

MEMORANDUM FOR STUDENTS ENROLLED IN CMGT 2303

SUBJECT: CMGT 2303 Construction Materials and Methods, Fall 2022

1. **Welcome to CMGT 2303 – Construction Materials and Methods.** In this course, we will explore the fundamental materials, methods and sequences of the construction process; with emphasis on design, specification, purchase and use of concrete, steel, masonry and wood. You will also gain an understanding of the uses of construction materials. I am confident that you will find this course to be interesting, challenging, and rewarding. A tentative course schedule and introduction to instructor are provided in Attachments 1 and 2. In the course laboratory, you will gain some hands on experience in construction methods. Specific course objectives are provided in Attachment 3. **Prerequisites:** None. **Credit Hours:** 3.
2. **Attendance:** You are expected to attend all laboratory meetings. If you miss a lab you will get a zero for that lab but still must make up the work as it will be on the exams. All lectures will be online. You will take a quiz after each lecture which will count towards your attendance/participation for the class. It is important that you keep up with the online work as the information learned will be used in the labs and will be on exams.
3. **Extra Help:** You are encouraged to seek additional instruction during my office hours, before/after class, or by appointment. Take advantage of this opportunity, its FREE and really will help!
4. **Class Room Procedures:**
 - a. Bring study notes, textbook, note-taking material, and calculator to every Lab. You may not borrow or exchange calculators during graded events. If your calculator fails during a graded exercise, I am not responsible to furnish a substitute. Class preparation is your individual responsibility. Please refer to Calculator Policy below.
 - b. You may be required to use colored pencils, highlighters, or a straight edge on assignment, in addition, colors and straight lines can help with emphasis and clarity in your notes.
 - c. There will be a lab quiz given at the beginning of each lab to ensure students are on time to lab. Missed lab quizzes due to tardiness may not be made up. It is your responsibility to come to Lab prepared. Check Canvas for all preparation requirements.
5. **Course Materials:**
 - a. **Textbooks:**
Fundamentals of Building Construction, Materials & Methods, 6th Edition by Allen and Iano, 2014 or later, Wiley, ISBN 978-1-118-82020-9. Older editions are acceptable.
 - b. I will post additional course materials on Canvas. Canvas enrollment is now automatic with course registration, but you should ensure that you can access the class Canvas page.
 - c. All assignments and labs will be posted on Canvas. It is your responsibility to check the site for announcements, changes, and addendums.

- d. I may also on occasion place homework tips or points of clarification on Canvas. When I do so I will make a Canvas announcement which should send you an email alert. Therefore, check your Patriot email account often.

6. Exams and Grading:

- a. Grade Breakout and Cutoffs:

Course Points

Assignments / Lab Quizzes	490	(24.5%)
Laboratory Experience	500	(25%)
Professional Practice/ online lecture quizzes	200	(10%)
Midterm Exams (3 at 170 each)	510	(25.5%)
Final Exam	300	(15%)
	<u>2,000</u>	(100%)

University Guidelines for Grading will be used to determine your letter grade.

If you earn a cumulative average of less than 65% on all exams, or if you fail to earn at least 50% on the final exam you may fail the course, **regardless of your course grade.**

- b. Mid-term Exams and Final Exam:

- 1) The dates for all exams are included in the course schedule. Official reasons for missing an exam are outlined in the UT Student Handbook. 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.
- 2) The mid-term exams and final exam are closed book. Calculators are required for all exams. All reference materials will be provided with the exam.

- c. Calculator Policy

- 1) Only NCEES approved calculators will be permitted during tests and your test will be collected and your grade will be a zero if you are using a non-approved calculator.
- 2) The approved calculators include the following: (Please check the NCEES website for a complete listing, www.ncees.org/exams/calculator-policy/)
- 3) Examples include but are not limited to:
 - Hewlett Packard – HP 33s, HP 35s, and no others
 - Casio – All FX 115 models
 - Texas Instruments – All TI 30X or TI-36X models.
- 4) If you are unsure about your calculator, it is your responsibility to check with the instructor for approval.

- d. Cell Phones: Please remember to turn off sound to phones prior to class.

- e. Collection of Student Work: Throughout the semester I will collect student work (best, average, and worst) for the accreditation and outcomes notebooks. Selected materials will be scanned and use for this purpose. I will not draw attention as to what level of work you accomplished.

7. **Assignments:** Assignments will typically be made on a daily basis. Students may *discuss* their solutions with one another, but each student must submit their own, **independent** solutions (i.e. you may not just copy someone else's work. The assignment due date and due times will be clearly given in Canvas. Most assignments will be turned in on Canvas which time/date stamps your work.

ASSIGNMENT FORMAT: The production of a neat, organized, high-quality homework assignment cannot be overestimated nor can its importance to your course grade be overstated. A homework assignment should be something you are proud of and not something hastily “slapped together”. Toward this end, considerable emphasis will be placed on not only getting the correct answer but also on how the solution is presented.

All homework is mandatory and becomes part of your grade. As a construction manager, your goal is to make a clear, logical, and professional presentation of your work, which is both accurate and correct. As such both your presentation and the accuracy of your work are important, and both will be graded. It is critical that you show all of your work and leave “footprints” so that it can be easily followed. This means that equation numbers, figures, or other tools used should be clearly identified.

a. **PROBLEM SETS AND LAB REPORTS:**

- 1) All paper Submittals should have a cover sheet with your name, course number, Asgn # or Project #, and Title of work.
- 2) **Use professional looking paper only or full-page printouts from Mathcad, Excel, etc.** You may neatly tape or glue short computer printouts onto the submittal at the appropriate place in the logical flow of the problem. Clearly present **a brief problem statement and a sketch** with your solution. Clearly and concisely explain each step. For narratives of more than a line or two, use your word processor or the text capability if you are using MathCAD or Excel. If you are writing out a paragraph or more, you must type it.
- 3) Late Submissions. It is a basic principle of professionalism that **“Professionals are not late.”** A “COORDINATED LATE” submission occurs when you will miss the deadline for a graded homework assignment and you contact me in advance. Notification immediately before the submission will not suffice. Deductions to your assignment grade for late submissions will be given as follows:
 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. More than 48 hours late ---- No credit. **Assignments must still be submitted.**

Obviously, there are circumstances that can occur that make a timely submission impossible and I will work with you when and if they occur.

- 4) All homework in this course must be properly documented. As you are having your work reviewed it is likely that you might receive help from your classmates, just simply document it. Information from the course textbooks (equations and outlines of

procedures), class notes, or me is considered immediately available to all students and need not be acknowledged or documented. **YOU ARE REQUIRED TO ACKNOWLEDGE AND DOCUMENT ALL OTHER ASSISTANCE AND REFERENCES USED.** Documentation will be accomplished in accordance with any manual for writing, footnote or endnote, for papers, but for written homework, just place the documentation right at the point you received help using who and what assistance.

- b. Assigned readings: Doing the assigned reading prior to class will help you to understand the material presented during the instruction and will fill in gaps for things we do not cover (***I will not cover everything***). It will also make you more familiar with terms and concepts to be covered. Reading the assignment prior to attending class will enhance your ability to learn!

8. **Grading Timeline:** I will endeavor to return graded papers by the next lab period. On-line work will be graded within one week of the assignment due date. Paper assignments will be returned during the next face to face meeting after they are graded. Projects take a little longer to grade and typically are graded and returned within two weeks of submittal.

All grades will be posted on Canvas. It is your responsibility to monitor your grades to determine if you are achieving the grade you desire.

9. **Extra credit:** There is none. Students who keep up with their assignments, and prepare for the exams will do well in this class.

10. **Professional Practice.** During this semester, a portion of your grade in this course (10%) will be derived from a level of professional practice expectations. These expectations include a professional demeanor and work ethic (attitude), consistent daily preparation (assignment reading, appropriate materials brought to class, completion of online quizzes, etc.), commitment to learning and fulfilling obligations (attendance, on time), and being engaged in class activities (participation).

11. **Academic Misconduct:** Plagiarism of homework and cheating on examinations will be interpreted as academic misconduct and will not be tolerated. Please refer to the University of Texas at Tyler current Undergraduate Catalog for academic policies and Manual of Policies and Procedures for Student Affairs (MOPPS, Chapter 8) regarding academic integrity, cheating and plagiarism. Academic dishonesty will not be tolerated. Ignorance of the rules and policies provides no protection from the consequences.

UNIVERSITY POLICIES AND INFORMATION

- Withdrawing from Class - Students you are allowed to [withdraw \(Links to an external site.\)](#) (drop) from this course through the University's [Withdrawal Portal \(Links to an external site.\)](#). Texas law prohibits students 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 other 2-year or 4-year Texas public colleges and universities. Make sure to consider the impact withdrawing from this class has on your academic progress as well as the financial implications. We encourage you to consult your advisor(s) and financial aid for additional guidance. CAUTION #1: Withdrawing before census day does not mean you get a full refund. Please see the [Tuition and Fee Refund Schedule \(Links to an external site.\)](#). CAUTION #2: All international students must check with the [Office of International Programs \(Links to an external site.\)](#) before withdrawing. All international students are required to enroll full-time for fall and spring terms.
- Final Exam Policy: Final examinations are administered as scheduled. If unusual circumstances require that special arrangements be made for an individual student or class, the dean of the appropriate college, after consultation with the faculty member involved, may authorize an exception to the schedule. Faculty members are required to maintain student final examination papers for a minimum of three months following the examination date.
- Incomplete Grade Policy: If a student, because of extenuating circumstances, is unable to complete all of the requirements for a course by the end of the semester, then the instructor may recommend an Incomplete (I) for the course. The "I" may be assigned in lieu of a grade only when all of the following conditions are met: (a) the student has been making satisfactory progress in the course; (b) the student is unable to complete all course work or final exam due to unusual circumstances that are beyond personal control and are acceptable to the instructor; and (c) the student presents these reasons prior to the time that the final grade roster is due. The semester credit hours for an Incomplete will not be used to calculate the grade point average for a student. The student and the instructor must submit an Incomplete Form detailing the work required and the time by which the work must be completed to their respective department chair or college dean for approval. The time limit established must not exceed one year. Should the student fail to complete all of the work for the course within the time limit, then the instructor may assign zeros to the unfinished work, compute the course average for the student, and assign the appropriate grade. If a grade has not been assigned within one year, then the Incomplete will be changed to an F, or to NC if the course was originally taken under the CR/NC grading basis.
- Grade Appeal Policy: - UT Tyler's Grade Appeal policy requires the completion of a Grade Appeal form for this action to take place. The grade appeal begins with the instructor of your course. If you do not agree with the decision of the instructor, you may then move your appeal to the department chair/school director for that course. If you are still dissatisfied with the decision of the chair/director, you may move the appeal to the Dean of the College offering that course who has the final decision. Grade appeals must be initiated within sixty (60) days from the date of receiving the final course grade. The Grade Appeal form is found on the [Registrar's Form Library. \(Links to an external site.\)](#)
- Disability/Accessibility Services: The University of Texas at Tyler has a continuing commitment to providing reasonable accommodations for students with documented disabilities. Students with disabilities who may need accommodation(s) in order to fully participate in this class are urged to contact the Student Accessibility and Resources Office (SAR) as soon as possible to explore what arrangements need to be made to ensure access. If you have a disability, you are encouraged to visit the [SAR Portal \(Links to an external site.\)](#) ([https://hood.accessiblelearning.com/UTTyler/ \(Links to an external site.\)](https://hood.accessiblelearning.com/UTTyler/)) and complete the New Student Application. For more information, please visit the [SAR webpage \(Links to an external site.\)](#) or call 903.566.7079.
- Military Affiliated Students: UT Tyler honors the service and sacrifices of our military affiliated students. If you are a student who is a veteran, on active duty, in the reserves or National Guard, or a military spouse or dependent, please stay in contact with me if any aspect of your present or prior service or family situation makes it difficult for you to fulfill the requirements of a course or creates disruption in your academic progress. It is important to make me aware of any complications as far in advance as possible. I am willing to work with you and, if needed, put you in contact with university staff who are trained to assist you. Campus resources for military affiliated students are in the [Military and Veterans Success Center \(MVSC \(Links to an external site.\)\)](#). The MVSC can be reached at MVSC@uttyler.edu, or via phone at 903.565.5972.
- Academic Honesty and Academic Misconduct: The UT Tyler community comes together to pledge that "Honor and integrity will not allow me to lie, cheat, or steal, nor to accept the actions of those who do." Therefore, we enforce the [Student Conduct and Discipline policy \(Links to an external site.\)](#) in the Student Manual Of Operating Procedures (Section 8).

- FERPA - UT Tyler follows the Family Educational Rights and Privacy Act (FERPA) as noted in [University Policy 5.2.3 \(Links to an external site.\)](#). The course instructor will follow all requirements in protecting your confidential information.
- COVID Guidance
 - *It is important to take the necessary precautions to ensure a healthy and successful year. UT Tyler continues to urge you to protect yourselves against the flu, COVID and any new threats that may be developing. Be diligent about preventive measures such as washing hands, covering sneezes/coughs, social distancing and vaccinations, which have proven to be successful in slowing the spread of viruses. Encourage those who don't feel well to stay home, and if they show symptoms, ask them to get tested for the flu or COVID. Self-isolation is important to reduce exposure ([CDC quarantine/isolation guidelines \(Links to an external site.\)](#)). Please work with your faculty members to maintain coursework and please consult [existing campus resources \(Links to an external site.\)](#) for support.*
- Absence for Official University Events or Activities: This course follows the practices related to approved absences as noted by the Student Manual of Operating Procedures ([Sec. 1 -501 \(Links to an external site.\)](#)).
- Absence for Religious Holidays: Students who anticipate being absent from class due to a religious holiday are requested to inform the instructor by the second class meeting of the semester.
- Campus Carry: We respect the right and privacy of students 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>.

Attachment 1 Tentative Course Schedule
(Next three pages)

CMGT 2303.001L Construction Materials and Methods			
Lab: Face to face; Lecture: On-line		Fall 22 aarnold@uttyler.edu	
Module 1 -- Introduction, Codes & Foundations			
Lesson/Lab #	Topic	Reading	Assignments
Week 1	Making Buildings / Safety	Ch 1	Chapter 1 Key Terms
			Chapter 1 Making Buildings Quiz
			Assign 1: Building Codes Quiz
Lab 1	Tool Safety Practical		Online Safety Test
			Pre-Lab
			Safety Contract Quiz
			Assign 2: Class Introductions Wiki
Week 2	Foundations/Plan Reading	Ch 2	Chapter 2 Key Terms
			Chapter 2 Quiz
			Assign 3: Foundations
Lab 2	Build Batter Boards		Lab 2 Report
2-Sep	Census Date	Last day to Withdraw Without Penalty	

Attachment 1 Tentative Course Schedule, continued

Module 2 -- Wood Construction			
Lesson/Lab #	Topic	Reading	Assignments
Week 3	Wood Light Frame Construction	Chs 3 & 5	Chapter 3 & 5 Key Terms
			Chapter 3 Quiz
			Assign 4: Wood Labels
			Assign 5: Wood Properties
Lab 3	Light Frame Wood Construction		Chapter 5A Quiz: Walls
			Pre-Lab
			Lab Report
Week 4	2-Hour House Video Roofs Heavy Timber	Ch 4	Chapter 4 Key Terms
			Chapter 5B Quiz: Roofs
			Assign 7: Roof Calculations
			Chapter 4 Quiz
Lab 4	Design Table-top Roof		Asgn 6: Heavy Timber
			Pre-Lab: Framing Square
			Post-Lab: Drawings
Week 5	Exterior Finishes for Wood LFC	Ch 6	Chapter 6 Key Terms
			Chapter 6 Quiz
			2-Hour House Quiz
Lab 5	Build table-top roof		Pre-Lab 5 Drawings
			Post-Lab 5 Report
Week 6	Interior Finishes for Wood LFC	Ch 7	Chapter 7 Key Terms
			Assign 8: Stairs
			Chapter 7 Quiz
Lab 6	Exam 1 (2 parts--written and practical) Drawing / Begin Table Design		Exam 1
Module 3 -- Concrete, Masonry & Steel			
Lesson/Lab #	Topic	Reading	Assignments
Week 7	Brick Masonry	Ch 8	Chapter 8 Key Terms
			Chapter 8 Quiz
			Assign 9: Bricks
Lab 7	Build CMU Walls / Form Concrete Wall Cap		Work Table Design in Lab
			Lab 7 Report - Concrete
Week 8	Stone & Concrete Masonry, Brick Construction	Chs 9 & 10	Chapter 9 & 10 Key Terms
			Chapter 9 Quiz
			Chapter 10 Quiz
			Assign 10: Brick Walls
Lab 8	Mix concrete		Assign 11: Steel
			Lab 8 Report Masonry
Week 9	Hot Rolled Steel & Light Gauge Steel Frame	Chs 11 & 12	Chapter 11 & 12 Key Terms
			Chapters 11 Quiz
			Chapter 12 Quiz
Lab 9	Steel Frame Constr. / Light Gage Steel Lab / Review Table Designs/ 7 day concrete tests		Lab 9 Report Steel

Attachment 1 Tentative Course Schedule, continued

Week 10	Concrete Construction / Precast Concrete & Low Slope Roofs	Chs 13, 14 & 15	Chapter 13, 14, & 15 Key Terms
			Chapter 13 Quiz
			Chapter 14 Quiz
			Chapter 15 Quiz
			Assign 12: Concrete Reinforcing
Lab 10	Exam 2 Complete Table Design/ Stucco Wall		
Module 4 -- Cladding			
Lesson/Lab #	Topics	Reading	Assignments
Week 11	Roofing, Glazing, & Windows and Doors	Chp 16 & 17	Chapter 16 & 17 Key Terms
			Chapter 16A Quiz
			Chapter 16B Quiz
			Chapter 17 Quiz
			Asgn 14 Roofs
Lab 11	Build Table / Install Doors		Pre-Lab Lab Report
Week 12	Cladding Masonry, Concrete, Metal & Glass	Chp 18, 20 & 21	Chapter 18, 20, & 21 Key Terms
			Chapter 18 Quiz
			Chapter 20 Quiz
			Chapter 21 Quiz
			Asgn 15 Win & Doors
Module 5 -- Interior Finishes			
Lesson/Lab #	Topics	Reading	Assignments
Lab 12	Complete Table Build 28 day concrete test		Drawings and Materials list
Week 13	Interior Finishes	Chp 23 & 24	Chapter 23 & 24 Key Terms
			Chapter 23 Quiz
			Chapter 24 Quiz
Lab 13	Exam 3 Holiday Ornament/ Install gutter		Table Lab Report Due
Nov 21-26		Thanksgiving Holidays	
Week 14	Selecting Interior Finishes	Chp 22	Chapter 22 Key Terms
			Chapter 22 Quiz
Lab 14	Review Final		Bonus Lab Due Today
Week 15	Study Day		
Scheduled Final Exam; Double check date in Canvas			

Attachment 1 Tentative Course Schedule (Continued) Attachment 2 Introduction to Instructor

Instructor: Althea Arnold Chappell, PE, PhD

Office: RBS 1035

Office Hours: Office hours will be posted on my door. For times outside of office hours, email me and include your name and three optional meeting times. I will respond to email within 24 hours, except on weekends. I am also available before and after lab to answer questions on assignments.

Phone: 903-566-7002

Email: aarnold@uttyler.edu

Fall 2022

Time: Lectures are On-line;

Lab: Tuesday or Thursday 2:30 – 5:15 pm

Meeting Place: RBS 1024

I enjoy teaching Construction Materials and Methods here at UT Tyler. I have worked hard to build the construction lab with new tools, materials, and projects I know you will love to do. In addition to our regular labs, we will be performing punch list items on last year's Legacy project.

I have worked in and around construction most of my life. My first experience in construction was when I was in high school and I helped my dad build our house. Since that time, I have built my own home and remodeled several houses. However, my experience is not limited to home building. I have been project engineer for a 10-million-dollar grade separation project and have been involved in many projects from commercial building to roadway construction.

Additional personal achievements which qualify me to teach here at UT Tyler are as follows. I am a Registered Professional Civil Engineer and have over 20 years' experience in the field, working in design and construction management. I have experience in residential, commercial, and heavy civil construction. I have worked in Texas, California, and Maryland. I have also performed research for Texas Transportation Institute in crash testing of highway hardware.

I have a BS and MS in Civil Engineering specializing in structures and a PhD in Construction Management all from Texas A&M. My specialties are in Building Information Modeling (BIM) and Green Building. And I am also involved in a construction robotics project.

I enjoy teaching and like to challenge students to reach their full potential by involving them in the latest construction technologies. I expect students to be engaged in their own learning. I believe that the information, procedures, and techniques I provide students during the courses I teach will help them in the future to obtain and sustain professional and rewarding employment meeting their lifetime goals.

In this course, you will learn how to read drawings and interpret building code requirements. You will learn many construction methods and the use of common materials. We will cover a lot of material, but it should be fun and rewarding for those who keep up. I look forward to being your instructor this semester.

A. Arnold Chappell

CMGT 2303 Course Objectives:

1. Demonstrate tool safety and explain why it is important.
2. Develop an organized approach to building construction.
3. Interpret and apply building codes.
4. Explain the principles of wood construction.
5. Explain the principles of concrete, stone & masonry construction.
6. Explain the principles of steel construction.
7. Calculate material sizes from drawings.