

## **MEMORANDUM FOR STUDENTS ENROLLED IN CMGT 4385**

### **SUBJECT: CMGT 4385 COMMERCIAL CONSTRUCTION**

#### ***Course Specific Policies***

#### **1. CMGT 4385 COMMERCIAL CONSTRUCTION**

Online Class-Time: (Tuesday (in-class) / Thursday (online))

Class Meets: Thursday 9:30 AM – 10:50 PM (unless otherwise specified)

Room: RBN 2011

Instructor: Dr. Gilbert Abel

Office: Ratliff Building South (RBS) 1036

Office Phone: (903) 565-5890

Email: [gabel@uttyler.edu](mailto:gabel@uttyler.edu)

2. Welcome to CMGT 4385 – Commercial Construction. In this course you will learn how construction managers deal with specific phases in the construction process relating to commercial construction. The construction industry is a unique collection of planners, design professionals, manufacturing firms, and tradespeople. The success of the industry is a testimonial of the combined expertise of these individuals and firms.

CMGT 4385 is a senior level course for students preparing to enter the commercial construction sector and project management of commercial construction projects that includes; aspects of design, bidding/estimating, presentation, value engineering, contracts/negotiation, subcontractor relations, cost controls, management during construction, close-out, and post- construction requirements. Specific course objectives are provided in Attachment 3. Prerequisites for this class: CMGT 3311.

CMGT 4385 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 PowerPoint Lectures, Videos, Class Discussion, and additional resources. In class, students will receive a chance to do more hands-on learning activities specific to course objectives. Most class activities will be to help aid in homework, blueprint reading, and the semester project.

3. If you will miss a scheduled class, you are still responsible for the material.

4. You are encouraged to seek additional instruction during my office hours or by appointment.

If unable to have office hours, this information will be announced in class. Office Hours:

Mon. (1:00 – 3:00 PM); Tues. (1:00 – 3:00 PM); Thurs. (1:00 – 3:00 PM); Fri. (10:00 AM to 12:00 AM)

Please knock on door before trying to enter.

#### **5. Class Room Procedures:**

a. I will do attendance in class – please ensure information is circulated and turn back in to instructor by the end of class.

b. Bring study notes, textbook, text blueprints, note-taking material, and calculator to every class. 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.

c. Textbooks: **(not required)**

Toenjes, Leonard. Printreading for Heavy Commercial Construction. Orland Park, Illinois: American Technical Publishers, Inc., 3rd Edition, 2010. (ISBN: 978 – 0-8269-0461-4).

Make sure you get the Prints for the book as well to do blueprint reading for the course assignments. It is better to get a new prints set because a used set may have pages missing.

d. Video Quizzes: There will be video quizzes throughout the semester online. These quizzes are not meant to be tricky, but rather to encourage each of you to review the required information and reward those who do. Please take the time to do the video quizzes provided by instructor online. The quizzes are graded. You will need to listen to the videos provided and take notes or listen very closely while observing information presented in the videos or articles provided online to read. Once you have completed viewing the videos take the quiz. The quizzes will help you with exams in the class and a good visual study aid.

e. Wiki- Safety Toolbox Talks- Each week the class will start with a safety toolbox talk starting with the Technical and Blueprint reading portion of the class. The safety toolbox talks will be assigned to students to run your own safety toolbox meeting (as the class will pretend to be subcontractors and meeting with you on a Monday morning for the weekly toolbox talk). There is a topic assigned each week that will be in the form of wiki discussion. All students are to participate weekly by providing information to help the groups do their meetings in class. Safety Toolbox Talks will be due on Wednesday's online. The information will be provided ahead of time to allow you to have time to finish the weekly wiki topic. We will start sometime in February with doing the wiki board. This will give teams time to get their meeting together. For the meeting you will provide handouts to subs and have a write up about your topic.

6. Canvas Information

a. Course material will be posted on Canvas. Canvas enrollment is automatic with course registration, but you should ensure that you can access the class Canvas page.

b. I will often email you homework tips or points of clarification that are made aware to me outside of class. Please check your email daily. All email correspondence will take place through the Blackboard system, and therefore using your Patriot email accounts; so check your Patriot email account often. If you have another email that you would prefer to use other than the Patriot account please notify the instructor and provide the best email address to contact you.

7. Exams and Grading:

## a. Grade Breakout and Cutoffs:

Section Exams (2 at 250 each)	500 (25%)
Semester Project	400 (20%)
Sirti Final Exam	500 (25%)
Homework	200 (10%)
Quizzes	130 (6.5%)
Safety Toolbox Talks	25 (1.25%)
Code Exercise	25 (1.25%)
Jobsite Report	20 (1%)
Professional Grade	200 (10%)
<hr/>	
	2000 Points (100%)

**Grade Scale:**

A+	96.67%	1933
A	93.33%	1866
A-	90.00%	1800
B+	86.67%	1733
B	83.33%	1666
B-	80.00%	1600
C+	76.67%	1533
C	73.33%	1466
C-	70.00%	1400
D	65.00%	1300
F	<65.00%	<1300

Standard DEPARTMENT cutoffs for your personal growth are shown above. UNIVERSITY GRADE BREAKS WILL BE USED IN FINAL GRADE POSTING.

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. Of course, final grades are only A, B, C, D, F. Therefore, a C- is a C for a final grade. The distribution shown above is to graphically remind you of how well you are doing.

## b. Section 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 **section exams and final exam** are **closed book**. You can use a **TI-30 calculator as needed**.

3) Use the restroom prior to coming to class to take an exam! Suspicious restroom breaks in the middle of an exam are not acceptable.

4) **Solutions to exams will not be posted on Blackboard**, but you may stop by office and see exam solutions.

c. Calculator Policy:

Only NCEES approved calculators will be permitted during tests. Your test will be collected and grade will be a zero if you are caught using a non-approved calculator.

d. Laptops/PDAs/MP3 players/Cell Phones or other electronic devices: The use of any electronic device, except an approved calculator, **is not permitted during exams**. Your exam will be collected and your grade will be a zero if you are caught using a non-approved electronic device. The use of phones and MP3 players is not permitted during lessons.

e. Collection of Student Work: Throughout the semester I will collect student work (best, average, and worst) for the ABET course and outcomes notebooks. This will require me to make a copy of your work, keep your original and return a copy of the graded work to you. I will not draw attention as to what level of work you accomplished.

f. Embedded indicators of accomplishment of program outcomes: At times throughout the semester, portions of student work will be analyzed to determine if our program is accomplishing stated program outcomes based on established metrics. **If your work is below the minimum established metric, the instructor may ask for you to repeat the assignment for a better grade. If you do not make an effort to improve your grade, this will reflect upon your professional grade in the class.**

8. Homework:

**HOMEWORK 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. **Cover Sheets will not be needed for workbook assignments. You will need to make sure all pages have your name. If it is not a workbook assignment, a cover sheet should be attached to other homework assigned. (see attachment 4- you may use and make copies to turn in with homework assignments).**

(center of page)

Name: \_\_\_\_\_

Homework # \_\_\_\_\_

CMGT 4385 Commercial Construction  
The University of Texas at Tyler  
Department of Construction Management  
Due Date: \_\_\_\_\_

**All homework is mandatory and becomes part of your grade. All homework should be turned in at the beginning of class and not online, unless otherwise specified.** There will be a class folder to turn in your homework. Failure to submit any required homework **will result in an incomplete**. 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.

a. Papers/Problem Sets:

1) **Use Engineer paper only or full-page printouts Word, Excel, or Powerpoint.** You may neatly tape or glue short computer printouts onto Engineer paper at the appropriate place in the logical flow of the problem. Only use one side of a page. Clearly present a **brief problem statement and a sketch** with your solution. Clearly and concisely explain each step. If you are writing out a paragraph or more, you must type it. Always follow grading rubric for paper assignments.

2) 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. ***I will not play the game of having a stack of incomplete homework assignments turned in on the last day of class. Late assignments should still be submitted within a week unless you coordinate otherwise with me. Habitually late homework WILL have a significant negative impact on your professional practice grade!***

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!

9. **There is only one extra credit:** It is to attend senior presentation day on April 25, 2017; Tuesday. You will at least need to stay one hour to receive credit. You may attend the contractor/student mixer or a few presentations. Make sure you sign-in for the event.

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, homework completed on time, etc.), commitment to learning and fulfilling obligations (attendance, on time), and being engaged in class activities.

11. **Academic Dishonesty:** Representation of other's work as your own will not be tolerated. Cheating on examinations, quizzes, and homework and the false representation of work will be interpreted as academic dishonesty. Academic dishonesty will be subject to disciplinary actions as outlined by the UT Tyler Student Guide on Conduct and Discipline.

12. **Semester Project (See Attachment 2)**

13. **University Policies**

#### **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://www2.uttyler.edu/wellness/rightsresponsibilities.php>

#### **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 that students need to be aware of. 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**

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 Services**

In accordance with federal law, a student requesting accommodation must provide documentation of his/her disability to the Disability Services counselor. If you have a disability, including a learning disability, for which you request an accommodation, please contact the Disability Services office in UC 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.

**14. Technical Information**

If you experience technical problems or have a technical question about this course, you can obtain assistance by emailing [itsupport@patriots.uttyler.edu](mailto:itsupport@patriots.uttyler.edu) or call 903.565.5555.

When you email IT Support, be sure to include a complete description of your question or problem including:

- ☐ The title and number of the course
- ☐ The page in question
- ☐ If you get an error message, a description and message number
- ☐ What you were doing at the time you got the error message

You may also visit the Help Tab in Blackboard for useful information or check out **On Demand Learning Center for Students** <http://ondemand.blackboard.com/students.htm>

### **Plug-ins and Helper Applications**

UT Tyler online courses use Java, JavaScript, browser plug-ins, helper application and cookies. It is essential that you have these elements installed and enabled in your web browser for optimal viewing of the content and functions of your online course. Always ensure that you are using the most update version for the browser you choose to access the online learning content.

**NOTE: Mozilla Firefox** is the recommended browser for Blackboard. (URL: <http://www.mozilla.org/en-US/firefox/new/>)

☐ **Adobe Reader** allows you to view, save, and print Portable Document Format (PDF) files. (URL: <http://get.adobe.com/reader/>)

☐ **Java Runtime Environment (JRE)** allows you to use interactive tools on the web. (URL: <http://www.java.com/en/download/>)

☐ **Adobe Flash Player** allows you to view content created with Flash such as interactive web applications and animations. (URL: <http://get.adobe.com/flashplayer/>)

☐ **QuickTime** allows users to play back audio and video files. (URL: <http://www.apple.com/quicktime/download/>)

☐ **Windows Media Player** allows you to view, listen and download streaming video and audio. (URL: <http://windows.microsoft.com/en-US/windows/products/windows-media-player>)

☐ **RealPlayer** allows you to view and listen to streaming video and audio. (URL: <http://www.real.com/>)

### **15. Netiquette Guide**

"Netiquette" is network etiquette, the do's and don'ts of online communication. Netiquette covers both common courtesy online and informal "rules of the road" of cyberspace.

### **16. Help/Support IT**

#### **Where to Get Technology Help**

**Phone:** (903) 565-5555 or extension 555 on campus

**Email:** [itsupport@uttyler.edu](mailto:itsupport@uttyler.edu)

### **17. Communication with Instructor**

The best way to get in touch with the instructor is through email. Please allow 24 hours response to your email during the week. If you have a question during the weekend, it may take up to 48 hours, but the instructor will do everything to answer questions immediately.

### **18. Returned Assignments/Exams and Feedback**

The hybrid courses only meet once a week. It is my goal to return homework assignments and exams the next class meeting unless there is something that comes up affecting the class meeting such as bad weather days.

### **19. Job Site Tour/Liability Forms**

The class will do jobsite visits this semester. Due to weather conditions, scheduled tour date may need to be moved to another time during the week or preceding weeks. If you cannot make the jobsite tour, then you can make up any assignments by visiting a site and documenting information as needed to receive a grade for assignment. Please get with the instructor in case of an emergency.

All students will fill out a Liability Waiver Form. This information will be provided at the beginning of the semester by the instructor.

Cherie E. Jones, M.B.A.



Date	Class Meeting	Topic	Assignment Due	Quizzes Due
January				
<b>Managing Commercial Projects</b>				
	15	In class	Module 1- Construction Practices	
	17	In-class	Class Overview/Module 1 - Construction Practices	HW1
	22	In class	Module 2- Procurement	
	24	online	Module 2- Procurement	About You
	29	In class	Module 3- Mobilization	Quiz 1/ HW2
	31	online	Module 3 - Mobilization/Site Logistics	log plan/ JHA 1
Feb	5	In class	Module 4- Oral Communication	Quiz 2/ HW3
	7	online	Module 4- Oral Communication	JHA 2
	12	In class	Module 5- EPA	HW 4
	14	online	Module 5- EPA	JHA 3
	19	In class	Module 6 - Quality Control & Assurance/Commissioning	Quiz 3/ HW 5
	21	Online	Module 6 - Quality Control & Assurance/Commissioning	JHA 4
				HW 6
<b>Technical Knowledge and Blueprint Reading</b>				
	26	In class	Module 1-1 Sitework	
<b>Test 1 will be open online February 27 - March 2nd</b>				
	28	online	Module 1-1 Site work	JHA 5
March	5	In class	Module 2-1 Excavation	HW 7
	7	online	Module 2-1 Excavation	Sem Pro. Pt 1-RFI
	11 - 15		<b>Spring Break</b>	HW 8
	19	In class	Module 3-1 Foundations	
	21	online	Module 3-1 Foundations	Quiz 4/ HW 9
	26	In class	Module 4-1 Structural Steel Members	
	28	online	Module 4-1 Structural Steel Members	LCP Presentations
April				
<b>Test 2 will be open April 3rd - 6th (Modules 1-1 thru 4-1)</b>				
	2	In class	Module 5-1 Formwork	
	4	online	Module 5-1 Formwork	HW 10
	9	In class	Module 6-1 Reinforced Concrete	
	11	online	Module 6-1 Reinforced Concrete/	
	16	In class	Module 7-1 MEP	
	18	online	Module 7-1 MEP	Quiz 5
	23	In class	Module 8-1 Finishout	
	25	In-class	Module 8-1 Finishout	Sem Project due
May				
<b>29 – 3rd Finals</b>				
<b>Final Exam- Blueprint Reading and Online Test</b>				

Attachment 1: Course Schedule

## **Attachment 2: Semester Project**

### **Semester Project**

For your semester project, your team will create a Construction Logistics Plan. In order to begin any construction activity, it may be a mandatory planning requirement for a Construction Logistics Plan (CLP), which has to be approved by council staff (instructor). This document will be the plan of logistics activity to and on-site and will be a combination of compliance with regulations and adopting best practice. There are 5 main components that will be created and then discussed before the class in the form of a presentation.

#### **Semester Project Relevance:**

The CLP is a planning requirement because of the need to reduce the negative effects of construction work on local residents, businesses and the local environment - these include congestion, pollution and noise. A well written CLP is not only beneficial to the local environment but can result in savings on project cost through the streamlining and reduction of delivery activity.

#### **Step 1: Find a Project**

Your team should find a construction company willing to help with this project. It can be a commercial or heavy/civil project. You will need a set of plans, project manual, bid schedule, bid estimate, information about payment applications. It is okay to use your senior capstone project to do the semester project, but it is not required. It may be a good idea to find another project to learn more to help once you graduate if you plan on working in commercial construction. The more knowledge you have the better to help prepare as a construction manager.

- Oral Communication about how you plan the following:
  1. Field Setup- Mobilization
  2. Change orders
  3. Field Changes
  4. Payment
  5. Schedule Updates
  6. Conflict between personnel
- Site Logistics Plan

#### **1. Local Site Access Routes**

You need to provide 2 separate plans that show:

- Location of the site within the local area – to show how vehicles will approach your site from the local area
- Plan of the immediate area of the site – to show access and exit points for vehicles. These need to be located in such a way that they will not cause hazards or congestion within the existing traffic flows. If it is intend to have vehicles waiting on the carriageway,

(which is not recommended) then this would need to be shown on the plan so that the impact can be assessed and approved by the authority. If you intend to use vehicle holding points from where vehicles can be called to site then the location of these should be explained here.

## **2. Site Operation Times and Access Time**

The CLP should include a staff travel plan to show how staff working on the site through the period of construction propose travel to and from work and how you will promote the use of public transport and other measures to reduce congestion - e.g. car share, cycling etc wherever possible. A map of local public transport systems should help.

## **3. Site Access Arrangements**

Access to the site has to be through the authorized access point and controlled through the booking in system. Details on how they will be achieved must be included in the plan and explain how this will work and what penalties there will be for deliveries that do not follow the agreed system.

## **4. On-Site Arrangements**

It is important that vehicles entering the site have a marked and uncongested internal route. The best way to confirm this is using a plan of the site's internal layout including internal vehicle routes in and out; the booking in area; unloading and loading areas; and storage areas.

An analysis should be carried out to confirm the route is compatible with likely vehicle types accessing the site - this should be shown on the site plan and managed on site to ensure that it works. Your CLP needs to state how this will be maintained. It should also show any parking areas on site for sub-contractors who may be using their

- Own vehicles and equipment.
- Access to your site has to be through the authorized access point and controlled through the booking in system.

## **5. Loading/Unloading Locations**

Whether loading and unloading is to be conducted on site or on the highway the locations need to be shown on the site plan.

## **6. Cranes and Equipment**

Arrangements for cranes and major equipment need to be described and shown on the site plan in relation to the loading / unloading locations.

## **7. Materials Storage (if applicable) and Security**

The plan should show any provision of on-site storage facilities for equipment, tools and materials that would allow reduced trips by suppliers to the site. These facilities need to be located at a point where they can easily be loaded and unloaded without causing either a hazard or congestion.

### **8. Staff Travel Plan**

You will have a number of staff working on the site through the period of construction. You will need to explain in your CLP how they will travel to and from work, and how you will promote the use of public transport and other measures to reduce congestion - e.g. car share, cycling etc. - wherever possible. A map of local public transport systems might help.

- Stormwater Pollution Prevention Plan
  1. Site Assessment and Planning
  2. Selecting Erosion and Sediment Control BMP's
  3. Selecting Good Housekeeping BMP's
  4. Inspections, Maintenance, and Recordkeeping
- Quality Control and Assurance Plan
- Commissioning Plan

9. Use of Visuals- Google or possible software I am looking into for class.

### **Writing a CLP**

**A. Expectations:** In producing a CLP the use of maps and diagrams will be an advantage and should be used wherever relevant and useful. Photographs may also be helpful.

**B. Restrictions** Construction work time will be regulated in order to reduce the effects of disturbance on local people. Therefore, the site and associated logistics will have to conform to the normal times of work.

When writing a CLP it is recommended that the following sequence of 5 main headings be used as addressed above.

### **C. Due Dates:**

- 1. Find a Project – Due February 5, 2019**
- 2. Oral Communication- Due February 24, 2019**
- 3. Site Logistics- Due Feb 28, 2019**
- 4. SWPPP – Due March 21, 2019**
- 5. Quality Control and Assurance – Due April 4, 2019**
- 6. Commissioning – Due April 11, 2019**
- 7. Presentation - Due April 30, 2019**

This information will be presented at the end of the semester in the form of a Power point Presentation. Your team should include 20 to 30 slides explaining each main heading. Your classmates and instructor will pretend to be attendees for the Construction Logistics Plan (CLP) Meeting.

### **Attachment 3: Course Objectives**

#### **CMGT 4385 Course Objectives:**

1. Explain the process of planning sitework investigation and site logistics.
2. Explain various methods used for foundation systems.
3. Demonstrate ability to identify and read a full set of plans.
4. Explain methods used in the testing and evaluation of soils on the building site.
5. Explain various methods of protection during excavation and equipment selection.
6. Explain concepts of roadway pavements, curbs and sidewalks, parking areas, storm and sanitary sewer lines, storm water management, and street lighting.
7. Explain process of fabrication and erection of structural steel for building frames.
8. Explain various roof design principles and the materials used in roof construction.
9. Explain various finish-out processes for both interior and exterior.
10. Explain the process of shop drawings and learn how to review shop drawings.
11. Explain concepts, methods, and techniques related to managing a commercial project.
12. Explain the process of commissioning and steps to properly test and inspect projects through quality control and assurance measures.

**Attachment 4. Cover Sheet**

**Name:** \_\_\_\_\_  
**Homework #** \_\_\_\_\_  
**CMGT 4385 Commercial Construction**  
**The University of Texas at Tyler**  
**Department of Construction Management**  
**Due Date:** \_\_\_\_\_