

CONSTRUCTION ESTIMATING

CEM 451

University of Nevada, Las Vegas
Civil and Environmental Engineering and Construction Department

Course Information:

Semester: Fall
Lecture Day:
Lecture Time:
Lecture Location:
Credit Hours: 3

Instructor Information:

Instructor:
Email:
Office:
Phone:
Office Hours:

Catalog Description:

Principles and procedures used in estimating construction costs. Application of quantity determination, estimate pricing, specifications, subcontractor and supplier solicitation, risk assessment and risk analysis, and final bidding preparation. Computer-based estimating used for semester project.

Pre requisites:

CEM 253, CEE 307. Prerequisites must be completed with a grade of C or better.
Advanced Standing required.

Required Skills:

Proficient in mathematics, quantity take-off and excel software.

Computer Usage:

Mandatory use of engineering papers and electronic spreadsheets for homework and lab.

Course Format:

This course will be conducted in a lecture and laboratory format. Class lectures are premised on familiarity with assigned readings. Therefore, class material will not necessarily replicate assigned reading material, and both will be covered on exams. Any material covered by videos shown and speakers presentations may also be covered on exams. Students are responsible for reading the appropriate material before it is covered in lecture. Additionally it is recommended that students bring their copy of the text and other

reading materials to each lecture (used as a reference). Specifically when the instructor is covering textbook material, students are expected to have their textbooks with them in class.

Students Learning Outcomes (SLOs):

- You will get fundamental concepts of cost estimation processes.
- You will be able to conduct quantity take off of construction projects.
- You will be able to estimate material, labor, and equipment cost and any construction projects.
- You will be able to estimate the cost of construction projects.
- You will be able to use spreadsheet for construction estimation.
- You will be able to use Heavy Bid Software to estimate highway construction cost and prepare bidding documents.

Required and/or Recommended Books and Materials:

- Text Book: *Estimating Construction Costs, 6th edition* by R. L. Peurifoy and G. D. Oberlender, McGraw-Hill Book Company, 2002
- Recommended Reference Book: *E a cWWW aW a*

Course Requirements:

Students will engage in the following activities:

- Attend class (missed classes will be subtracted from your final grade in the class)
- Read assigned material prior to class sessions
- Participate in class discussions
- Complete homework
- Complete class assignments
- Complete major examinations
- Complete a final examination

Late Policy:

NO late homework or tests.

Course Topics:

The following topics will be covered in the course. The following listing is a general indication of the order of their coverage. However, I reserve the right to change the order

- Bid Documents
- Estimating Process

Estimating earthwork excavation cost
Estimating foundation cost
Estimating highway pavement cost
Estimating concrete structure cost
Estimating steel structure cost
Estimating carpentry cost
Estimating masonry cost

Out-of-class Assignments and Due Dates:

(Refer to the schedule in the last page)

Assignment Weights:

Exam I: 20%
Exam II: 20%
Final Exam: 30%

Examinations will be closed book and closed notes. Missed examinations will count as zero if prior authorization is not granted. The honor system is observed. Make-up examinations will be given under **extraordinary** circumstances only. No make-up examinations will be given beyond one week (7 days) after the original exam date regardless of reason. Make-up examinations will cover material similar to the original exam, but may be of a different format and different composition of types of questions.

Final Date:

to drop or withdraw from this class without a refund, or change from credit to audit, without refund is *TBD*

Date, Time, and Location of Final Examination:

TBD

Disclaimer:

instructor deems necessary.

Weekly schedule and reading assignments are shown on the last page.

UNIVERSITY POLICIES

Public Health Directives

[Face coverings are mandatory for all faculty and students in the classroom](#). Students must follow all active UNLV public health directives while enrolled in this class. [UNLV public health directives](#) are found at <https://www.unlv.edu/coronavirus/health-requirements>. Students who do not comply with these directives may be asked to leave the classroom. Refusal to follow the guidelines may result in further disciplinary action according to the [UNLV Code of Student Conduct](#), https://www.unlv.edu/sites/default/files/page_files/27/StudentConduct-Code.pdf, including being administratively withdrawn from the course.

Academic Misconduct

Academic integrity is a legitimate concern for every member of the University community. We all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility, and professionalism. By choosing to join the UNLV community, students accept the expectations of the Student Academic Misconduct Phe Misconduct Phe Miscond/ibility, and profe

Auditing Classes

Auditing a course allows a student to continue attending the lectures and/or laboratories and discussion sessions associated with the course, but the student will not earn a grade for any component of the course. Students who audit a course receive the same educational experience as students taking the course for a grade, but will be excused from exams, assessments, and other evaluative measures that serve the primary purpose of assigning a grade.

Classroom Conduct

Students have a responsibility to conduct themselves in class and in the libraries in ways

disabilities. Students who believe that they may need academic accommodations due to a permanent disability, temporary or permanent medical need, or academic support due to pregnancy are encouraged to contact the DRC as early as possible in the academic term. A Disabilities Specialist will discuss what options may be available to you. Students who are already registered with the DRC should request their accommodations online each semester, and make an appointment to discuss their accommodations with their instructors.

Final Examinations

The University requires that final exams given at the end of a course occur on the date and at the time specified in the Final Exam schedule. The Final Exam schedule is typically available at the start of the semester, and the classroom locations are available approximately one month before the end of the semester. See the [Final Exam Schedule](https://www.unlv.edu/registrar/calendars), <https://www.unlv.edu/registrar/calendars>.

Identity Verification in Online Courses

All UNLV students must use their Campus-issued ACE ID and password to log in to WebCampus-Canvas.

UNLV students enrolled in online or hybrid courses are expected to read and adhere to the [Student Academic Misconduct Policy](#),

level courses have up to one calendar year to complete the work, at the discretion of the instructor. If course requirements are not completed within the period indicated, a grade of fulfilling an Incomplete grade do not register for the course, but make individual

Library Resources

Librarians are available to consult with students on research needs, including developing research topics, finding information, and evaluating sources. To make an appointment with a subject expert for this class, please visit the [_____](https://guides.library.unlv.edu/appointments/librarian) website, <https://guides.library.unlv.edu/appointments/librarian>. You can also [ask the library staff](https://ask.library.unlv.edu/) questions via chat and text message at <https://ask.library.unlv.edu/>.

Missed Classwork

Any student missing class, quizzes, examinations, or any other class or laboratory work because of observance of religious holidays will be given an opportunity during that semester to make up the missed work. The make-up opportunity will apply to the religious holiday absence only. It is the responsibility of the student to notify the instructor within the first 14 calendar days of the course for Fall and Spring courses (except for modular courses), or within the first 7 calendar days of the course for Summer and modular courses, of their intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please visit the Missed Work policy, under Registration Policies, on the [Academic Policies](#) webpage, <https://catalog.unlv.edu/content.php?catoid=29&navoid=7326>.

In accordance with the policy approved by the Faculty Senate regarding missed class time and assignments, students who represent UNLV in any official extracurricular activity will also have the opportunity to make up assignments, provided that the student provides official written notification to the instructor no less than one week prior to the missed class(es).

The spirit and intent of the policy for missed classwork is to offer fair and equitable assessment opportunities to all students, including those representing the University in extracurricular activities. Instructors should consider, for example, that in courses which on for the lowest assignment, quiz, or exam, assigning the student a grade of zero for an excused absence for extracurricular activity is both contrary to the

all work for the course.

This policy will not apply in the event that completing the assignment or administering the examination at an alternate time would impose an undue hardship on the instructor or the University that could be reasonably avoided. There should be a good faith effort by both

affiliation. Please see [University Statements and Compliance](https://www.unlv.edu/about/statements-compliance),
<https://www.unlv.edu/about/statements-compliance>.

A successful learning experience requires mutual respect and trust between the students and the instructor. Accordingly, the instructor asks that students be willing to listen to one another and comments on topic, and use first person, positive language when expressing their perspectives.

