

INSY 7760 – Engineering & Technology Management

Fall 2022, Rev 0

Auburn University

Department of Industrial & Systems Engineering

Course Content: Engineering Management is the branch of management that focuses on leading engineering and technical personnel in the development of projects, research, and the management of engineering driven enterprises. The class provides an introduction into individual and group management and motivation, strategic and intermediate term planning, technology management, and management professionalism.

Student Outcomes:

- a) Students will gain an understanding of individual and group behavior in organizations and will be able to identify techniques for managing contemporary organizations.
- b) Students will be introduced to strategic planning with a focus on understanding the importance of a firm's resources and technology and how they create competitive advantages.
- c) Students will gain an understanding of intellectual property issues, portfolio management and technology management concepts.
- d) Students will gain an understanding of their own management style and goals.

Instructor: Richard F. Garnett, Ph.D., P.E., CSP Shelby Center 3301J, rfg0004@auburn.edu

Office Hours: Monday & Wednesday: 12:30 PM – 1:30 PM

Tuesday & Thursday: 10:00 AM – 10:50 AM or by appointment

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Text:

- a) "The New One Minute Manager" by Blanchard & Johnson
- b) "Designing a Life That Works" by Mike Tate (<https://michaelalantate.com/product/design-a-life-that-works-workbook/>)
- c) Harvard Business Review (HBR) Journal Articles available through All Access in Canvas

Evaluation of Student Performance:

| | |
|-------------|--------|
| Assignments | 20.0% |
| Projects | 10.0% |
| Exams | 70.0% |
| Total | 100.0% |

Final grade percentages are not rounded up: 90.0 ≥ A, 80.0 ≥ B, 70 ≥ C, 60 ≥ D, & <60% F

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Lecture Schedule

| Week | Date | Topics | Reading | Assignment |
|----------|------------|--|--|---|
| Week #1 | Mon 15-Aug | | | |
| | Wed 17-Aug | Lecture #1 Introduction: What is Engineering Management? - Fayol: Functions of Management - Fredrick Taylor & the Hawthorne Experiment | | Assignment #0: This is me. Assignment #1: Class Survey |
| Week #2 | Mon 22-Aug | Lecture #2 Motivation Part 1: Knowledge Workers Maslow: The Hierarchy of Human Needs Herzberg's Two Factor Theory McClelland: Achievement-Affiliation | For Class: 1) Listen to Podcast: https://www.npr.org/programs/ed-radio-hour/399796647/maslows-human-needs 2) Read "One More Time, How Do You Motivate Employees?", HBR, by Herzberg | Assignment #2: What can we learn about managing Knowledge Workers from the Maslow's Model? (One Paragraph Paper) |
| | Wed 24-Aug | Lecture #3 Motivation Part 2: Skinner: Operant Conditioning Adams: Equity Theory Vroom: Expectancy Theory | For Class: 1) Listen to Podcast http://www.ted.com/talks/dan_ariely_what_makes_us_feel_good_about_our_work/transcript?language=en | Assignment #3: Which motivational theory makes the most sense? Why? (One Paragraph Paper) |
| Week #3 | Mon 29-Aug | Lecture #4 Guest Speaker: Michael Tinch, Honda Manufacturing of Alabama, LLC | | Assignment #4: What I learned from Mike Tinch; Things I need to do to be an EM. (One Page Paper) |
| | Wed 31-Aug | Lecture #5 Fayol's Six Industrial Activities & Five Functions of Management - Planning/Organizing | For Class: 1) "How to identify the right 'spans of control' for your organization," McKinsey & Company, Acharya, Lieber, Seem, & Welchman | Assignment #5: Things I need to do/stop doing to be an EM & Things I need to stop doing to be an EM.(One Page Paper) |
| Week #4 | Mon 5-Sep | No Class Labor Day | | |
| | Wed 7-Sep | Lecture #6 Fayol's Five Functions of Management - Commanding/Coordinating | For Class: 1) "How to Choose a Leadership Pattern" by Tannenbaum & Schmidt 2) Watch Utube: https://www.youtube.com/watch?v=N719umOxj-A | Begin: The New One Minute Manager by Blanchard & Johnson |
| Week #5 | Mon 12-Sep | Lecture #7 Fayol's Five Functions of Management - Coordinating/Controlling | Read: 1) "On the Folly of Rewarding A, While Hoping for B," by Kerr, Academy of Management Journal | Assignment #6: What is Your Leadership Style?: LASI Leadership Style |
| | Wed 14-Sep | Lecture #8 Discussion of "The New One Minute Manager" by Blanchard & Johnson | | |
| Week #6 | Mon 19-Sep | Lecture #9 Leadership: Vision & Mission Guest Speaker: Mike Tate | Read: Design a Life That Works- complete pages 1-13 in the workbook and you may make notes in the remaining pages if you like. | Project: Design a Life That Works; Life on One Page |
| | Wed 21-Sep | Lecture #10 Leadership: Vision & Mission Guest Speaker: Mike Tate | Read/Review: Design a Life That Works | Project: Design a Life That Works; Life on One Page |
| Week #7 | Mon 26-Sep | Lecture #11 Understanding Teams | Read: "The Discipline of Teams," by Katzenbach and Smith, HBR Watch: Mike Clayton, The Tuckman Team Development Model, https://www.youtube.com/watch?v=nM6tAz_g | Assignment #7: What Were the Qualities of the Best Team You Were a Part of? (One Paragraph Paper) |
| | Wed 28-Sep | Lecture #12 Technical Teams | Read: 1) "Jazz: A Metaphor for High Performance Teams" by Wilson, The National Academic Press 2) "The Leader as Coach" by Barra & Scoular, HBR | |
| Week #8 | Mon 3-Oct | Lecture #13 Engineering Ethics | Read: Engineering Ethics Case Study: The Challenger Disaster Review: https://www.youtube.com/watch?v=NYRga2d41g&t=30s | Assignment #8: From a Management/ Leadership Perspective, Why did this Incident Occur? (1-2 Page Paper) |
| | Wed 5-Oct | Midterm Exam | | |
| Week #9 | Mon 10-Oct | Lecture #13 What is a Leader? | 1) "Level 5 Leadership: The Triumph of Humility & Fierce Resolve" by Collins 2) https://www.youtube.com/watch?v=ysQZFrW0FU 3) "The Role of the Situation in Leadership" by Vroom & Jago, American Psychologist | Assignment #9: What is the leadership?; How is it different from management? (One Paragraph Paper) 1) Watch Utube: https://www.youtube.com/watch?v=TbuGBCF9jc |
| | Wed 12-Oct | Lecture #14 The Hard Part of Leadership (When things go bad.) | 1) Review Case Study 2) "What Leaders Really Do" by John Kotter | Mtgs to Review Life on One Page |
| Week #10 | Mon 17-Oct | Lecture #15 Guest Speaker: Aly Hoehner, Intellectual Property | | Mtgs to Review Life on One Page |
| | Wed 19-Oct | Lecture #16 Strategy & Leadership | | Mtgs to Review Life on One Page |
| Week #11 | Mon 24-Oct | Lecture #17 Introduction to Marketing | Review: https://courses.lumenlearning.com/boundless-marketing/chapter/introduction-to-marketing/ | Mtgs to Review Life on One Page |
| | Wed 26-Oct | Lecture #18 Guest Speaker: Milton Davis, Business to Business Marketing | Read: "What is Strategy?" by Porter, HBR | Life on one Page Project Due |
| Week #12 | Mon 31-Oct | Lecture #19 Dr Jeff Fergus, Strategy & Sustainability | | |
| | Wed 7-Nov | Lecture #20 Strategy & Change Management - Porters Theory - Blue Ocean Strategy | Read: 1) "The Five Competitive Forces That Shape Strategy" by Porter 2) "Leadership That Gets Results" by Goleman | Assignment #10: Discussion Board- What did you learn about leadership & strategy you did not know? |
| Week #13 | Mon 7-Nov | Lecture #21 Guest Speaker: Dr John Evans, Mgt of Technology | | |
| | Wed 9-Nov | Lecture #22 Guest Speaker: Dr John Evans, Mgt of Technology | | |
| Week #14 | Mon 14-Nov | Lecture #23 Technical Portfolio Management | Read: "New Product Portfolio Management: Practices and Performance" Cooper, Edgett, Kleinschmidt, Journal of Product Innovation Management | |
| | Wed 16-Nov | Lecture #24 Helping Your Project Managers | Instructors Notes | |
| Week #15 | Mon 21-Nov | Thanksgiving Break- No Class | | |
| | Wed 23-Nov | Thanksgiving Break- No Class | | |
| Week #16 | Mon 28-Nov | Lecture #25 Not From this Zip Code: International Projects | Instructors Notes | |
| | Wed 30-Nov | Lecture #26 Guest Speaker: Randy Newman, International Technology Transfer | | |
| Week #17 | Fri 9-Dec | Final Exam (Friday, 12/9 @ 12 noon-2:30 pm) | | |

*** Schedules subject to change based on topic coverage and unforeseen events.**

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Late Homework, Assignments, Quizzes: Homework assignments turned in up to 24 hours after the due date will receive a 50% deduction; Homework/lab assignments more than 24 hrs. late, will not be accepted (unless an excused absence is provided or they have been preapproved by the Instructor).

Students who miss an exam will need to contact the instructor and turn in a valid excuse within 48 hours from the time that the exam was given. The makeup exam schedule is determined by the instructor and will normally be within ONE week (5 working days) from the time that the exam was given.

All Access: All Access is Auburn’s program for delivering course materials digitally. For INSY 7760, you’re getting access to the Harvard Business Review readings for the course through All Access. The price for accessing the HBR articles is \$63.25. For the first two weeks of class, everyone gets this content for free. All students in this course start as “opted in” for the content for the course. If you want to opt out and not be charged, all you have to do is follow the instructions (see https://www.aubookstore.com/t-txt_allaccessoptout1.aspx). You’ll lose access at the end of the second week of class, if you opt out of the content.

Course Website: All course material will be posted on Canvas. Students are encouraged to communicate with instructor, GTAs and each other via email. If you miss a class, you are responsible for the material covered in class. Please review Canvas regularly for important information and announcements. I assume that when we place an announcement or assignment on Canvas, you see it, and read it.

Course Expectations Related to Covid 19: If you are exposed to or test positive for Covid 19 please do not attend class. If you are quarantined or otherwise need to miss class because you may have been exposed to COVID-19, I will work with you to develop a plan so you can keep up with your coursework.

COVID-19 Alternative Operations: If normal class activities are disrupted due to illness, emergency, or crisis situation (such as a COVID-19 outbreak), the syllabus and other course plans and assignments may be modified to allow completion of the course. If this occurs, an addendum to your syllabus and/or course assignments will replace the original materials.

Use of Cell Phones during Lecture: I consider it disruptive for you to use your cell phone (to make calls or text). Personal calls & texts should not be taken or made in the lecture classroom.

Attendance: Lecture attendance is strongly encouraged, much of the material presented in the classroom is not readily available elsewhere.

Accommodations for Students with Disabilities: Students who need accommodations are asked to electronically submit their approved accommodations through AU Access and to arrange a meeting during office hours the first week of classes, or as soon as possible if accommodations are needed immediately. If you have a conflict with my office hours, an alternate time can be

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arranged. To set up this meeting, please contact me by e-mail. If you have not established accommodations through the Office of Accessibility, but need accommodations, make an appointment with the Office of Accessibility, 1228 Haley Center, 844-2096 (V/TT).

Calculator Policy. As stated in the Tiger Cub, 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) found in the Tiger Cub will apply to this class. 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, smart watches, 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 books, 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!

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- 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.



“I believe that this is a practical world and that I can count only on what I earn. Therefore, I believe in work, hard work.

I believe in education, which gives me the knowledge to work wisely and trains my mind and my hands to work skillfully.

I believe in honesty and truthfulness, without which I cannot win the respect and confidence of my fellow men.”

- From the Auburn Creed by George Petrie