The University of Texas at Tyler Department of Construction Management

CMGT 4331 Construction Scheduling

Course Syllabus (Fall 2022)

Date: August 22, 2022. This version supersedes all earlier versions.

Time & Venue	Class Meeting Time/Dates/ Room				
	Lecture Room: Ratliff Building South 1031 Lab: Room RBN 2022				
	Date:Tuesday/ThursdayTime:3:30 PM - 4:50 PM				
	A. HYBRID COURSE INFORMATION:				
	CMGT 4331 is a hybrid course, meaning part of the class will be face-to- face and the other portion of the class will be online. The class is not 100% online, but the majority of class content will be posted online such as Video Lecture PowerPoints, Class Assignments, Scheduling Software Tutorials, and additional resources.				
	In class, students will receive a chance to ask questions about weekly assignments and the instructor will review over weekly topics as assigned weekly. There will be class activities conducted in class and some may be posted online. Most class activities will be done in class, so it is mandatory to attend class to receive full- participation points. All activities are graded and are a part of the professional grade in the class.				
	What does it take to be successful in a hybrid course and scheduling class?				
	When you enter the hybrid course online (Canvas), start the class by reviewing "Getting Started". Here you will see an introduction video about the class, class syllabus/schedule and a class roadmap that will explain our journey in the class. Then take the time to review over the instructor's bio to learn a little about her background!!				
	Each student is required to keep up with the modules weekly. There are 8 modules online. Each module will require you to take a quiz over the				

	lecture. So that there is no confusion, quizzes are due every Tuesday by 11:59 PM.		
Instructor	Professor Contact info:Instructor:Dr. Gilbert AbelOffice #:903-565-5890Office #:RBS 1036Office Hours:Mon/Wed 10:30 – 2:00 PM, Tuesday 2:00 – 5:00Email:gabel@uttyler.edu		
Teaching Assistant	None		
Course Website	See UT Tyler's Canvas website. Canvas will be used to manage the course material for the semester. There you will find announcements, homework assignments, solutions, handouts, lesson videos, and other material pertaining to the class. Please check there regularly.		
Course Objective	CMGT 4331 Construction Scheduling 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 close out; development of professional communication skills through student prepared multi-media presentations. The purpose of this course is 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, critical path networks, including early start, late start, early finish, late finish, durations, float, and identification of the critical activities that affect the timely completion of the project. The students will also correlate manpower leading and costs to the schedule and learn how to control and accurately report progress of the project. The students will be introduced to the use of computers in the scheduling of construction projects.		
Course Outcomes	In this course, you will learn to: CMGT 4331 Course Objectives: 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 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 with computer application/reporting.				
	6. Perform basic scheduling software application for Microsoft Project 2013.				
	7. Perform basic scheduling software application for Primavera P6.				
	8. Explain how to use resource allocation/leveling and cost control budgets scheduling.				
Prerequisite	1. Prerequisite CMGT 3311				
Required Text	Course Book:				
	 Course Book: Mubarak, Saleh. Construction Project Scheduling and Control. Third Edition by Mubarak, Saleh, 2010, ISBN: 978-1-118-84600-1 				
	2. Construction Scheduling. Second Editio ISBN – 13: 978-0-13-513782-6.	n by Newitt, Jay. 2009,			
Grading	Exams and Grading:				
	Course Points Minimum Grade Scale				
	Section Exams (2 at 250 each)	500 (24%)			
	Homework Assignments (8 x 50 each)	400 (19%)			
	Tutorials: Microsoft Project	500 (23%)			
	Online Quizzes (9 x 30 pts)	130 (6%)			
	Semester Project	400 (19%)			
	Professional Practice Grade/Class Activities	200 (9%)			
	Final Examination (No Final)	0(0%)			
		2,130 (100%)			
	Grade Breakdown:				
	A = 90 - 100				
	B = 80 - 89				
	C = 70 - 79				
	D = 60 - 69				
	F = 59 or below				
	Note:				
	You may fail this course, if you earn less than 65% on all Exams or if you				
	fail to earn at least 50% on the Final exam, regardless of your course grade.				
Professional Practice Professional Practice Grade - During this semester, a portion					
	in this course (approximately 10%) will be derived from what I consider professional practice expectations.				

	 5% or 100 points will be allocated to your attendance. (days attended / total possible of in class days). Attendance will be taken on canvas so you can see it and monitor it. 5% or 100 points will be allocated to your Participation in one of many UT Tyler Student associations. You must show proof of this affiliation by uploading this proof to the Professional Practice canvas assignment page. Proof includes, but not limited to proof of attendance in a meeting, proof of participation. This can be a club, association, or a temporary fundraiser to support the students in the department. IE: CMSA, ASCE, Honors Society, Student Leadership Association, ITE, IEEE, ASME, SAE, etc.
Exams	 There are 2 scheduled for this course. The exams are TENTATIVELY scheduled for: Exam 1: 250 points Exam 2: 250 points Exam 3: none Final Exam: none 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
General Exam Rules & Cheat Sheet	 medical emergencies with appropriate physician's note or documentation. Other than circumstances described above, failure to take the exam at the scheduled time will constitute a grade of zero on the exam. Exams will be administered online using Canvas. You will be allotted a predetermined amount of time to take the exam.
	The Exam is not group work and if any student is caught cheating, both will be given an "F" for the exam. Again, the exams are self-examinations of the strength and knowledge of the individual student at a given point in the semester.
Calculators	A basic calculator is required for this course.
Field Trip	There are no field trips scheduled for this course.

Final Project	A project will be given. All students are to work on them individually using class design parameters set in the course.			
	The final project test your ability to work as a team as well as your ability to use the techniques discussed in the course to provide an accurate takeoff and binder.			
Topical Presentation	At the end of the 14-15 week, each student will present a slide show as a team in front of the class.			
Homework / Review Questions	Homework problems will be assigned out of the textbook. The Chapter review questions will be assigned at the completion of a topic and will be due in class on the day stated in the course schedule. Homework will be uploaded to Canvas as a PDF.			
Late Homework/ 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:			
	 0-24 hours late a deduction of 25% of the earned grade 24-48 hours late a deduction of 50% of the earned grade More than 48 hours late No credit. Assignments must still be submitted. 			
Final Day to Withdraw	The final day to withdraw from the course without penalty is November 4th.			
Census Dates	The university requires that instructors report the attendance to the Registrar's Office at various points in the semester. Therefore, on September 2nd. I will report the attendance for the class.			
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: <u>http://www.uttyler.edu/wellness/rightsresponsibilities.php</u>			
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 <u>http://www.uttyler.edu/about/campus-carry/index.php</u>
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 <u>www.uttyler.edu/tobacco-free</u> .
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 <u>http://www.uttyler.edu/registrar</u> . 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 with out a "W" and a)
	 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 <u>https://hood.accessiblelearning.com/UTTyler</u> and fill out the <u>New Student</u> 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 <u>http://www.uttyler.edu/disabilityservices</u> , 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 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	f Disciplinary proceedings may be initiated against any student wh engages in scholastic dishonesty, including, but not limited to, cheating plagiarism, collusion, the submission for credit of any work or material that are attributable in whole or in part to another person, taking a examination for another person, any act designed to give unfair advantag to a student or the attempt to commit such acts.				
	 i. <u>"Cheating"</u> 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	 <u>UT Tyler Writing Center (903.565.5995)</u>, <u>writingcenter@uttyler.edu</u> <u>UT Tyler Tutoring Center</u> (903.565.5964), <u>tutoring@uttyler.edu</u> 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. <u>UT Tyler Counseling Center</u> (903.566.7254)
Information for Classrooms and Laboratories	Students are <u>strongly encouraged</u> to wear face masks covering their nose and mouth in public settings (including classrooms and laboratories). The UT Tyler community of Patriots views adoption of these practices consistent with its <u>Honor Code</u> and a sign of good citizenship and respectful care of fellow classmates, faculty, and staff. 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 <u>saroffice@uttyler.edu</u> .
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

1 1	ourse recordings should not be shared outside of the course in hout express permission.
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Attachment 1 Semester Project Overview

Semester Project- TBD

Goal: For the scheduling class, students should have an opportunity to schedule a real project from start to finish. The first task will be to gain an understanding of all activities that will be used for the project by evaluating the project specifications manual. The second task will be to develop a network diagram by hand and figure out the critical path calculations. Once the activities, durations, relationships (predecessors), and CPM are figured out, each team will input information in a scheduling software of choice: Microsoft Project 2013 or Primavera P6.

Teams:

Teams will be assigned at the beginning of October to work on the project. Each team member will be expected to carry equal amount of load to receive a fair team grade.

Milestone Grades:

There will be three main deadlines that each team will be expected to meet.

- 1. Milestone 1- Identifying Activities and Durations (some provided by instructor)
- 2. Milestone 2- Network Diagramming and Critical Path Calculations
- 3. Milestone 3- Utilization of Scheduling Software (Microsoft Project 2013 or Primavera P6)

Milestone 1- 50 Points Milestone 2- 100 Points Milestone 3 – 100 Points Milestone 4 – 100 Ponts <u>Milestone 5- 50 Points</u>

Total Points-400

Drawings and Specifications:

The drawings and specifications will be provided for the teams to view as pdf. files.

Final Deadline: TBD

At the end of the semester, students will print out their work to display and briefly explain their process to schedule the project. This project is challenging yet fun. I do not expect each team to have exactly the same end product. My main concern will be did you think through each step realistically. It will be exciting to see how each group journey's through this project. I will expect for the scheduling process to be documented. Your team will need to demonstrate your journey to schedule the project from brainstorming notes (hand drawing of network diagram) to computer software schedule. This is your opportunity to be creative and think about how you (as a project manager/superintendent) would present a schedule to a client, subcontractor, or management team. Good Luck!

Attachment 2. Cover Sheet for Assignments

Name: _____

Assignment # ____ CMGT 4331 Construction Scheduling The University of Texas at Tyler Construction Management Department Date Due: _____

Tentative Schedule CMGT 4331 – INITIAL COURSE SCHEDULE (subject to change as needed throughout the semester)

Date	Location	Class Modules/ Topic	Chapter	Assigned Date	Due Date
August					
23	In Class	Week 1 - Module 1 – Into to Scheduling / Vision Board	Mubarak Ch 1	HW 1 -	
25	On-line				Vision Board/Quiz1
30	In class	Week 2 - Module 2 - Time Management	Mubarak Ch 2	HW 2	
September					
1	On-line				Quiz 2
6	In class	Week 3 -Module 3 – Gantt Charts	Mubarak Ch 2	HW 3	
8	On-line				Quiz 3
13	In class	Week 4 – Module 4 - Activity on Arrow, Network Logic	Mubarak Ch 3	HW 4	

15	On-line				Quiz 4
20	In class	Week 5 - Module 5 – Critical Path Method	Mubarak Ch 4	HW 5	
22	On-line				Quiz 5
27	In Class	EXAM DAY		EXAM 1	
29	In-class	Scheduling Software Tutorials (Sept 29 – Oct 27) Lab – Microsoft Project – Tutorial 1	Newitt Ch 22	Tutorial 1-2	
October		2			
4	In Class	Lab 1 continued			
6	/ In-class	Lab – Microsoft Project – Tutorial 2	Newitt Ch 22	Tutorial 3	
11	In-class	Lab 2 - continued			
13	/ In-class	Lab – Microsoft Project – Tutorial 3	Newitt Ch 22	Tutorial 3	
18	In-class	Lab 3 - continued			
20	/ In-class	Commercial Building Project Part 1	Hand out		
25	In-class	Lab 4 - continued			
27	/ In-class	Commercial Building Project Part 2, Part 3	Hand out		Part 1, 2, 3
November					
1	In class	Week 11 – Module 6 – Resource allocation, leveling and budget		HW 6 Final Project Phase 1 –	
3	On-line			Final Project Phase II –	Quiz 6
8	In class	Week 12 – Module 7 - Communication	Mubarak Ch.6	HW7	
10	On line			Final Project Phase III –	Quiz 7
15	In class	Week 13 – Module 8 – Using Lag in Networks logic Diagrams		HW 8	
17	On line	Week 13 – Module 8 – Using Lag in Networks logic Diagrams			Quiz 8
22	Holiday	Thanksgiving Holiday			
24	Holiday	Thanksgiving Holiday			
29	In class	Week 14 – Module 9 – Balancing & Controlling Budgets.	handouts	HW9 / Final Project Phase IV	
December					
1	On line	Assign Final Exam Take Home Test/ EXAM 2 online	EXAM 2	Final Project Phase V –	Quiz 9

Tuesday Dec 7	I	n class	Class Semester Projects Presentations		
Dec 7	F	Final	No Final Exam		
17-18			Fall Commencement		