

*ABET Course Syllabus***Course Information, Textbook and Supplementary Materials**

Course Description: Current procedures in selected fields of construction; organization and planning; equipment economics; machinery.

Elective for: BSCE and BSCE Structural

Prerequisite: none

Co-Requisite: none

Required Textbook: Peurifoy, Robert L., Cliff J. Schexnayder, and Aviad Shapira. *Construction Planning, Equipment, and Methods*. 7th ed. McGraw Hill, 2005.

References:

- American Society of Civil Engineers (ASCE), *Journal of Construction Engineering and Management*.
- Day, D.A. *Construction Equipment Guide*. John Wiley, 1995.
- Griffis, F.H., and J.V. Farr. *Construction Planning for Engineers*, McGraw Hill, 2000.
- Harris, F.C. *Modern Construction Equipment and Methods*, Longman Scientific & Technical, 1994.
- Harris, F.C. *Construction Plant Excavating and Material Handling, Equipment and Methods*. Garland, 1981.
- Harris, F.C. *Ground Engineering Equipment and Methods*. McGraw Hill, 1983.
- Nunnally, S.W. *Construction Methods and Management*. 3rd ed. Prentice Hall, 1992.
- Parker, A.D., D. S. Barrie, and R. M. Snyder. *Planning and Estimating Heavy Construction*. McGraw Hill, 1984.
- Caterpillar Performance Handbook

Topics Covered	Learning Outcomes
Ownership and operating costs for construction equipment	Students will have learned about: <ol style="list-style-type: none"> 1. Factors in selecting equipment, equipment cost 2. Moving earth, soil compaction, and stabilization 3. Tractors and related equipment 4. Scrapers 5. Cranes 6. Excavating equipment 7. Trucks and wagons 8. Pile driving 9. Asphalt and concrete 10. Time value of money 11. Components of equipment cost
Types and functions of common construction equipment	<ol style="list-style-type: none"> 12. Identifying equipment types and their functions 13. Calculating production rates based on equipment type

Topics Covered	Learning Outcomes
Process of analyzing a construction project and effectively planning the use of equipment to complete the project	14. Recognition of equipment alternatives to complete a task
Professional skills	15. Joining professional organizations (ASCE, AGC, etc.) 16. Participating in professional conferences, meetings, symposia, etc. 17. Professional registration

CE 462

Construction Methods and Equipment

3 Units

USC | SONNY ASTANI DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

Lecture and Lab Schedule			
Lecture		Lab	
Sessions per Week	Duration per Session	Sessions per Week	Duration per Session
1	3 hours	n/a	

Relation of Course Objectives to Program Outcomes

The Civil Engineering program is designed to teach beyond the technical content of the curriculum and prepare the students to utilize what they learn in a professional setting.

This course does not contribute to the program outcomes.

Course Contribution to Program Outcomes (a-k)	✓ Key
N/A	

Prepared by: Henry M. Koffman, P.E.

Date: Fall 2014
Director, Construction Engineering and Management Program