

## EIN 4360C FACILITIES PLANNING AND WORK DESIGN

Spring 2015

TR Periods 8 and 9 (3:00PM – 3:50PM, 4:05PM – 4:55PM)

FLG 0220

### Catalog Description

This course introduces fundamental concepts in facilities planning and work design, the important component in supply chain management. Several main topics include facility location and layout, material handling systems, workspace and flow analysis and design, and motion and time studies. (4 Credits.)

### Prerequisites or Co-requisites

Prereq: EIN 3101C, ENC3250 or ENC3254, EML2023 or equivalent, and STA4321, all with minimum grades of C; Coreq: STA4322 and EIN4354.

### Course Objectives

1. To gain an understanding of basics and principle methodologies relevant to facilities planning, materials handling, and work design.
2. To obtain first-hand experience by identifying a project in an industrial or other business setting and by formulating, analyzing and solving the relevant professional problem.
3. To learn working in teams and to gain the ability to make effective presentations.

### Textbook

- Facilities Planning, by James A. Tompkins, et al. 4<sup>th</sup> edition, John Wiley & Sons, 2010. ISBN: **9780470444047**.
- Work Design: Occupational Ergonomics, by Konz and Johnson, 7<sup>th</sup> Edition, Holcomb Hathaway, ISBN 1890871796

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### Course Website: UF e-learning

On the website you can find all the announcements and course materials, which include syllabus, lecture notes, homework assignments, and grades. Please check the website frequently.

### Course Overview

This course is built largely around doing a layout/material-handling project working in small teams. Modern engineering work is carried out for the most part by organized teams. This course will give you instruction and experience in working in teams. Class teams will work on a mini case study. This will prepare you to do the term project, again working in teams. A separate handout discusses the project. Homework assignments are done individually.

### Contribution to meeting the professional component

Students combine previously learned skills in computer programming, engineering economics, statistics, technical writing, and oral communication to develop new facility analysis and design skills including Systematic Layout Planning (SLP) and production network efficiency analysis. Site visits to production facilities are used as case studies in analyzing and designing or modifying existing facilities. Practical issues involving matters such as safety on the work floor and communications between workers and supervisors are emphasized together with questions of production efficiency so as to give students a broad prospective on problems that must be addressed in facility planning.

### Relationship to program outcomes

This course contributes to the program outcomes by teaching students to: Design a system, component, or process to meet desired needs; Function on multi- disciplinary teams; Identify, formulate and solve engineering problems; Communicate effectively; Use the techniques, skills, and modern engineering tools necessary for engineering practice.

### Grading Policy

Exam I	25%
Exam II	25%
Exam III	25%
Homework	30%
Project	20%

Exam I will be on **Feb 12**, Exam II will be on **March 26**, and Exam III will be on **April 28** (12:30-2:30pm). The best two of the three exams will be counted in your final grade. All exams will be closed books (closed notes) in-class exam.

We will provide more information about the project later on in class.

Your grade will be the better one of the following two schemes

1. 92-100 A, 90-91 A-, 87-89 B+, 84-86 B, 80-83 B-, 77-79 C+, 74-76 C, 70-73 C-, 67-69 D+, 64-66 D, 60-63 D-, <60 F
2. Top 40% A, 50%-40% A-, 70%-50% B+, others B or below

NOTE: A C- will not be a qualifying grade for critical tracking courses. In order to graduate, students must have an overall GPA and an upper-division GPA of 2.0 or better (C or better). Note: a C- average is equivalent to a GPA of 1.67, and therefore, it does not satisfy this graduation requirement. For more information on grades and grading policies, please visit: <http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>

### Term Project Dates

- Jan 20 -- Each team submits the name list of team members to the instructor via email (no more than five members per team). No class for today (the team takes the time to meet with the sponsor).

- Feb 12 -- Project proposal is due.
- Feb 26 -- In-class project progress report presentation.
- April 2 -- Final project report is due.
- Project week: During the week of Feb 16, there will be no lectures. Teams work on projects and prepare for the in-class presentations on Feb 26.

### **Homework Assignments**

There are six to seven homework assignments in total. Discussion is allowed, and individual submission is required. Exam questions will be based on homework assignments. Homework assignments are strongly recommended to be turned in on time. Prior approval, or acceptable medical documentation, is necessary for late assignments to receive any credit.

### **Attendance**

Students are strongly suggested to attend the classes, even though this is not required.

### **Honor Code**

Kindly note and adhere to the following policy: “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.”

### **Accommodation for Students with Disabilities**

Students Requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.

UF Counseling Services –Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:

- UF Counseling & Wellness Center, 3190 Radio Rd, 392-1575, psychological and psychiatric services.
- Career Resource Center, Reitz Union, 392-1601, career and job search services.

### **Software Use**

All faculty, staff and student of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.