

**ADDIS ABABA UNIVERSITY**  
**ADDIS ABABA INSTITUTE OF TECHNOLOGY**

**Course:** CENG 6101 Project Management

**Term:** Winter 2020

**Lecture:** TH. 2:00 – 5:00 P.M., Room 230

**Instructor:** Dr. Abraham Assefa Tsehayae

**Email:** [abraham.aau@gmail.com](mailto:abraham.aau@gmail.com)

**Instructor office:** Room 208 (B)

**Instructor office hours:** TH 5:00 – 6:00 P.M.

**Teaching Assistant:** TBA

**Email:** TBA

**TA office:** TBA

**TA office hours:** TBA

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**Course Description:**

Duties and responsibilities of main parties in Civil engineering; Initial project planning: pre-feasibility and feasibility studies; Selection and contractual agreement with consultant; Selection and contractual agreement with contractor; Construction contract types; Contract document; Sub-contracting; Bidding process; Variation; Claims; Arbitration; Insurance in construction industry; Health and safety at work; Professional ethics in Civil engineering; Case studies on selected topics. Preparation and presentation of term paper on a selected topic is mandatory.

**Course Prerequisite:** None

**Course Objectives:**

- **Describe** the purpose of project planning and basic methods used in planning.
- **Identify** planning and scheduling techniques that can be applied to both non-repetitive and repetitive construction projects.
- **Examine** techniques for monitoring and controlling cost and schedule performance during construction, project resource allocation and levelling, and evaluation of the impact of changes during project execution.
- **Analyse** schedule crashing and time-cost trade-off decisions.
- **Examine** the techniques for scheduling repetitive (linear) construction projects.
- **Understand** critical construction project management topics: Contract change management, Quality management, Health Safety and Environment, Insurance, Ethics, BIM, and related topics.
- **Create** a complete project plan including work break down structure, detailed schedule, delay analysis, and time cost trade-off.

**Recommended Texts:**

PMI (Project Management Institute). (2004). *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*. 5<sup>th</sup> Ed., Project Management Institute, Newton Square, Pennsylvania, US.

Baldwin, A. and Bordoli, D. (2014). *A Handbook for Construction Planning and Scheduling*, John Wiley and Sons.

Hendrickson, C. and Au, T. (2000). *Project Management for Construction*, 2<sup>nd</sup> Ed., Prentice Hall.

Ahuja, D. and AbouRizk, S. (1994). *Project Management: Techniques in Planning and Controlling Construction Projects*, 2<sup>nd</sup> Ed., John Wiley and Sons.

**Course Content Plan:**

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<b>Week</b>	<b>Topic</b>
1	Introduction to Project Management
2	Scheduling of Non-Repetitive Construction Projects: CPM/PERT
3	Project Control
4	Project Resource Allocation and Levelling
5	Change Management: Introduction to Claims and Delay Analysis
6	Schedule Crashing and Time-Cost Trade-off
7	Advanced Scheduling Techniques: Line of Balance, Last Planner
8	Quality Management in Construction
9	Introduction to BIM
10	Insurance in Construction Industry
11	Health, Safety, and Environment at work
12	Professional Ethics in Civil Engineering
13	Course Term Project Submission and Oral Presentations
14	Final Exam (3 hours closed book)

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**Grading Distribution:**

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<b>Course Evaluation</b>	<b>Weight</b>	<b>Notes</b>
Professionalism	5%	On lecture and presentation sessions
Assignments/Quizzes	20%	Individual assignments and quizzes at chapter ends
Term Project	25%	Group report and Oral presentation
Final Exam	50%	Cumulative closed book final exam.

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**Professionalism:**

Professionalism will be based on the demonstration of conduct appropriate to professional activity in construction engineering and management field, including consistent attendance; punctuality; attentive, prepared, and constructive participation in class; and a high level of care in preparation of submittals. The following professionalism rubric will be used: Attentive, prepared, and constructive participation in class discussion and group work (3%), and Attendance and punctuality (Advanced communication with instructor for absences) (2%).

**Examinations:**

Examinations will emphasize ability to understand, formulate, and solve project management problems; and, the ability to synthesize lecture materials, assigned assignments, and class discussion. Ability to analytically solve problems and critical thinking is an important factor in the evaluation of exam questions.

## Course Policies:

### A. Course Expectations

Students are expected to attend lectures and finish the assigned readings **prior** to the class in which they are to be discussed. Students are expected to come to class prepared to discuss the readings. Students are expected to complete the assignments by the given due date. Failure to do so will result in a zero on the said assignment.

### B. Assigned Reading

Assigned readings support in class activities, and will significantly contribute to your understanding of class sessions. Students are expected to attend lectures and finish the assigned readings prior to the class in which they are to be discussed. Please come to class having already completed this work.

### C. Contacting The Instructor

The best way to contact me is through email, or by attending office hours. All emails should contain "CENG 6101" in the subject heading. Emails will be responded to as soon as possible. Please do not wait until the last minute to send time sensitive questions.

### D. Electronic Devices

Electronic devices (laptops and tablets) are permitted for legitimate classroom purposes, such as taking notes, downloading course related information, or working on an in-class exercise. Screens can be very distracting to your fellow student. Please use your devices respectfully.

### E. Class Format and Course Etiquette

Classes will combine a lecture-style format, group work, and discussion. This model can *only* be successful if you arrive at each class prepared. Please ensure that you have completed the readings assigned to each day in advance of the class. Please silence your cell phones before coming to class. Please also respect proper classroom etiquette: do not talk while others are speaking.

### F. Attendance

Students who choose not to attend lectures must assume whatever risks are involved. Attendance might be taken for all classes, and will be considered in your professionalism grade. Regular attendance is essential to your success in this course. Lecture material will be covered on the exams and will augment and supplement the assigned readings. As well, important announcements regarding course content, the writing assignment, and the examinations will be made in class. While the lecture slides will be provided for your review, they do not contain all the material covered during lectures, nor do they summarize the discussion therein. It is the student's responsibility to supplement the lecture slides with careful note taking.

If you miss a class, it is your responsibility to get the notes from a fellow student. Instructor notes will not be distributed to students. You are responsible for learning the material presented in class regardless of your attendance.

## G. Assignment Submission

The due dates for assignments will be announced during class and written assignments shall be submitted before beginning of class. In this course: Missed term project work will result in a zero. Late assignments will not be accepted, except under the conditions outlined in “Policy for Late Assignments,” and will result in a grade of zero.

## H. Missed Assignments and Exams

Approval for an excused absence from term work (e.g. classes, labs, quizzes, term papers, reports or term examinations) is at the discretion of the instructor. The instructor must be notified within two business days of a missed quiz, assignment, or exam. In cases of illness, students must present a Medical Declaration. If the student has missed an assignment or an exam for reasons other than illness, appropriate documentation may be requested. In other cases, including domestic affliction or religious conviction, adequate documentation must be presented to the instructor. In cases where a student becomes incapacitated because of illness or receives word of domestic affliction during the course of an exam, he or she should report at once to the examination proctor, hand in the unfinished paper, and request that it be cancelled. In such cases, if a student might sit for a deferred exam, and he or she must follow university regulations, including providing appropriate documentation, to the School of Civil and Environmental Engineering office within two days of the original exam date. A deferred examination will not be approved if a student (a) has not been in regular attendance where attendance and/or participation are required, and/or, (b) excluding the final exam, has completed less than half of the assigned work.

## I. Final Examination

The approximate date for the final examination for CEng 6101 will be determined by the instructor in consultation with students. This date and time is subject to change. The exam schedule will be finalized by the School of Civil and Environmental Engineering office. It is the student’s responsibility to verify the exam date and time.

## J. Policy for Late Assignments

Late assignments will not be accepted except in cases where the student can illustrate that, due to illness or matters outside of their influence, they could not (having given themselves adequate opportunity) accomplish the assignment according to the due date. In these rare cases students will be granted to opportunity to explain, in person the cause of lateness and petition the instructor for a deferral. Students must contact the instructor within two business days of the original due date to arrange an appointment to discuss their petition for a deferral. In such cases, students may be asked to provide documentation supporting their petition for a deferral (please see “Missed Assignments and Exams” above). No assignments, nor explanations, will be entertained or accepted via email. A penalty of one letter grade per day may be applied to late submissions.

## K. Academic Integrity:

Addis Ababa Institute of Technology is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the Institute and University in this respect. Students are particularly urged to avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.