MSE403CS – FACILITIES PLANNING & DESIGN (3 units)
CSUN - Summer 2014, Ticket 10543, Tuesday: 3:00-5:55 p.m., Room JD-2524

Instructor  Ghassan “Gus” H. Elias: BS/MS; Industrial/Manufacturing Systems Engineering
Email & Webpage:  Gus.Elias@csun.edu & http://www.csun.edu/~ghe59995
MSEM Department Office:  JD-4510; (818) 677-2167
Faculty Office:  JD-3308
Office hours:  Tuesday 2:00p.m.-3:00p.m. (and by appointment)

Textbook  “Facilities Planning” - Tompkins/White/Bozer/Tanchoco

Lecture  Additional lecture material is offered by the instructor. The PowerPoint presentations for each chapter are available on my CSUN web-page:
Slides  http://www.csun.edu/~ghe59995/
So that you take “helpful” notes during the class lectures, please print the assigned modules and have the slides handy during the lecture session throughout the semester.

Catalog  Prerequisite: MSE 248/L or equivalent, or graduate standing. Basic concepts in the planning and design of manufacturing facilities; product analysis, manufacturing processes and equipment selection, and schedule design; flow, space, activity relationships and space planning; location and layout; material handling systems and facilities planning models. Offers a community service opportunity with activities related to concepts and theories presented.

COURSE OBJECTIVES

This course is designed to contribute primarily to the students’:

- Knowledge of, and ability to integrate product, process, and schedule design information to plan, analyze, and design new or modify existing manufacturing and service facilities.
- Knowledge of, and ability to define personnel requirements to design new or modify existing manufacturing and service facilities.
- Knowledge of, and ability to solve line balancing problems utilizing alternative priority rules.
- Knowledge of, and ability to apply models and analytical procedures for the study of facilities layout planning.
- Knowledge of and ability to use current methodology to evaluate and design material handling.
- Knowledge of, and ability to describe the features and particulars of computerized heuristic plant layout systems.
- Knowledge of, and ability to recognize fundamentals of storage and warehousing requirements.
- Knowledge of , and ability to formulate and solve single facility location problems.
- Knowledge of, and ability to prepare a written project report for a newly designed/modified facility.
STANDARD OPERATING PROCEDURES

1. Class members are expected to maintain personal and professional standards consistent with the Code of Ethics of the National Society of Professional Engineers, the Preamble and Fundamental Canons of which are as follows:

   Engineering is an important and learned profession. As members of this profession, engineers are expected to exhibit the highest standards of honesty and integrity. Engineering has a direct and vital impact on the quality of life for all people. Accordingly, the services provided by engineers require honesty, impartiality, fairness and equity, and must be dedicated to the protection of the public health, safety, and welfare. Engineers must perform under a standard of professional behavior that requires adherence to the highest principles of ethical conduct. Engineers, in the fulfillment of their professional duties, shall:
   - Hold paramount the safety, health and welfare of the public.
   - Perform services only in areas of their competence.
   - Issue public statements only in an objective and truthful manner.
   - Act for each employer or client as faithful agents or trustees.
   - Avoid deceptive acts.
   - Conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the honor, reputation, and usefulness of the profession.

Engineers uphold and advance the integrity, honor and dignity of the engineering profession by:

   · using their knowledge and skill for the enhancement of human welfare;
   · being honest and impartial, and serving with fidelity the public, their employers and clients;
   · striving to increase the competence and prestige of the engineering profession; and
   · supporting the professional technical societies of their disciplines.

2. Students must take ORIGINAL NOTES and submit ONLY ORIGINAL WORK. Notes taken by other students in previous semesters are NOT allowed in the class.

3. Class members are expected to attend ALL class sessions, promptly & entirely and are responsible for the course material, reading assignments, class presentations, discussions, and practice problems. Tardy/Late submissions of assignments are unacceptable. NO EXCEPTIONS!

4. Class members must always be considerate and respectful to their colleagues.

5. Pagers, Cellular Phones, Alarms, etc., MUST BE TURNED OFF during class sessions throughout the semester. IMPORTANT NOTICE: The use of PC Laptops, cameras, video recorders, internet-ready devices, mobile phones, AND the exchange of textbooks or notes during the exams/quizzes is strictly prohibited. Violation of this policy will result in the student’s dismissal from the class and issuance of an “F” grade for the course. NO EXCEPTIONS!

6. Activate and use your CSUN email address for ALL academic correspondences. Do NOT use your personal email address to communicate with the instructor. Messages from non-CSUN email addresses will NOT be acknowledged. Instructor will only utilize SOLAR’s email database to communicate with class members.

7. IMPORTANT NOTICE: The last day to drop classes is 13-Sep-2013. Students must initiate this process; not faculty. Failure to formally drop a course will result in a “WU” grade (equivalent to “F” on your transcript) thus affecting your GPA detrimentally.

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COURSE SCHEDULE
*(Tentative guidelines – the schedule may change if deemed necessary)*

Depending on the progress of the course material, the syllabus (dates, topics, assignments & exams) **may change** if deemed necessary.

**Note 1:** Team presentations will cover different relevant topics.

**Note 2:** The PowerPoint lecture presentations for each chapter are available on my CSUN web-page:

http://www.csun.edu/~ghe59995/

So that you take “helpful” notes during the class lectures, please print the assigned modules and have the slides handy during the lecture session throughout the semester.

<table>
<thead>
<tr>
<th>Date</th>
<th>Topics</th>
<th>Homework Assignments (TBA in class)</th>
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<tbody>
<tr>
<td>05/27</td>
<td>Introduction to Facilities Planning</td>
<td>Course Introduction &amp; Team Selection</td>
</tr>
<tr>
<td>06/03</td>
<td>More on Facilities Planning</td>
<td>Terrace Project Group Formation</td>
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<tr>
<td>06/10</td>
<td>Flow, Space, and Activities</td>
<td>Terrace Project Topic Selection</td>
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<tr>
<td>06/17</td>
<td>Personnel Administration &amp; Management</td>
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<tr>
<td>06/24</td>
<td>Material Handling</td>
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<tr>
<td>07/01</td>
<td>Layout design</td>
<td>*** Project Status Report Due ***</td>
</tr>
<tr>
<td>07/08</td>
<td>Midterm Exam (40%)</td>
<td>Open Book/Open Notes Selected material (No Lecture)</td>
</tr>
<tr>
<td>07/15</td>
<td>Facility Functions</td>
<td>Midterm Exam Graded &amp; Returned / Review Test Solution</td>
</tr>
<tr>
<td>07/22</td>
<td>Manufacturing Systems &amp; Facility Systems</td>
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<tr>
<td>07/29</td>
<td>Facilities Planning Models &amp; Globalization &amp; Commerce</td>
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<tr>
<td>08/05</td>
<td>Selecting Facilities Plans</td>
<td>Course Review &amp; Wrap-up // FINAL EXAM REVIEW</td>
</tr>
<tr>
<td>08/12</td>
<td>Team Presentations – Selected Groups &amp; Topics</td>
<td>**^<em><strong>Term Project Final Report Due</strong></em> (form is available on the course webpage)</td>
</tr>
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<td>08/19</td>
<td>FINAL EXAM (40% - COMPREHENSIVE)</td>
<td>Tue. 3:00-5:00 p.m. OPEN BOOK/NOTES</td>
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**HW ASSIGNMENTS** (may be revised if necessary!)

Ch. 1: 2, 5, 9, 13, 15
Ch. 3: 3, 10, 14, 15, 22, 25, 37, 38
Ch. 5: 1, 2, 9, 13, 16, 20
Ch. 2: 13, 15, 18, 23, 33, 40, 41
Ch. 4: 1, 6, 8, 9, 10, 11, 14, 22

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COURSE EVALUATION / GRADE SCALE

(Refer to the last page of the syllabus for more information on grades)

(20 pts) - Term Project - Team assignments/presentations* (to be announced).

*Several team presentations on a topic addressing a selected aspect of Engineering and Technology Management (topic assignments made by instructor).

NOTE: Submittal of the Self & Peer Evaluation Form is MANDATORY. You can download the form via the MSE401 webpage. Type your responses; HAND-WRITTEN forms are NOT accepted!!

(40 pts) - Mid Term Exam -- based on class discussion, lectures, handouts, homework and reading assignments.
Format: True/False, Multiple Choice, & Essay Questions.
Open Book/Open Notes: ONLY ORIGINAL WORK/NOTES ALLOWED!

(40 pts) - Final Exam (comprehensive) – based on class discussion, lectures, handouts, homework and reading assignments.
Format: True/False, Multiple Choice, & Essay Questions.
Open Book/Open Notes: ONLY ORIGINAL WORK/NOTES ALLOWED!

Letter-Grade Scale:

A ≥ 92  89 ≤ A- < 92  85 ≤ B+ < 89
80 ≤ B < 85  78 ≤ B- < 80  75 ≤ C+ < 78
70 ≤ C < 75  60 ≤ D < 70  F < 60

*** This course syllabus is your contract with the CECS, MSEM and the instructor. Students must read the syllabus thoroughly and adhere fully to ALL of the stated terms and listed guidelines. No Exceptions! ***

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MSE403CS – Facilities Planning & Design: Evaluation of Team Research Project Presentation

Team Number _____ Semester/Year ___________  
Evaluator: Professor G. Elias

<table>
<thead>
<tr>
<th>Poor</th>
<th>Fair</th>
<th>Average</th>
<th>Good</th>
<th>Excellent</th>
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</thead>
</table>

**DELIVERY**

- **Independence**
  - (e.g., independence from notes and reading)
  - 1 2 3 4 5

- **Dynamics**
  - (e.g., action and enthusiasm)
  - 1 2 3 4 5

- **Fluency**
  - (e.g., continuity and flow)
  - 1 2 3 4 5

- **Volume**
  - (e.g., neither too loud nor too soft)
  - 1 2 3 4 5

**LANGUAGE**

- ** Appropriateness**
  - (e.g., vocabulary and word choice)
  - 1 2 3 4 5

- **Style**
  - (e.g., appropriate level of formality)
  - 1 2 3 4 5

**CONTENT**

- **Introduction**
  - (e.g., presentation was appropriately introduced)
  - 1 2 3 4 5

- **Evidence**
  - (e.g., content clearly based on research)
  - 3 6 9 12 15

- **Analysis**
  - (e.g., coherence of purpose, concepts, research, and conclusions)
  - 3 6 9 12 15

- **Conclusion**
  - (e.g., presentation was appropriately concluded)
  - 1 2 3 4 5

- **Organization**
  - (e.g., presentation was rationally organized)
  - 2 4 6 8 10

- **Clarity**
  - (e.g., content could be comprehended)
  - 2 4 6 8 10

**TIME**

- (e.g., extent to which presentation was within 20-30 minute target)
  - 3 6 9 12 15

**VISUAL AIDS**

- (e.g., extent to which visual aids were appropriate and helpful)
  - 3 6 9 12 15

Total = ______ / 8 = _____

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For Your Information: Grade Evaluation Criterion

* 'A' grade range (A to A-) is reserved for work that is exceptional. This means that it (1) is professional and reflects the writer's/s' careful consideration of audience and purpose; (2) shows perfect to near-perfect understanding of the necessary concepts and analytical tasks; (3) where appropriate, it shows the capacity to think creatively or to see implications beyond the immediate scope of the question; (4) contains all necessary information (invention); (5) is arranged in a logical manner (6), is memorable; (7) delivery is visually appealing; and (8) is free of mechanical errors and is formatted as specified. Work must be flawless to attain an A/A-. Work with minor flaws that is nonetheless excellent in other ways will earn an A-.

* A grade in the B range means that the work is acceptable at the graduate level (B- range) to very good (B/B+). This work satisfies all (B+) or most (B/B-) of the requirements of the question & research tasks, shows the capability to think beyond the task by relating it to other areas of knowledge in or outside of the course; is neatly presented and shows above-average use of academic English. If the work is decently written, is formatted basically correctly, and covers most of the required content, but has several minor flaws or one major flaw, the grade is B-.

* A grade in the C range means that the work, while covering much of the required ground, does not show graduate-level analytic and expressive ability. That is, major and minor items may be missing or incorrect; and while the language may communicate most points adequately, it does not qualify as above-average academic work.

* A grade in the D range shows that the work does not, overall, achieve an acceptable level of coverage of the requirements AND/OR the language is insufficient to make the writer's points understandable to the reader. The content may be either incorrect to an unacceptable degree, or very incomplete.

* A grade of F indicates that so little of the required content is covered that grading the paper is an exercise in futility. It may mean that very major points have clearly not been grasped or have been misunderstood by the student. An F may also indicate that the ideas are expressed in such a way that they are not at all understandable to the reader. A grade of F is also awarded when assigned work is not handed in, or not handed in by the set deadline.