

Construction Management Department
California State University, Chico

CMGT 457 – Project Controls and Scheduling
Course Syllabus

A. Prerequisites

CMGT 450 – Estimating

B. Meeting Time & Location

CMGT 457-01	Class #	MW	9:00 AM – 10:50 AM	Langdon, Room 200
CMGT 457-03	Class #	MW	1:00 PM – 2:50 PM	O'Connell, Room 131

C. Instructor

Chris Souder csouder@csuchico.edu
Office Hours: TBD
Office Location: O'Connell Technology Center, Room 321
Office Phone: 530-898-4446 Cell Phone: 530-518-2656

D. Catalog Description:

Prerequisites: CMGT 450

This class includes critical path method techniques, planning, logic, baseline scheduling and updating, diagramming and analysis of project schedules. Emphasis is placed on resource and cost loading of schedule activities and using this information for decision making. The most up-to-date computer software available for scheduling is used. 2 hours discussion, 2 hours activity. (002078)

E. Course Learning Outcomes (CLO):

Upon successful completion of this course, the student will:

1. Create Project Schedules using logic and sequencing of work to determine milestone and project duration. **[Assess: ACCE SLO #5].**
2. Analyze project control documents (including narratives) and know how they fit into the construction process. **[Assess: ACCE #7 and Reinforce: ACCE SLO #16].**
3. Apply P6 scheduling software and MS Excel to plan and manage construction progress. **[Assess: SLO #10 and Reinforce: ACCE SLO #16]**
4. Understand and use construction documents that are used on projects to manage progress. **[Assess: ACCE SLO #7].**
5. Understand Resources and managing them on the project **[Reinforce: ACCE SLO #13].**
6. Analyze how costs and schedules are related. **[Assess: ACCE SLO #7]**
7. Analyze how durations are calculated using quantities, production rates and crew information. **[Assess: ACCE SLO #7]**

Student Learning Outcomes (SLO):

The American Council for Construction Education (ACCE) prescribes 20 Student Learning Outcomes (SLO) as Educational Objectives for an undergraduate degree program in Construction Management. For a list of these 20 SLOs visit the Chico State Department of Construction

Managements website www.csuchico.edu/cm and the SLO link under ACCE Accreditation drop down menu.

The following SLOs are supported by this course in the form of I=Introduction, R=Reinforced, or DA=Direct Assessment:

- SLO 5 – Create construction project schedules (DA).
- SLO 7 - Analyze construction documents for planning and management of construction processes (DA).
- SLO 10 - Apply electronic-based technology to manage the construction process (DA).
- SLO 13 – Understand construction risk management (R)
- SLO 16 – Understand construction project control processes (R)

ACCE Assessment Mapping:

<u>SLO</u>	<u>CLO</u>	<u>Primary/ Direct Assessment (DA) Type</u>	<u>Target</u>
5	1	Labs 4, Lab 6A&C	70% will earn a 70% or better
7	2,4,6,7	Lab 5B, Final Exam	70% will earn a 70% or better
10	3	Lab 3C, Lab 7	70% will earn a 70% or better

<u>SLO</u>	<u>CLO</u>	<u>Reinforced (R) Assessment Type</u>	<u>Target</u>
13	5	NA	
16	2,3	NA	

F. Course Resource Materials Requirements:

Textbook: There is no required textbook for this class. Reading material will be presented for the student, as required, via Bbl and handed out in class.

Course Pack: *No course pack is necessary*

Laptop Computer: A computer will be required for assigned activity work. There are no university provided computers in classroom. Macs do not work as well as PCs for the software we use. The use of a Mac is at your own risk and the instructor will not be able to assist.

Advisory Note!

P6 does not always work on Mac based computer operating systems. You will be responsible to have a PC based laptop or install a windows operating system on your Mac computer (dual boot environment only!). See the “Use of Laptops” section of Blackboard learn for further information.

G. Course Requirements:

Conduct

I believe that students are adults and you will be treated and respected as such. Simply put, this means that you will be held accountable for your actions, decisions, and the consequences. I expect each of you to conduct yourself in a professional and mature manner, showing courtesy and respect for fellow students and the instructor.

Advisory Note!

During class time any disruptive or annoying behavior, outbursts, unbecoming language, or personal visiting during discussion time will result in you being asked to leave and forfeit that day's participation points. Your personal agenda must be set aside during class time for the greater good of all your classmates. Schedule interviews and personal business around this and other courses.

Honesty in the Classroom

You are expected to be familiar with the University's policy on academic integrity. As such, there will be no tolerance for dishonesty, sharing of work, and especially copied work. Ethical standards as established by the university will be strictly upheld (see THE UNIVERSITY CATALOG).

Tobacco Products

The use of any type of tobacco product (smokeless, chewable or otherwise) is not permitted in any building at California State University, Chico. If you chew tobacco products, please refrain during class time.

Electronic Devices

The use of pagers, phones, MP3 players and other electronic devices (excluding laptops) is not permitted in class. If you must take a call (work or emergency), please EXIT the classroom before answering the call.

Withdrawal from Class

Please refer to the Academic Calendar Deadlines as published in the University Catalog.

Professional Work

As a student looking towards gaining an internship within the construction industry, it is expected that your completed work will be professional in presentation. Consider this course as practice in presenting professional quality industry work to your future employer.

H. Instructional Methods:

This course is designed around the following methods of presenting material to the student:

1. Class discussions and assignments reinforced by quizzes.
2. Activities to be started in class and turned-in in class (sometimes finished outside of class time as necessary), which are designed to reinforce the students learning process of Scheduling.
3. Lab Assignments, Quizzes and Exams to expand the student's knowledge in the subject matter.

I. Assignments:

Out of class work will be assigned on a regular basis. *Completed assignments will be collected at the beginning of class;* please bring your work pre-printed to class for submission.

Advisory Note!

There will be NO class time available for printing assignments at the beginning of class. Assignments will be collected at the beginning of class and any submission during class time will be considered tardy and will be docked 10-20% of the available points. All other submission are considered late and will not be accepted for credit, unless prior arrangements have been made. Assignments will be graded and returned within one week to assist the student in the learning process.

Readings

Readings are noted in the course calendar. You are encouraged to have the required reading completed prior to class, as this will facilitate your comprehension of discussion materials.

Activities

There will be weekly activities assigned to reinforce your understanding of the current classroom discussion material. These activities are intended to build your skills in reading building plans and specification, by discipline, and continue your development in using common industry software.

Group Work

You are encouraged to study and work in groups, however all submitted work must be your own original work.

Course Work Binder

Keeping your work organized is a requirement for successful completion of the course. There will be no requirement to turn in a notebook.

J. Assessments:

Assessments are the basis of determining your ability to create, analyze, apply, and understand the Course Learning Outcomes (CLO) and Student Learning Outcomes (SLO) provided by ACCE. Instructional target goals have been established (as noted above) and the results of the assessment in these areas will be used to determine the success of the student and instructor for this course.

Quizzes

Quizzes will be given based upon the class discussion, assigned readings, and material presented. Quizzes will be unannounced.

Advisory Note!

There will be NO make-up quizzes unless you notified me of missing class prior to the class time.

Exams

There will be two mid-term exams and one final exam. The final exam will have overall coursework objectives comprehensive questions and new information questions. Normally there will not be a make-up for anyone missing an exam. *If a student is unable to take an exam due to an emergency or illness, or is entitled to special dispensation the instructor should be notified in advance.* Non-excused absences will yield a score of zero. No makeup exams will be given, except for a serious and compelling reason as outlined by the University Catalog.

Participation, Attitude, and Attendance

A portion of your course grade will be based on participation, attitude and attendance.

DO NOT SCHEDULE INTERVIEWS DURING MY CLASS. MISSED WORK DUE TO INTERVIEWS WILL GET THE NORMAL POINT DEDUCTIONS.

Advisory Note!

Attendance/Participation is by random roll calls.

K. Grading/Evaluation:

Final course grade will be based on the following:

Lecture Assign/Attendance/Quizzes	25%
Midterm and Final	30% (15/15)
Lab	<u>45%</u>
Total	100%

Attendance in Lab and Lecture will be part of lecture assignments and lab scores

Grades are generally assigned by the following distribution, although the professor reserves the right to modify the distribution.

A = 94 -100% (Exceptional)	C = 73 – 76% (Average)
A- = 90 – 93% (Excellent)	C- = 70 – 72% (Below Average)
B+ = 87 – 89% (Very Good)	D+ = 64 – 69% (Inadequate)
B = 83 – 86% (Good)	D = 57-63% (very Inadequate)
B- = 80 – 82% (Adequate)	F = < 57% (Failing, retake class)
C+ = 77 – 79% (Above Average)	

L. Topical Outline

Mtg. No.	Date	Subject
1		Intro to CM 457, Review Syllabus CPM scheduling, Specifications for Project Schedules Begin Precedence diagramming techniques (PDM) Activity #1
1L		Lab #1 - Discuss lab procedures, Use CM flow chart to illustrate scheduling terms
2		Precedence Diagramming techniques & computations(PDM)
2L		Lab #2 - Create and calculate PDM network diagram
3		Labor day Precedence Diagramming techniques & computations(PDM) Activity #2
3L		Lab #3 - Advanced PDM Mangrove Project
4		Precedence Diagramming techniques & computations(PDM)
4L		Lab #3 - Mangrove project – Cash Flow
5	Sept 19	Schedule Development, Time Increments, Sequencing & Overlapping
5L		Lab #3 - Mangrove Project – Resource Loading
6		Determination of activity durations and acquiring Subcontract Durations Activity #3
6L	SLO#5	Lab #4 - Introduction to P6 using Mangrove Project
7		Types of Schedules Look-ahead schedules, Daily, Weekly, 3 Month schedules
7L	SLO#5	Lab #5 - P6 Joes, development
8		Estimate schedules (time based)
8L		Lab #5 - P6 Joes, logic, resources
9		Midterm #1
9L		Lab #6 - P6 Lincoln Bypass, development Linear Scheduling using MT#1 as an example Activity #4
Activity #5 is skipped		
10		Monitoring Subcontractor Progress/Time-cost tradeoffs, Resource tracking Activity
#6	SLO#1	Lab #6 - P6 Lincoln Bypass, logic

11 11L	Resource tracking and leveling (cont'd) Activity #7 Lab #6 - P6 Lincoln Bypass, resources
12 12L	Updating the schedule, Schedule Narratives Activity #8 Lab #7 - P6 Army Corps, development
13	Commodity Curves used in job tracking Claims and Time Recovery
13L	Accelerate, Time extensions and impact costs, Incidental OT Activity #9 SLO #10 Lab #7 - P6 Army Corps, Cost Loaded
14 14L	Thanksgiving Thanksgiving
15	Job reports and Historical Cost Documentation Cost schedule integration, progress reporting, Time Impact Analysis' Activity #10 SLO #16 Quiz #2 15L Lab #7 - P6 Army Corps, cost loading
16 16L	Cash Flow, Schedule impacts & managing delays Project % complete calculations, Review for midterm Lab #7 - Army Corps Update with Payment Request Review for Midterm #2/Final FINAL EXAM

Final Exam will be during Finals week and is mandatory regardless of your grade

Advisory Note!

Dates may fluctuate up to one week earlier or later with proper notice (ie, one week)

M. University Policies and Campus Resources

Academic integrity

Students are expected to be familiar with the University's Academic Integrity Policy. Be familiar with the University's policy on academic honesty. I take this issue very seriously, and will not tolerate any form of dishonesty such as plagiarism or cheating. Your own commitment to learning, as evidenced by your enrollment at California State University, Chico, and the University's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the Office of Student Judicial Affairs. The policy on academic integrity and other resources related to student conduct can be found at: <http://www.csuchico.edu/sjd/sja.shtml>

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Students with disabilities requesting accommodations must register with the DSS Office (Disability Support Services) to establish a record of their disability.

Special accommodations for exams require ample notice to the testing office and must be submitted to the instructor well in advance of the exam date.

Student Computing

Computer labs for student use are available <http://www.csuchico.edu/stcp> located on the 1st floor of the Merriam Library Rm 116 and 450, Tehama Hall Rm.131 and the BMU Rm 301.

Student Services

Student services are designed to assist students in the development of their full academic potential and to motivate them to become self-directed learners. Students can find support for services such as skills assessment, individual or group tutorials, subject advising, learning assistance, summer academic preparation and basic skills development. Student services information can be found at: <http://www.csuchico.edu/5.-studentservices.html>.

Disability Services

Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. Please also contact the Disability Support Services office to coordinate reasonable accommodations for students with documented disabilities. Disabilities Support Services online:

<http://www.csuchico.edu/dss/studentServices/>.

Student Learning Center

The mission of the Student Learning Center (SLC) is to provide services that will assist CSU, Chico students to become independent learners. The SLC prepares and supports students in their college course work by offering a variety of programs and resources to meet student needs. The SLC facilitates the academic transition and retention of students from high schools and community colleges by providing study strategy information, content subject tutoring, and supplemental instruction. The SLC is online at <http://www.csuchico.edu/slcc>. The University Writing Center has been combined with the Student Learning Center.

N. Other

Title IX: Confidentiality and Mandatory Reporting

As a Chico State instructor, one of my responsibilities is to help create a safe learning environment for Chico State students. It is my goal that you feel able to share information related to your life experiences in classroom discussions, in your written work, and in our one-on-one meetings. I will seek to keep information you share private to the greatest extent possible. **However, I am required to share information regarding sexual misconduct with the University.**

Students may speak to someone confidentially by contacting the Counseling and Wellness Center (898-6345) or Safe Place (898-3030). Information about campus reporting obligations and other Title IX related resources are available here: <http://www.csuchico.edu/title-ix>.