Winter 2018

To: EGR 2600 Students and SECS Faculty

From: Michael P Polis, Professor, Department of Industrial and Systems Engineering
508 EC, (248) 370-2743, **polis@oakland.edu**

Office Hours: Monday and Wednesday, 1:30 - 3:15pm, or by email appointment.

Subject: Syllabus for EGR 2600 Introduction to Industrial and Systems Engineering – W'18

Prerequisite: MTH 1555

Class Times and Location: 3:30-5:17pm MW; Rm. 124 MSC –All Labs will be on-line.

Text: D.C. Montgomery and G.C. Runger, *Applied Statistics and Probability for Engineers*, 6th edition, Wiley, 2014 (ISBN 978-1-118-53971-2).

Laboratory: Lab sessions will begin the week of January 24th, The Labs are on-line

Lab Instructors: ???

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

Homework	20%	Exams (2)	40%
Laboratory	10%	Final Exam	30%

Note the average score for all completed homework, lab. assignments and exams will be given out in class. All exams are closed book and notes, however you will be permitted a one page "cheat-sheet" for each exam upon which you can write anything you want. For the Final Exam, that covers the entire course, you are permitted a three page cheat sheet (presumably the two used for the exams, as well as a new one for the material covered since the second exam). In order to pass the course you must pass the Final Exam. Midterm evaluations will be available before the middle of the semester, and you will be notified of your tentative grade based on the work to that point.

Course Objectives: In order to satisfactorily complete this course, a student is expected to demonstrate competency concerning their understanding of the following (see *Program Outcomes a-k* on next page).

1. Describe the role of an Industrial Engineer in a manufacturing/service industry. (j)
2. Apply probability concepts of counting, mean, variance, expectation and others. (a, e)
3. Apply discrete distributions including uniform, binomial, poisson, geometric, and others. (a, e)
4. Apply continuous distributions including uniform, normal, exponential, lognormal and others. (a, e)
5. Estimate parameters with a given level of confidence. (a, e)
6. Apply the concept of probability to real world problems (a, e)
7. Analyze data and estimate variation in a data set (a, b, e, k)
8. Apply probability and statistical operations on data using Excel (a, b, e, k)
9. Demonstrate how to perform a single population hypothesis test on the mean for a given level of significance. (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 benefit. 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 "Academic Conduct Regulations" can be found at:

www.oakland.edu/?id=1610&sid=75

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

Revised 12/6/17

EGR 2600 Winter 2018 TENTITATIVE SCHEDULE

Week #	Date	Reading Assignment	HW # (Assigned)	HW# (Due)	Exam #	Lab #
1	Jan. 3	*Intro to ISE*, Chapter 1 & Section 2-1	1			
2	Jan. 8	Sections 2.2-2.3				
	Jan.10	Sections 2-4 through 2-8	2	1		
3	Jan. 15	MLK – No Class				
	Jan. 17	*Intro to Simulation* and ISE	3	2		
4	Jan. 22	Sections 3-1 through 3-3				1
	Jan. 24	Sections 3-4 through 3-6	4	3		
5	Jan. 29	Sections 3-7 through 3-8				2
	Jan. 31	Sections 3-8 through 3-9	5	4		
6	Feb. 5	Sections 4-1 through 4-3				
	Feb. 7	Sections 4-4 through 4-5		5		
7	Feb. 12	Review for Exam 1				3
	Feb. 14		6		**Exam 1**	
8	Feb. 19	WINTER BREAK				
	Feb. 21	WINTER BREAK				
9	Feb. 26	Sections 4-6 through 4-12	7	6		4
	Feb. 28	Chapter 5				
10	March 5	Chapter 6	8	7		5
	March 7					
11	March 12			8		
	March 14	Review for Exam 2				
12	March 19		9		**Exam 2**	
	March 21	Chapter 7				
13	March 26		10	9		6
	March 28	Chapter 8				
14	April 2		11	10		7
	April 4	Chapter 9-1 through 9-4				
15	April 9		12	11		
	April 11	Chapter 9-5 through 9-7				
16	April 16			12		
	April 18	Review for Final Exam				
	April 25	3:30-6:30pm			**Final Exam**	