

SAM HOUSTON STATE UNIVERSITY  
COLLEGE OF ARTS AND SCIENCES  
DEPARTMENT OF AGRICULTURAL AND INDUSTRIAL SCIENCES  
TECHNOLOGY PROGRAM

COURSE DESCRIPTION

CONSTRUCTION MANAGEMENT AND PRODEDURES  
IT 433

SPRING 2008

COLLEGE OF ARTS AND SCIENCES

COURSE DESCRIPTION

PROGRAM:	Technology
COURSE NUMBER/TITLE:	IT 433 Construction Management and Procedures
INSTRUCTOR:	Dr. Nedom Muns
TEXT:	Construction Methods and Management, S. W. Nunnally, Goodheart.
LOCATION:	Thomason Building 217
TIME:	TU-TH 8:00 a.m. – 9:30 a.m.
OFFICE:	Thomason 203
OFFICE HOURS:	11:00 a.m. – 2:00 p.m. TTH 4:00 p.m. – 6:00 p.m. MW or as needed.
PHONE:	936-295-8323 Home 936-294-1191 936-294-1190

COURSE DESCRIPTION:

This course is designed to provide a general knowledge of construction application. Emphasis is on site preparation, foundation, concrete, wood, and metal construction methods. Emphasis will be placed on the responsibility of general prime contractors and specialty contractors. Students will be taught cost estimation and procedures for bidding. Credit 3.

COURSE OBJECTIVES:

After completing this course, the student will be able to demonstrate knowledge in the following areas:

1. Site evaluation, selection and preparation including soil compaction and finishing.
2. Fill and paving techniques including concrete and asphalt.
3. Structural support foundations and the systems designed to transmit building loads to supporting soil or rock.
4. Use and handling of concrete paving, foundation and structural applications and form design.

5. Current procedures in wood structure construction including foundation, framing and finishing.
6. The principles and procedures of steel construction.
7. Brick masonry construction, both structural and veneer applications.
8. Bid preparation, contract awarding, subcontracts and contract administration.

#### COURSE FORMAT:

The course will consist primarily of lecture and student laboratory practices, which will include visiting or observing “hands-on” soil testing, earthmoving equipment/techniques, foundations, concrete construction, wood construction, and metal construction experiences.

#### UNIT OUTLINE:

- I. Earth-moving materials and operations
  - A. Earth-moving materials
  - B. Soil Volume/change characteristics
  - C. Spoil bank
  
- II. Excavating and lifting
  - A. Introduction
  - B. Equipment
  - C.
    1. Shovels
    2. Draglines
    3. Backhoes
    4. Clamshells
    5. Cranes
  
- III. Compacting and finishing
  - A. Principles of compaction
  - B. Compaction equipment and procedures
  - C. Grading and Finishing
  
- IV. Rock excavation
  - A. Drilling
  - B. Blasting
  - C. Estimating production and cost
  
- V. Paving
  - A. Production of aggregate
  - B. Production of concrete
  - C. Concrete paving
  - D. Asphalt paving
  - E. Repair and rehabilitation

- VI. Foundations
  - A. Systems
  - B. Soil improvement
  - C. Pilings
  - D. Stability of excavations
  - E. Pressure grouting
  
- VII. Concrete construction
  - A. Applications of concrete
  - B. Materials and properties
  - C. Construction practices
  - D. Formwork
  - E. Reinforcing steel
  - F. Quality control
  
- VIII. Wood Construction
  - A. Materials and properties
  - B. Frame construction
  - C. Timber construction
  - D. Fastening, connections and notching
  
- IX. Steel construction
  - A. Structural steel
  - B. Steel erection
  - C. Field Connections
  - D. Safety
  
- X. Masonry construction
  - A. Brick masonry
  - B. Concrete masonry
  - C. Construction practice
  
- IX. Construction management
  - A. Planning and scheduling
  - B. Construction economics
  - C. Contract construction
  - D. Construction safety and health
  - E. Improving productivity and performance

#### COURSE EVALUATION:

Each unit of study consists of review problems, laboratory experiences and exams. Missed work or exams may be submitted or made-up when an excused absence is granted. Grading shall be according to the following:

Chapter Assignments	20%
Chapter Quizzes	30%
Term Paper	20%
Final Exam	<u>30%</u>
Total	100%

Course letter grades will be assigned according to the following:

A	90 – 100%
B	80 – 90%
C	70 – 80%
D	60 – 70%
F	0 – 60%

**Attendance:** All students are expected to attend class. Students will be given hand out material but should take notes each day. Attendance will be taken each day. Any total of EIGHT absentees will result in a grade of F. The average number of absences will be calculated. Students with absences below the average will be given 1 point on the final average for each absents below the average.

**Academic Dishonesty:** Students are expected to maintain honesty and integrity in the academic experiences both in and out of the classroom. *See Student Syllabus Guidelines.*

**Classroom Rules of Conduct:** Students are expected to assist in maintaining a classroom environment that is conducive to learning. Students are to treat faculty and students with respect. Students are to turn off all cell phones while in the classroom. Under no circumstances are cell phones or any electronic devices to be used or seen during times of examination. Students may tape record lectures provided they do not disturb other students in the process.

**Student Absences on Religious Holy Days:** Students are allowed to miss class and other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. Students remain responsible for all work. *See Student Syllabus Guidelines.*

**Students with Disabilities Policy:** It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should visit with the Office of Services for Students with Disabilities located in the Counseling Center. *See Student Syllabus Guidelines.*

**Visitors in the Classroom:** Only registered students may attend class. Exceptions can be made on a case-by-case basis by the professor. In all cases, visitors must not present a disruption to the class by their attendance. Students wishing to audit a class must apply to do so through the Registrar's Office.

**Academic Dishonesty:** All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including, but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials. For a complete listing of the university policy, see:

<http://www.shsu.edu/administrative/faculty/sectionb.html#dishonesty>

**Student Absences On Religious Holy Days Policy:** Section 51.91 1(b) of the Texas Education Code requires that an institution of higher education excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. Section 51.911(a) (2) defines a religious holy day as: “a holy day observed by a religion whose places of worship are exempt from property taxation under Section 11.20... -A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence.

University policy 861001 provides the procedures to be followed by the student and instructor. A student desiring to absent himself/herself from a scheduled class in order to observe (a) religious holy day(s) shall present to each instructor involved a written statement concerning the religious holy day(s). The instructor will complete a form notifying the student of a reasonable timeframe in which the missed assignments and/or examinations are to be completed. For a complete listing of the university policy, see:

[http://www.shsu.edu/~vaf\\_www/aps/documents/861001.pdf](http://www.shsu.edu/~vaf_www/aps/documents/861001.pdf)

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SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Counseling Center and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No

accommodation can be made until you register with the Counseling Center. For a complete listing of the University policy, see:

[http://www.shsu.edu/~vaf\\_www/aps/811006.html](http://www.shsu.edu/~vaf_www/aps/811006.html)

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### **BIBLIOGRAPHY:**

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- Hardie, Glenn M. Building Construction Principles, Practices, and Materials. Prentice Hall, 1995.
- Herubin, Charles., Principles of Surveying, 4<sup>th</sup> edition. Prentice Hall, 1991.
- Hop, Fred, Residential Construction and Design: Techniques for the Modern Builder. Prentice Hall, 1988.
- Kavanagh, Barry F., Surveying: Principles and Applications. Prentice Hall, 1996.
- Lin, Tung Yen and Ned H. Burns, Design of Prestressed Concrete Structures, 3<sup>rd</sup> Edition, Wiley, 1981.
- Samuels, Brain M., Construction Law. Prentice Hall, 1996.
- Schodek, Daniel. Structures. Prentice Hall 1992.
- Shaeffer, Ronald E. Elementary Structures for Architects and Builders. 2<sup>nd</sup> edition, Prentice Hall, 1993.
- Smith, J. C., Structural Steel Design: LRFD Approach . Wiley 1991.
- Watson, Donald A., Construction Materials and Processes. Glenco, 1986.
- West, Harry. Fundamentals of Structural Analysis. Wiley. 1993.