also correlate manpower leading and costs to the schedule and learn how to control and accurately report the project's progress. The students will be introduced to the use of computers in the scheduling of construction projects.

Student Learning Outcomes
1. Explain the concepts most frequently used in scheduling, such as precedence network, diagramming, resource allocation, monitoring, and control.
2. Identify and explain task durations and identify relationships using bar charts, lags, float, and the creation of precedence networks, diagraming, and calculations.
3. Explain how to update a project under deadlines.
4. Explain how to use concepts from Critical Path Method.
5. Explain how to manipulate schedules within constraints measuring the project status using various tools.
6. Explain how to use resource allocation/leveling and cost control budgets for scheduling.

7. Explain how to use **Microsoft Project/ Projectlibre** software to create, update, and report project schedules.

Prerequisite
CMGT 3311

Required Textbooks and Readings
1. Mubarak, Saleh. Construction Project Scheduling and Control. Third Edition by Mubarak, Saleh, 2010, ISBN: 978-1-118-84600-1
2. Construction Scheduling. Second Edition by Newitt, Jay. 2009, ISBN – 13: 978-0-13-513782-6.
3. Other Reading materials assigned through Canves course website.

Assignments and weights/point values (TENTATIVE- Subject to Change)

Section Exams (2 at 300 each)	600 (23%)
Homework Assignments (8 x 100 each)	800 (31%)
Online Quizzes (9 x 50 pts)	450 (17%)
Professional Practice, Participation, and Mentimeter	330 (13%)
Final Examination or Semester Project	400 (16%)
	2,580 (100%)

Grading Scale

A	90% or greater
B	80 – 89%
C	70 – 79%
D	60 – 69%
F	below 59%

Professional Practice, Class Participation, and Mentimeter
Mentimeter will be used in most class meetings to check understanding and facilitate discussion.

- **Credit & Scoring:** Each class is worth up to 15 points; a total of 22 activities will be counted for **330 points**. Activities may include multiple-choice, word cloud, ranking, scales, and short-answer items.
- **How to Receive Credit:**
  • Join the activity at the start of class with the displayed code/QR.
  • Use your real name (first + last) so your responses can be credited.
  • Submit answers before each question closes—late submissions cannot be credited.
- **Attendance vs Participation:** Points are earned by submitting responses, not ***merely by being present***.
- **Ethics & Professional Conduct:**
  • Respond independently unless a prompt explicitly permits collaboration—do not share or solicit answers during live activities.
  • Do not impersonate others or submit responses under any name but your own.
  • **Keep contributions professional and respectful; avoid offensive, discriminatory, or disruptive content**.
  • Do not post or redistribute screenshots/recordings of classroom polls without instructor permission.
  • Adhere to the UT Tyler Honor Code and all university conduct policies.
- **Professional Practice (assessed within Class Participation/Mentimeter):**
  • **Attendance:** The percentage of classes you attend (days attended / total possible in-class days).
  • **Participation:** Your active involvement in group activities and any other tasks assigned by the

instructor.
- **Professional Communication:** Your ability to communicate effectively and professionally with your classmates and with the instructor.

Required Scheduling Software (Student Responsibility)

This course requires access to **construction scheduling software**. Students are **responsible for acquiring and maintaining access** to one of the following:
- **Primary option: Microsoft Project** (Desktop version preferred).
  Acceptable versions include current desktop releases. *Note:* The full desktop app is **Windows-only**; Mac users may use Project for the web (limited features) or choose the alternative below.
- **Approved no-cost alternative: ProjectLibre** (latest stable release).
  ProjectLibre supports core CPM functionality suitable for homework and the term project.

Deadlines and Readiness
- Have your chosen software **installed and working by the end of Week 2**.
- You are responsible for any costs associated with your chosen option. A no-cost path (ProjectLibre) is provided.

File Submissions
- When an assignment specifies Microsoft Project, submit your **native schedule file** (e.g., MS Project format) **and** an **exported PDF** (or **XML** when requested) showing key views (Gantt with predecessors, Network Diagram, and any required reports).
- If you use ProjectLibre, submit the ProjectLibre native file **and** an **exported PDF/XML** per the assignment instructions.

Access and Support
- If you cannot install software on your personal device, you must arrange access (e.g., alternate device, institution resources where available, or the approved alternative above).
- The instructor cannot provide technical support for individual installations; report issues **early** so you can switch to the alternative without missing deadlines.

Academic Integrity
- All schedules you submit must be your own work and comply with the UT Tyler Honor Code and the course's AI/ethics policy.

Exams
The exams are **TENTATIVELY** scheduled for:
- Exam 1:   300 points
- Exam 2:   300 points
- Final Exam or Final Project: 400 points

Exams dates may be moved up or pushed back depending on the progress of the lectures. You can use a calculator and instructor-approved reference material. Solutions to exams will **NOT** be posted. No make-up exams will be given except for medical or other similar hardships where advanced arrangements are made with the instructor; or in case of non-selective medical emergencies with appropriate physician's note or documentation. Other than the circumstances described above, failure to take the exam at the scheduled time will constitute a grade of zero on the exam.

Calculators
A basic calculator is required for this course.

Semester Project

A project will be assigned, and each student is expected to complete it individually using the design parameters provided in the course. This final project will assess both your teamwork skills and your ability to apply the techniques discussed in class to produce an accurate takeoff and binder.

Please note that, depending on our progress or if I decide to, this project may be replaced by a final exam.

Homework/ Review Questions

Homework will be posted on Canvas, and answers should be uploaded as PDFs to the platform. **Failure to submit any homework will result in an incomplete grade until all missing assignments are submitted**.

Late Work/ Assignment Policy

Late Submissions. It is a basic principle of professionalism that **"Professionals are not late"**.

A "COORDINATED LATE" submission occurs when you will miss the suspense for a graded homework assignment, and you contact me in advance. Notification immediately before the submission will not suffice. Point cuts up to the amounts below _may_ be assessed for a "COORDINATED LATE" submission:

1. 0-24 hours late, a deduction of 25% of the earned grade
2. 24-48 hours late, a deduction of 50% of the earned grade
3. 48-72 hours late, a deduction of 75% of the earned grade
4. More than 72 hours late No credit. **Assignments must still be submitted**. Failure to submit any homework will result in an incomplete grade until all missing assignments are submitted.

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.

Artificial Intelligence Tools Use

UT Tyler is committed to exploring and using artificial intelligence (AI) tools as appropriate for the discipline and task undertaken. We encourage discussing AI tools' ethical, societal, philosophical, and disciplinary implications. All uses of AI should be acknowledged as this aligns with our commitment to honor and integrity, as noted in UT Tyler's Honor Code. Faculty and students must not use protected information, data, or copyrighted materials when using any AI tool. Additionally, users should be aware that AI tools rely on predictive models to generate content that may appear correct but is sometimes shown to be incomplete, inaccurate, taken without attribution from other sources, and/or biased. Consequently, an AI tool should not be considered a substitute for traditional approaches to research. You are ultimately responsible for the quality and content of the information you submit. Misusing AI tools that violate the guidelines specified for this course (see below) is considered a breach of academic integrity. The student will be subject to disciplinary actions as outlined in UT Tyler's Academic Integrity Policy.

**For this course**, The work submitted by students in this course will be generated by themselves. This includes all process work, drafts, brainstorming artifacts, editing, and final products. This extends to group assignments where students must create collaboratively create the project. Any instance of the following constitutes a violation of UT Tyler's Honor Code: a student has another person/entity do any portion of a graded assignment, which includes purchasing work from a company, hiring a person or company to complete an assignment or exam, using a previously submitted assignment and/or using AI tools (such as ChatGPT).

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. 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 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

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 census date (See Academic Calendar for the specific date). Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center

and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

Disability / Accessibility Services
In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA), the University of Texas at Tyler offers accommodations to students with learning, physical and/or psychological disabilities. If you have a disability, including a non-visible diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or you have a history of modifications or accommodations in a previous educational environment, you are encouraged to visit https://hood.accessiblelearning.com/UTTyler and fill out the New Student application. The Student Accessibility and Resources (SAR) office will contact you when your application has been submitted and an appointment with Cynthia Lowery, Assistant Director of Student Services/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at http://www.uttyler.edu/disabilityservices, the SAR office located in the University Center, # 3150 or call 903.566.7079.

Student Absence Due to Religious Observance
Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of 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 email) 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 an 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 a non-administered 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 plagiarism software.

UT Tyler Resources for Students
- UT Tyler Writing Center (903.565.5995), writingcenter@uttyler.edu
- UT Tyler Tutoring Center (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)

Information for Classrooms and Laboratories
Students who are feeling ill or experiencing symptoms such as sneezing, coughing, or a higher than normal temperature should stay at home and notify their faculty. Students needing additional accommodations may contact the Office of Student Accessibility and Resources at University Center 3150, or call (903) 566-7079 or email saroffice@uttyler.edu.

Recording of Class Sessions
Class sessions _**may**_ be recorded by the instructor for use by students enrolled in this course. Recordings that contain personally identifiable information or other information subject to FERPA shall not be shared with individuals not enrolled in this course unless appropriate consent is obtained from all relevant students. Class

recordings are reserved only for the use of students enrolled in the course and only for educational purposes. Course recordings should not be shared outside of the course in any form without express permission.

Tentative Schedule
INITIAL COURSE SCHEDULE (subject to change as needed throughout the semester)

Date		Week	Chapter	Topic
CMGT: 4331 (FALL 2025)				
From	To			
8/25/25	8/29/25	Week 1	Mubarak Ch 1	Module 1 – Introduction to Scheduling
9/1/25	9/5/25	Week 2	Mubarak Ch 2	Module 2 – Time Management/ Why Schedule
9/8/25	9/12/25	Week 3	Mubarak Ch 2	Module 3 – Bar & Gantt Charts
9/15/25	9/19/25	Week 4	Mubarak Ch 3	Module 4 - Activity on Arrow, Network Logic
9/22/25	9/26/25	Week 5	Mubarak Ch 4	Module 5 – Critical Path Method
9/29/25	**10/3/25**	**Week 6**		**Exam One**
10/6/25	10/10/25	Week 7	Newitt Ch 11	Module 6 – Reviewing and Analyzing the Schedule
10/13/25	10/17/25	Week 8	Newitt Ch 12	
10/20/25	10/24/25	Week 9	Newitt Ch 15	Module 7- Resource Allocation and Resource Leveling
10/27/25	10/31/25	Week 10	Mubarak Ch.6	Module 8- Schedule Updating and Project Control
11/3/25	11/7/25	Week 11	Mubarak Ch.6	
11/10/25	11/14/25	Week 12	Mubarak Ch.8	
11/17/25	**11/21/25**	**Week 13**		**Exam Two**
11/24/25	11/28/25	Week 14		Thanksgiving Holiday
12/1/25	**12/5/25**	**Week 15**		**Final Exam or Semester Project**
12/8/25	12/12/25	Week 16		Final grades

Note on software practice (time permitting): As we progress through the technical content, we will incorporate hands-on scheduling work in **ProjectLibre (or Microsoft Project)**, including initial setup and orientation (installation, calendars, starter file); building a WBS and milestones; translating scope to tasks with durations and coding; developing activity-on-node logic; establishing a baseline CPM schedule; performing schedule health/quality checks; producing owner-facing reports (executive summary, critical-path views, and six-week look-ahead); resource and crew loading with leveling; executing an update cycle with variance analysis; preparing a three-week look-ahead and recovery plan; and evaluating a crashing scenario with cost–time tradeoffs. **Students are required to watch assigned how-to videos on their own** (shared by the instructor via Canvas/links) **before the relevant class sessions** to ensure readiness; these micro-lessons supplement in-class demonstrations and may be referenced in quizzes and participation activities.