

INSY 5/6600 – Engineering Economic Systems, Spring 2023

Syllabus, v2023-01-21

Course Content/Objectives: To provide the student with a detailed understanding of applied engineering economic concepts specifically focusing on manufacturing operations and investment, and service sector and government economic studies.

Special Note: The prerequisite for this class is assumed and a special introduction test will be given to ensure the student’s general knowledge is acceptable for the course. After the completion of this course the student should be able to address complex real world investment decision for production operations, government, and service industries.

COVID: The instructors reserve the right to make reasonable modifications due to the on-going COVID crisis. While the material will be provided via video there may be issues that could modify the course materials, grading, and/or faculty presentations and availability.

Course Details

Meeting Time: Mondays and Wednesdays, 2-3:15pm

Classroom: Shelby 1122

Video Lectures: via Canvas “Panopto Recordings” menu item, or [this direct link](#)

Zoom Link: n/a

Teaching Team

Instructor (6600): John L. Evans, Ph.D.

Professor – Industrial and Systems Engineering

Director – Thomas Walter Center for Technology Management

Office: Shelby 3341 B, 334-844-1418

Office Hours: by appointment

e-mail: evansjl@auburn.edu

Instructor (5600): Dan O’Leary

Instructor, PhD Candidate – Industrial and Systems Engineering

Office: Shelby 3301J

Primary Office Hours: Fri 4-5 on Zoom only; or by appointment, in-person or Zoom

Alt Office Hours: Tues 3:30-4:30 in person or on Zoom; priority to undergrads during this time

Zoom: <https://aub.ie/zoomdan>

e-mail: dan.oleary@auburn.edu

Teaching Assistant: Adam Ficken

PhD Student – Industrial and Systems Engineering

Office: 3341 Shelby Center (inside the Thomas Walter Center)

Office Hours: Wed 9-10am, or by appointment, in-person or Zoom

Zoom: <https://auburn.zoom.us/my/adamficken.zoom>

e-mail: arf0006@auburn.edu

Teaching Assistant: Shahriar Aziz

PhD Student – Industrial and Systems Engineering

Office: Gavin 221

Office Hours: Tues 12-1

Zoom: <https://auburn.zoom.us/j/2709605207>

e-mail: mza0141@auburn.edu

Textbook

The following textbook is available from the university bookstore.

Contemporary Engineering Economics, 6th edition by Chan S. Park, Pearson, 2015

Assignment Weighting

Category	Weight
Intro Exam	20%
Mid-Term Case Study	20%
Final Case Study	25%
4 x Case Part Homeworks	20% (5% each)
3 x Special Projects (group)	15% (5% each)

Undergraduate vs Graduate Sections

Students in the 5600 section will complete the mid-term and final case studies in teams. Graduate students may be responsible for additional work on any assignment.

10-Point Grading Scale

A	90-100
B	80-90
C	70-80
D	60-70
F	< 60

Tentative Schedule and Topics

Wk	Date	Day	Lecture	Prep	PPT #s	# Slides	Instructor	Assignments	
								Given	Due
1	9-Jan	Mon	No Class					T1&2	
	11-Jan	Weds	Class Intro (18) & Engineering Econ Decisions (22)		0, 1a	40	Evans		
2	16-Jan	Mon	Holiday						
	18-Jan	Weds	Review (18) & Discounted Cash Flow Tech (30)		1b, 11	48	O'Leary		
3	23-Jan	Mon	Test Prep	Test 1&2		-	O'Leary	T3&4	
	25-Jan	Weds	Annual Worth Analysis (43)		12	43	O'Leary		
4	30-Jan	Mon	Test Prep	Test 3&4		-	O'Leary		
	1-Feb	Weds	Rate of Return (44)		13	44	O'Leary	SP1	
5	6-Feb	Mon	Depreciation and Taxes (48)	CP1	7.5	48	O'Leary	CP1	
	8-Feb	Weds	Test			-	O'Leary		Test
6	13-Feb	Mon	Classification of Costs (31) & Labor Cost Analysis (15)		5, 6	46	Evans		SP1
	15-Feb	Weds	Estimating Material Costs (28) & Overhead Costs (24)		7, 8	52	Evans	SP2	
7	20-Feb	Mon	The Effects of Inflation (53)		17a	53	Evans	SP3	CP1
	22-Feb	Weds	Currency Exchange Rate (20), review CP1 & intro CP2	CP2	17b	20	Both	CP2	
8	27-Feb	Mon	Developing Cash Flows (32)		16	32	O'Leary		SP2
	1-Mar	Weds	Intro Mid Term Case				O'Leary	MT	
9	6-Mar	Mon	Spring Break						
	8-Mar	Weds	Spring Break						
10	13-Mar	Mon	Review CP2, MT Q&A		-	-	Both		
	15-Mar	Weds	Financial Ratios (37) & Cost Volume Profit Analysis (18)		3, 9	55	Evans		
11	20-Mar	Mon	Considering Project Risk (50)		18	50	Evans		MT
	22-Mar	Weds	Review MT, intro CP3 and @Risk	CP3			O'Leary	CP3	
12	27-Mar	Mon	Pricing (35) & Decision Tree Analysis (20)		10, 19	55	Evans		
	29-Mar	Weds	Capital Budgeting Decisions (37)		21	37	Evans	CP4	
13	3-Apr	Mon	Guest Speaker - Dr. Barth on Crypto?				Guest		CP3, SP3
	5-Apr	Weds	Accounting and Financial Decisions (46)		2	46	Evans		
14	10-Apr	Mon	TBD						CP4
	12-Apr	Weds	Review CP4 and intro Final Case				O'Leary	FC	
15	17-Apr	Mon	TBD						
	19-Apr	Weds	Final Case Q&A				Both		
16	24-Apr	Mon	Final Case Q&A				Both		
	26-Apr	Weds	No Class						FC
17	1-May	Mon	No final exam						
	3-May	Weds							

Calculator Policy. Any violation of the academic honesty code will be reported to the Academic Honesty Committee. To avoid academic dishonesty, students are not to have calculators that store text and/or can connect to Bluetooth devices during class. The only calculators acceptable for in-class exams or quizzes are: TI-30XA, TI-30XIIB, TI-30XIIS, and TI-34II.

INSY Departmental Academic Honesty Policy: All portions of the Auburn University student academic honesty code (Title X11) will apply to this class <https://sites.auburn.edu/admin/universypolicies/Policies/AcademicHonestyCode.pdf> . All academic honesty violations or alleged violations of the SGA Code of Laws will be reported to the Office of the Provost, which will then refer the case to the Academic Honesty Committee.

Violations include, but are not limited to:

Cheating on an examination. This includes such things as copying from another's paper, using unauthorized notes, calculators, cell phones, blue-tooth and/or wireless devices, PDAs, laptop/pen tablet, etc., or giving or receiving unauthorized aid, such as trading examinations, whispering answers, passing notes, or using electronic devices to transmit or receive information.

Plagiarism. This is using someone else's work without giving credit. It is, for example, using ideas, phrases, papers, laboratory reports, computer programs, data - copied directly or paraphrased - that you did not arrive at on your own. Sources include published works such as book, movies, web sites, and unpublished works such as other students' papers or material from a research service. In brief, representing someone else's work as your own is academically dishonest. The risk of plagiarism can be avoided in written work by clearly indicating, either in footnotes or in the paper itself, the source of any major or unique idea or wording that you did not arrive at on your own. Sources must be given regardless of whether the material is quoted directly or paraphrased. Copying another student's assignment and putting your name on it is plagiarism. Copying an answer key from an instructor's guide is plagiarism. Copying work from a previous semester of the class is plagiarism.

Unauthorized collaboration. This is working with or receiving help from others on graded assignments without the specific approval of the instructor. If in doubt, seek permission from the instructor before working with others. Students are encouraged to learn from one another: Form study groups and discuss assignments, but each assignment must be individual work unless specifically stated and turned in as a group assignment.

You are encouraged to talk to one another about your assignments, however, all assignments must be done by the student(s) whose name is (are) on it!

Multiple submission. This means using the same work to fulfill the academic requirements in more than one course. Prior permission of the instructor is essential.

- **Special Accommodations from Office of Accessibility:**

Students requiring special accommodations should discuss the accommodations during my office hours or after class as soon as possible to the term start. If you do not have an accommodation, but need special accommodations, please contact the Office of Accessibility, 1244 Haley Center, 334-844-5943 (Voice T/O).