

SOUTHEASTERN LOUISIANA UNIVERSITY
Department of Computer Science & Industrial Technology
IT 406 – Facility Planning and Design
Spring 2008

Instructor: Junkun Ma
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Lecture Time: 10:00AM~11:50AM (Sec. 01); 3:30PM~05:20PM (Sec. 02) MW
Location: AZH 214
Office Hours: 01:00PM – 03:00PM MW
09:00AM – 12:00AM TuTh
Other times by appointment

Course Description:

This course will study of the principles, methods and techniques for analyzing existing and proposed plant facilities to achieve improvements in productivity. Major topics include strategic facilities planning; plant location; product, process, and schedule design; flow, space, and activity relationships; personnel requirements; materials handling and costing. This course includes two hours of lecture and two hours of laboratory per week. Prerequisite: IT 405.

Course Objectives:

1. To provide students with an organized approach to facility planning through the engineering design process.
2. To provide students the opportunity to design and equip a modern production facility through a simulation activity.
3. To provide students with the opportunity to function as an integral part of a team vested with major planning responsibilities reflective of modern industry.
4. To provide students with an understanding of supply chain management and it's role in modern manufacturing.
5. To introduce students to factory-warehouse automation, materials handling, and storage control and space utilization plans.
6. To provide students with experiences in planning for safety during the initial planning stages of the facility.

Textbook:

Thompkins, J. A., White, J. A., Bozer, Y. A., & Tanchoco, J. M., *Facilities planning (Third Edition)*. New York: John Wiley & Sons, (2003).

Grades:

1. Grades will be assigned according to the departmental scale.
 - 93-100 = A, Superior
 - 85.92 = B, Very Good
 - 77.84 = C, Average
 - 69.76 = D, Below Average
 - 0.68 = F, Failure
2. Basis for assigning grades:
 - a.) Tests (3) - 300 Points
Note: All students are to take tests on the specified date and time. Students with unexcused absences will **NOT** be able to make-up tests, quizzes and assignments. A grade of Zero (0) will be assigned to any tests missed!
 - b.) Quizzes (as the need arises) - 20-50 points
 - c.) Assignments & Presentations- 100 points
 - d.) Facility Plan Term Project - 100 points
 - e.) Attendance: Students will be penalized two points for entering class late and for leaving class early, and four points for each unexcused absence.

Important Dates and Notes:

1. **Friday, February 15, 2008** is the last day to file application for graduation for Spring 2008. **No graduation applications for Spring 2008 will be accepted after this date.** Last day to file for graduation for Summer 2008 or Fall 2008 without late penalty.
2. **Friday, March 14, 2008**, is the last day to withdraw from classes or resign from the University. Students will NOT automatically be dropped from class. Students who choose to drop this class must do so by the semester deadline!
3. **Friday, May 09, 2008** is the last day of class.
4. From 10:15AM to 12:15AM on **Wednesday, May 14, 2008** is the final exam period for the morning section and from 08:00AM to 10:00AM on **Friday, May 16, 2008** is the final exam period for the afternoon section of this course.
5. **Monday, May 19, 2008** is the last day to return rental book without a fine.
6. **Monday ~ Thursday, March 17-20, 2008** is the registration period for Summer 2008 classes.
7. **Monday ~ Friday, March 31- April 4, 2008** is the registration period for Fall 2008 classes.
8. If you are a qualified student with a disability seeking accommodations under the Americans with Disabilities Act, **you** are required to self-identify with the Office of Disability Services, Room 203, Student Union. No accommodations will be granted without documentation from the Office of Disability Services.
9. Student behavior/Classroom decorum: "Free discussion, inquiry, and expression are encouraged in this class. Classroom behavior that interferes with either (a) the instructor's ability to conduct the class or (b) the ability of students to benefit from the instruction is not acceptable. Examples may include routinely entering class late or departing early; use of beepers, cellular telephones' or other electronic devices; repeatedly talking in class without being recognized; talking while others are

speaking; or arguing in a way that is perceived as ‘crossing the civility line.’ In the event of a situation where a student legitimately needs to carry a beeper/cellular telephone to class, prior notice and approval by the instructor is required." Otherwise,

**ALL BEEPERS, CELLULAR TELEPHONES' AND OTHER ELECTRONIC DEVICES
MUST BE TURNED OFF BEFORE YOU ENTER THE CLASSROOM.**

Classroom behavior that is deemed inappropriate and cannot be resolved by the student and the faculty member may be referred to the Office of Judicial Affairs for administrative or disciplinary review as per the Code of Student Conduct which may be found at <http://WWW.selu.edu/StudentAffairs/Handbook/>.

10. Academic Integrity: “Students are expected to maintain the highest standards of academic integrity. Behavior that violates these standards is not acceptable. Examples are the use of unauthorized material, communication with fellow students during an examination, attempting to benefit from the work of another student and similar behavior that defeats the intent of an examination or other class work. Cheating on examinations, plagiarism, improper acknowledgment of sources in essays and the use of a single essay or paper in more than one course without permission are considered very serious offenses and shall be grounds for disciplinary action as outlined in the current General Catalogue.”
11. “Students agree by taking this course that all required papers may be subject to submission for textual similarity to Turnitin.com for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the terms and conditions of Use posted on the Turnitin.com website”
12. The students Southeastern Louisiana University e-mail address **MUST** be used for all e-mail communication between students and faculty/administration/staff. Students are encouraged to check their Southeastern e-mail frequently for important communications from the university.
13. University policy states that classrooms and labs are not a place for children. Students are not to bring their family members for day care or baby sitting.

Course Requirements:

1. Adherence to Departmental policies and procedures.
2. Regular and punctual class attendance, as prescribed in the Departmental Regulations. Students who have unexcused absences will receive the grade of "0" for all assignments and quizzes missed.
3. Assignments that are not submitted precisely at the start of class will be docked twenty percent. A grade of zero will be assigned to all work not submitted on the day assigned.
4. The facility plan term project will be undertaken as a team assignment. Each student **MUST** perform an equal share of the work.

COURSE OUTLINE

1. Introduction
 - A. Course Overview
 - B. Syllabus
 - C. Course Outline
 - D. Term Project

2. Facilities Planning
 - A. Facilities Planning Defined
 - B. The Significance of Facilities Planning
 - C. The Objectives of Facilities Planning
 - D. The Facilities Planning Process
 - E. Text Organization
3. Strategic Facilities Planning
 - A. Strategic Planning
 - B. Developing Facilities Planning Strategies
 - C. Examples of Inadequate Planning
4. Product, Process, and Schedule Design
 - A. The Facilities Planning Process
 - B. Product Design
 - C. Process Design
 - D. Schedule Design
 - E. Facilities Design
5. Flow, Space, and Activity Relationships
 - A. Flow, Space, and Activities
 - B. Departmental Planning
 - C. Activity Relationships
 - D. Flow Patterns
 - E. Flow Planning
 - F. Measuring Flow
 - G. Space Requirements
6. Personnel Requirements
 - A. The Personnel Philosophy
 - B. The Employee-Facility Interface
 - C. Restrooms
 - D. Food Services
 - E. Health Services
 - F. Barrier-Free Compliance
7. Materials Handling
 - A. Materials Handling Defined
 - B. Materials Handling Principles
 - C. Materials Handling System Design
 - D. Unit Loads
 - E. Material Handling Equipment
 - F. Automatic Data Identification Systems
8. Preparing and Presenting Facility Plans
 - A. Preparing the Facilities Plan
 - B. Preparing the Written Document
 - C. Presenting the Facilities Plan Oral Presentation
9. Maintaining Facilities
 - A. Maintenance
 - B. Preventive Maintenance Programs

C. Conclusion

BIBLIOGRAPHY

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- Arnold, J. R. & Chapman, S. N. (2001). *Introduction to materials management (4th ed.)*. Upper Saddle River, NJ: Prentice Hall.
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- James, R. W. & Alcorn, P. A. (1991). *A guide to planning facilities*. Upper Saddle River, NJ: Prentice Hall.
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- Ostrom, L. T. (1994). *Creating the ergonomically sound workplace*. San Francisco: Josey Bass.
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