Winter 2014

To: EGR 260 Students and SECS Faculty

From: Robert Van Til, Professor
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Subject: Syllabus for EGR 260 Introduction to Industrial and Systems Engineering

Prerequisite: MTH 155


Website: The course website contains reading assignments, homework assignments with solutions, laboratory assignments, handouts, PowerPoint lecture presentations, etc. Any messages from the instructor will also be posted on the website which is located at:

http://secs.oakland.edu/~vantil (then follow the EGR 260 link)

Office Hours: Mon. and Wed., 1:45 - 3:15, or by appointment.

Laboratory: All lab sessions will begin the week of Jan. 20.

Grading: The final course grade will be a weighted average of:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Homework</td>
<td>10%</td>
</tr>
<tr>
<td>Laboratoy</td>
<td>25%</td>
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<tr>
<td>Hour Exams (2)</td>
<td>40%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>25%</td>
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</table>

Note the average score and standard deviation for all completed homework, laboratory assignments and exams are presented on the course website. All exams are open book and notes.

Course Objectives: In order to satisfactorily complete this course, a student is expected to demonstrate competency concerning their understanding of the following objectives.

• Describe the role of an Industrial Engineer in a manufacturing/service industry (j).

• Understand the concept of population distribution and sample distribution (a, e).

• Apply probability concepts of counting, mean, variance, expectation and others (a, e).

• Apply discrete distributions including uniform, binomial, Poisson, geometric, and others (a, e).

• Apply continuous distributions including uniform, normal, exponential, lognormal and others (a, e).

• Estimate parameters with a given level of confidence (a, e).
• Apply the concept of probability to real world problems (a, e).

• Analyze data and estimate variation in a data set (a, b, e, k).

• Apply probability and statistical operations on data using Excel (a, b, e, k).

Program Outcomes: These are a set of skills that assure the achievement of the program educational objectives. Before graduating, SECS students will demonstrate their skills in the following key areas:

a) an ability to apply knowledge of mathematics, science, and engineering;

b) an ability to design and conduct experiments, as well as to analyze and interpret data;

c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;

d) an ability to function on multi-disciplinary teams;

e) an ability to identify, formulate, and solve engineering problems;

f) an understanding of professional and ethical responsibility;

g) an ability to communicate effectively;

h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context;

i) a recognition of the need for, and an ability to engage in life-long learning;

j) a knowledge of contemporary issues;

k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Academic Conduct: Students are encouraged to discuss homework and laboratory assignments with one another for their mutual benefits. However, no form of plagiarism (for example, copying) is permitted. Further information and examples are available from the "Academic Conduct Policy" in the Oakland University Undergraduate Catalog. The “Code of Academic and Student Conduct” is also available at:

www.oakland.edu/handbook

The seating location of every student may be randomly assigned for each exam.