

CSM 1000 – Introduction to Construction Science & Management

Course Outline & Requirements

Fall 2017

Section 1: M&W 10:10-11:00 in Lee 2-172 and F 10:10-11:00 in Bracket Hall 211

Section 2: M&W 11:15-12:05 in Lee 2-172 and F 10:10-11:00 in Bracket Hall 211

Course Instructor and Contact

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Students are expected to wait 15 minutes in case the faculty member has been delayed unless notified otherwise.

Office Hours

Monday and Wednesday: 9-10AM & 3-4PM, Tuesday and Thursday: 2:30-3PM, Friday 9-10

Other times, By Appointment Only!

Course Description

Introduction to the construction industry and the Construction Science and Management department, fundamentals and applications of formal problem solving, critical thinking (CT2), and ethics.

Critical Thinking Integration

This course is part of the Clemson University Thinks2 (CT2) program that is aimed at improving student critical thinking skills. Memorizing facts and being able to repeat definitions and/or procedures are not in themselves a sufficient skill set to address the complex problems facing the construction industry today. You need to develop the ability to *reason, evaluate and decide* if you are to be successful in your career.

Critical thinking happens when we are able to objectively analyze and evaluate an issue in order to form an informed judgement and take informed action. This involves analyzing claims for accuracy, sources of those claims for authority, and review of a situation from different points of view.

Course Objectives

Upon completion of this course, students should be able to:

CT2 Objectives:

1. Analyze and describe in writing the differences between critical and noncritical thinking by presenting the essential components of effective critical thinking within a given scenario. Include analysis and interpretation of different viewpoints, the claims within those viewpoints, the validity of those claims, and an explanation of your final decision and point of view.

2. Analyze a situation to identify and separate relevant from irrelevant facts within a situation to solve a problem. Include justification of your interpretation, others' potential interpretation of the information, and possible alternative solutions when defending your conclusions.
3. Identify flaws and inconsistencies of claims within a given situation through the evaluation of influencing information, the source and completeness of that information, and how the information may bias ones' thinking.

General Course Objectives:

1. Describe roles, duties, and responsibilities of typical parties involved in the construction process and how each may act in an ethical manner.
2. Describe and distinguish different categories of construction, project delivery methods, payment solutions, and how each affect project risk, potential adversarial relationships, and potential collaboration throughout the construction project.
3. Explain common problems that the construction industry might face and utilize formal problem solving processes to identify the root cause and evaluate effective, ethical solutions.
4. Analyze and dissect a given scenario for ethical implications and how basic ethical principles and codes of conduct can be applied in determining an appropriate solution.
5. Demonstrate an understanding of multidisciplinary teams and the collaborative process through the completion of a team-based project with students of other majors.
6. Engage the construction industry through the Construction Industries Career Fair, outside of class networking engagements, and student chapter activities.
7. Establish an electronic internship portfolio to document internship experiences.

ACCE Program Student Learning Outcome

Outcome #12: *Upon Graduation the student should be able to understand different methods of project delivery and the roles and responsibilities of all constituents involved in the design and construction process. The direct measure of this objective will be through the AIC AC Examination given their senior year.*

Outcome #21: *Upon Graduation the student should be able to apply construction management skills as an effective member of a multi-disciplinary team. The direct measure of this objective will be through a self and peer assessment to be completed after a multi-disciplinary project with architecture and landscape architecture.*

Required Instructional Materials

It is required that all students purchase their own individual copy of the textbook listed below.

Required: Barbara, J. Jackson, "Construction Management Jumpstart", 2nd ed., SYBEX, 2010.

Students are required to bring the textbook to each class.

Schedule and Topical Outline

The following course schedule is tentative and subject to change. Exact dates for assignments will be provided by the instructor. Any major changes in the schedule will be communicated as early as possible.

Week	Date	Lecture Topic Areas and Book Readings
1	23 Aug	<i>Introduction to CSM</i> Themes of Construction: Collaboration/Problem Solving/Ethics Critical Thinking Assessment – PreCourse*
2	28 Aug	<i>Critical Thinking</i> Desert Survival Scenario*
3	4 Sept	<i>Problem Solving</i> The Formal Problem Solving Process* **Resume Workshop – Friday** Tentative
4	11 Sept	<i>Ethics</i> Ethics and Morality in Construction Ethical Codes of Conduct Case Studies* ***Exam #1***
5	18 Sept	<i>The Construction Industry (Chapter 1)</i>
6	25 Sept	<i>Project Delivery Methods (Chapter 2)</i>
7	2 Oct	<i>Bidding versus Negotiated Work (Chapter 3)</i>
8	9 Oct	<i>Contract Types (Chapter 4)</i>
9	16 Oct	Fall Break on Monday <i>Project Stages (Chapter 5)</i>
10	23 Oct	<i>Estimating and Project Financial Overview (Chapter 6)</i>
11	30 Oct	<i>Contract Administration – Getting Paid/Paying People for Work (Chapter 7)</i> ***Exam #2***
12	6 Nov	<i>Coordination and Jobsite Management (Chapter 8)</i>
13	13 Nov	<i>Working with the Schedule (Chapter 9)</i>
14	20 Nov	<i>Project Controls (Chapter 10)</i> Thanksgiving Break Wednesday/Friday
15	27 Nov	<i>Quality, Safety, and Project Risks (Chapter 11 and 12)</i>
16	4 Dec	<i>BIM and Technologies (Chapter 13) – Final Exam Review</i>
17		Final Exam Section 1 – Tuesday December 12 at 3PM Final Exam Section 2 – Tuesday December 12 at 8AM

* denotes a CT2 activity

** Joint Sessions on Fridays are reserved for guest speakers and the collaborative project. A separate schedule will be provided once the semester starts.

*** Exam dates will be confirmed by instructor.

Course Requirements

1. Electronics in the Classroom –
 - a. **COMPUTERS, TABLETS, or IPADS** use should be extremely limited. You will learn better if you take notes by paper and pen/pencil. Disruptive use of technology will not be tolerated. There will time during discussions that you will be asked to turn all electronics off.
 - b. Cell Phones – please silent all cell phones. They should not be touched during class, keep them in your pocket/bag and out of sight (Out of sight out of mind). Again, they serve as a distraction to you and those around you.

- c. No photos or video of slides or other classroom activity will be allowed.
 - d. No recording of classroom discussions unless prior authorization is received and it is required by way of an in-class accommodation.
 2. Reading Assignments - In addition to the required textbook noted above, there may be other materials provided to support course presentations. Students are responsible for having the assigned materials read **prior** to the class in which the concepts are presented and discussed.
 3. Attendance – is required and will be taken in some form for each class. The CSM Department’s attendance policy is in effect; see the attached “Clemson University Department of Construction Science and Management Expected Student Behavior.”
 - a. An excused absences include:
 - i. University sponsored and sanctioned events that occur during normal class time where the students attendance is necessary for the success of the activity (these typically are accompanied by an excuse letter from a university unit; e.g. a sports team)
 - ii. Critical illness that require bedrest or isolation from the general public (these must be accompanied by a doctor’s note).
 - iii. Other possible reasons for an excused absence should be discussed with the instructor prior (if possible) to the missed class date.
 - b. Unexcused absences are typically within the students control. Some examples of unexcused absences include:
 - i. Woke up late/alarm did not go off.
 - ii. It is nice weather and you do not feel like coming to class.
 - iii. A court date.
 - iv. A non-emergency medical appointment which should be schedule outside of the scheduled class time.
 - v. An many more – if you have any questions about a potential absence discuss it with the professor as soon as you can to come to a determination of proper course of action.
 - c. If a student misses class for any reason, the student is responsible for making arrangements for catching up on the work missed. In-class assignments and quizzes can only be made up if arrangements for an excused absence were made **PRIOR** to the missed class.
 4. In-Class Participation – At least half of the classes will involve an interactive component such as discussions and group breakouts. These require student participation. It is imperative that students prepare by reading material prior to class and actively participate. Grades for participation will be negatively impacted if the student distracts from the positive progression of class or is not actively participating (e.g. sleeping, not paying attention, reading, phone use, etc.).
 5. Outside of class participation – there is a requirement to attend at least 3 outside of class activities to network with other students and members of the industry. Events sponsored by the Guild, the Department, and other student chapters that include an educational component such as a guest speaker, service projects, and field trips will count and attendance will be taken by the sponsoring entity. These events will be announced as the semester goes on by the department office so please keep track of your emails. Purely social events do not count. Credit may be given to other activities beyond those sponsored by the Guild, Department, and student chapters but must receive **PRIOR** approval from the processor to ensure they fit the criteria and purpose of the outside of class participation requirement. All event must be completed and confirmed with the instructor by the last day of classes so final grades can be tallied.

6. Examinations – Numerous quizzes, two examinations and a final examination will be administered. The final examination will cover material from the entire semester. Quizzes may not be announced. Quizzes and exams can only be made up if they correspond with an excused absence. Quizzes may require students to answer question on their own sheet of paper. Students should come prepared every class with notebook paper and a pen. Other quizzes will be on-line. On-line comprehension quizzes will be open book – however they will be timed and one attempt only. **All exams and quizzes are to be taken in pencil or a black/blue pen (NO RED or other colored ink).** Written responses need to be written legibly or will not receive credit. Please take your time and write clearly.
7. Assignments and Projects – Small assignments will be given throughout the semester – late work will have a reduction of 10% per calendar day that it is late UNLESS OTHERWISE STATED IN THE ASSIGNMENT, no work will be accepted 1 week late or later. Projects are to be done individually unless otherwise stated. Group projects are your responsibility to manage and resolve conflict. In-class assignments that contain a written submission need to be written legibly or may not receive credit. Please take your time and write clearly. Outside of class assignments are required to be submitted in a professional manner, typed, and mechanically bound. Loose papers or hand written assignments will not be accepted. All assignment requirements must be followed for submission.
8. Internship Portfolio – As part of the introductory class you will be required to create the framework of your internship portfolio that will be used to document your 800 hours of work experience required for graduation. Guidelines will be given at a later date with instructions on completing the portfolio framework and guidance on documenting the work hours.
9. Critical Thinking Assessment – With this course being designated as a CT2 (Clemson Thinks) Critical Thinking Course, each student is required to take a pre-test and post-test assessment. Access to this assessment is on-line and will be provided by the University. The instructor will announce when these assessments are to be completed.
10. Career Fair Project – As part of becoming familiar with the construction industry you will be required to create a resume and attend the Construction Industries Career Fair. More details about the submission requirements, preparation for the career fair, and how to write a resume will be provided. The Construction Industries Career Fair is on October 24th from 2-6 PM at the Madren Center.
11. Collaborative Project – There will be a collaborative project with architecture and landscape architecture. Four Friday sessions will be held as a joint class for all three programs to discuss different aspect of collaboration. There will be a small group project to be completed. Additional specifications for the project will be provided at a later date.
12. Guest Speakers – Over the course of the semester, several guest speakers will be scheduled to talk to the class. Students will be required to be responsive, ask appropriate questions, and write a typed reflection which will be due the following class. Specific guidelines for reflections will be distributed before each guest speaker is scheduled.

Course Evaluation

The final grade for the course will be based on the following percentages:

Category	Percentage of Overall Grade
Attendance and In-Class Participation	5%
Exams (2 during the semester for equal credit)	25%
Quizzes	10%
Assignments (including reflections)	10%
Collaborative Assignment	10%
Resume and Career Fair Assignment	10%
Outside-Class Participation	5%
Critical Thinking Pre/Post Assessments	5%
Internship Portfolio	5%
Final Exam (Cumulative)	15%
<i>Total</i>	<i>100%</i>

Grading Scale – (no rounding):

Less than 60F Over 60.00 D Over 70.00C Over 80.00B Over 90.00A

Department Student Expectations

The department unexcused absence policy is contained on the Student Behavior Expectation document attached to this outline. Documented death in the immediate family, documented medical confinement, and documented official university functions requiring the student's attendance will normally be considered to be beyond the student's control and will normally be excused. Students must provide documentation to the professor, in his office, within one week of the absence, or it will not be considered. Work, job interviews, court appearances, regular sickness, doctor visits, and suggested or prescribed, but unconfined, bed rest will normally be considered to be within the student's control and will normally be considered unexcused absences. The last day to drop a class or withdraw from the University without a W is September 5, 2017. The last day to drop a class or withdraw from the University without final grades is October 31, 2017.

Class Cancellations Due to Campus Closing

Any exam that was scheduled at the time of a class cancellation due to inclement weather will be given at the next class meeting unless contacted by the instructor.

Any assignments due at the time of a class cancellation due to inclement weather will be due at the next class meeting unless contacted by the instructor. Any extension or postponement of assignments or exams must be granted by the instructor via email or Canvas within 24 hours of the weather related cancellation.

Academic Integrity

As members of the Clemson University community, we have inherited Thomas Green Clemson's vision of this institution as a "high seminary of learning." Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others.

Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating or stealing in any form.

Disability Access Statement

Students with disabilities requesting accommodations should make an appointment with Dr. Margaret Camp (656-6848), Director of Disability Services, to discuss specific needs within the first month of classes. Students should present a Faculty Accommodation Letter from Student Disability Services when they meet with instructors. Accommodations are not retroactive and new Faculty Accommodation Letters must be presented each semester.

Clemson University Title IX (Sexual Harassment):

Clemson University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender, pregnancy, national origin, age, disability, veteran's status, genetic information or protected activity (e.g., opposition to prohibited discrimination or participation in any complaint process, etc.) in employment, educational programs and activities, admissions and financial aid. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education Amendments of 1972.

This policy is located at <http://www.clemson.edu/campus-life/campus-services/access/title-ix/>. Mr. Jerry Knighton is the Clemson University Title IX Coordinator. He also is the Director of Access and Equity. His office is located at 111 Holtzendorff Hall, 864.656 .3181 (voice) or 864.565 .0899 (TDD).

Emergency Guidelines from Clemson University Police Department

All students and employees should be familiar with the following guidelines. For additional information about safety see <http://www.clemson.edu/cusafety/preparedness/>.

Evacuation:

- When evacuating buildings, do not use elevators as they may lose power, stranding riders.
- Familiarize yourself with the locations of stairwells and exits.
- Individuals needing assistance evacuating should move to a stairwell away from the hazard, dial 911, and provide the Dispatcher with their exact location and what they need regarding evacuation.
- When evacuating follow the instructions provided by Public Safety personnel to reach a safe place.
- To seek "Tornado Safer Places," get to the lowest level of the building time allows, stay away from areas with windows and glass, and put as many walls as you can between yourself and the outside. In public buildings, bathrooms typically have an additional wall.

Active Shooter:

- Always call 911 as soon as you possibly can.
- Run away from the area, if it is safe to do so, time allows and the gunman is not nearby.
- Hide if the gunman is too close to your location. Find a safer place, lock and barricade doors, turn lights out and cell phones off or to vibrate.
- Fight. As a last resort, resolve to fight the intruder with everything you have at your disposal.

A short video prepared and presented by the Department of Homeland Security can be found at the following link: [dhs.gov/video/options-consideration-active-shooter-preparedness-video](https://www.dhs.gov/video/options-consideration-active-shooter-preparedness-video).

Clemson University Department of Construction Science and Management Expected Student Behavior

Class Attendance - Class attendance is mandatory. Unexcused absences may affect the student's final grade at the discretion of each department faculty member as shown in the respective course syllabus. A student with two or more unexcused absences for classes that meet once a week; four or more unexcused absences for classes that meet twice a week, or six or more unexcused absences for classes that meet three times a week will, as a matter of departmental policy, be dropped from the respective course and receive an F unless the student voluntarily drops the course within the approved university time frame. Additionally, students should understand that, unless prior arrangements have been made and approved, leaving class prior to the time it has been dismissed by the faculty member is unprofessional and unacceptable, and may result in an absence being recorded.

Punctuality - Students are expected to be in class at the time it is scheduled to begin. Repeated tardiness is unacceptable. Two instances of tardiness will result in one unexcused absence. Excessive incidents of tardiness may result in a reduction of a student's grade.

Attire - Students are expected to dress in a professional manner as if they were going to a job site as a construction industry professional. Ball caps are to be removed when in class.

Cell Phones and Laptop Computers - Cell phones are to be turned off or to vibrate during class. Not adhering to this courtesy may result in confiscation of the phone during class. Laptop computers are allowed in class for the purpose of taking notes and other faculty-designed purposes. If the computers are used for non-approved purposes during class, students will be asked to leave the class for that day.

Food and Drinks - Food and drink may be consumed in classrooms at the discretion of the respective faculty member. If allowed and you bring food and drink you are expected to clean up after yourself placing trash and recyclables in proper containers. Because of budget cuts, custodial staffs have been cut back. They are not expected to clean up food and drink containers left in classroom spaces. Note: only non-alcoholic beverages are to be consumed unless approved in advance for receptions at special events.

Academic Honesty - A student's work is expected to be his/her own. Academic dishonesty of any kind is unethical and unacceptable, and will result in dismissal from class and course failure or lowering of course grade. Consequences are at the discretion of the respective faculty member, and in accordance with policy and procedure as contained in the university Student Handbook.

Ethics- The construction industry demands the highest standards of ethical conduct. There are three types of ethics: Business or Legal, Professional or Balanced, and Situational (Blanchard, K. and Peale, N.V.). Business or Legal ethics is adhering to all legal, academic and other pertinent regulations. Professional or Balanced ethics is carrying out all activities in such a manner as to be fair to everyone concerned. Finally, Situational ethics pertains to specific activities or events that may initially appear to be a "gray area" until you ask yourself: "How will I feel about myself if my actions are published in the newspaper or if I have to justify my actions to my family, friends and colleagues? Students in the Construction Science and Management Department are expected to uphold the highest standards of Legal, Professional and Situational ethics. Failure to do so will result in the student having to meet with the department Chair for disciplinary actions including possible removal from the respective courses and/or program. Reference: The Power of Ethical Management, K. Blanchard & N.V., Peale, 1982, Fawcett, New York.