Syllabus
EN660.361
Engineering Business and Management
Spring 2015
(3 credits)

Description
An introduction to the business and management aspects of the engineering profession, project management, prioritization of resource allocation, intellectual property protection, management of technical projects, and product/production management. Cross-listed with Mechanical Engineering.

Recommended prerequisite
660.105 Introduction to Business

Instructor
Illysa Izenberg, Lecturer izenberg@jhu.edu
Office: Whitehead 105L
Office hours: before 9 a.m. and from 11:45 - 2 p.m. Tuesdays and Thursdays. Please email to set up appointment.

Teaching Assistant
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Office: Whitehead 105
Office hours: TBD

Course Assistant
Jacob Dooling, CA jdooling1@jhu.edu
Office: Whitehead 104
Office hours: TBD

Meetings
Tuesday/Thursday 10:30 - 11:45 Barton 117

Textbook
You do not need to purchase a textbook for this course (see online resources). We will use Harvard Business School cases, simulations, & articles, which you will purchase here (prices reflect a 50% discount; if you purchase these directly from HBS you will pay twice as much):
https://cb.hbsp.harvard.edu/cbmp/access/32024332 Total cost of course materials (excluding optional items): $70.00

Optional items are those that may help you in your case analysis -- such as the audio of the text -- and/or in your self-directed study project -- such as an extra case or two. Again, you do not need to buy these unless you believe they will help you (so look at the descriptions).
Online Resources
2. E-reserve: Managing Your Boss (HBR, R0501J-PDF-ENG).
3. Blackboard: please login to our courseroom for other resources.

Course Objectives
In this course, you will work in groups to learn about strategy, marketing, finance, project management and people management and you will practice writing concise persuasive analyses and action plans and verbally defending your ideas. When you complete this course, you will be prepared to be a working professional. Your Teaching Team looks forward to seeing you develop into a career engineer, manager, entrepreneur, professor or other professional over the years.

When Engineers become working professionals, especially if they become managers, they must juggle knowledge of and tasks associated with operations, finance, marketing, strategy, team leadership and projects. While an engineer’s success may depend on his direct input -- the sweat of his brow -- a manager’s success depends on his ability to enlist the active involvement of others: direct reports, other managers, other team members, other department employees, and those above him on the organizational chart. You will learn these concepts and skills in this course.

Our class time should feel like a business meeting, and we will refer to class periods as meetings. We use a mix of methods for learning, including cases and simulations from the Harvard Business School, e-lectures and meetings, and textbook chapters.

Course Topics (Learning Objectives)
We will spend extensive time on Learning Objectives (LO’s) 1-3. LO’s 4-10 will provide you with the language to discuss these topics in professional environments. Take a look at these and determine which of these may be most important to you in your chosen field. You will have an opportunity to delve more deeply into one or two of these Learning Objectives during this course.
Learning Objective
1. Teamwork:
   · Utilize professional communication skills to manage one’s boss and provide constructive criticism. Implement coaching skills and processes to resolve team conflicts and co-lead self-managed work teams.
   · Identify how team identity, conflict, and trust influence team performance and recognize the leader’s and team-members’ roles in fostering team outcomes

2. Facilitate post-graduate next steps

3. Apply a comprehensive decision-making framework to account for the needs of disparate stakeholders, business objectives and ethical principles and determine how leaders shape team decision-making and performance

4. Conduct a strategic assessment of a business

5. Analyze the economic implications of business decisions, including time to breakeven, cash flow projection, and net present value of contribution

6. Determine how project scope, resources, and schedule interact

Learning Method
- E-lecture followed up in meeting with group activities
- Optional directed self-discovery and peer-teaching
- In meeting lecture
- Resume-review and interview practice activity
- Optional directed self-discovery and peer-teaching
- Cases: Beechnut A1, TerraCog, Everest
- Reading & case: Marketing Analysis Toolkit: Situation Analysis, Let’s Talk Science, TerraCog, Textbook
- E-lecture and in-meeting activity
- Optional directed self-discovery and peer-teaching
- Optional directed self-discovery and peer-teaching
- Project Management simulation, textbook, and TerraCog
- Optional directed self-discovery and peer-teaching
7. Identify customer needs and convert these to product specifications
   • Textbook reading and TerraCog
   • Optional directed self-discovery and peer-teaching

8. Understand the patent and intellectual property process
   • Textbook reading and assignments
   • In meeting lecture
   • Optional directed self-discovery and peer-teaching

9. Understand the difference between designing for innovation and design for production
   • Case: Terracog
   • Optional directed self-discovery and peer-teaching

10. Gain basic introduction to global business and cultural competence (if time in semester)
    • E-lecture and in meeting activity
    • Optional directed self-discovery and peer-teaching

Course Expectations and Grading
Students will read and write-up case studies, prepare for simulations following directions on each simulation site, attend and contribute to all meetings, and complete activities as assigned.

Concepts learned on a regular, consistent basis stick far longer than anything learned cramming for midterms and finals. Accordingly, grading categories emphasize weekly learning:

<table>
<thead>
<tr>
<th>Category</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Case write-ups, other written homework, quiz, presentations, research project deliverables</td>
<td>50%</td>
</tr>
<tr>
<td>2. Contribution to our learning in meetings and Learning Group</td>
<td>50%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Specific information about non-graded tasks, meeting contribution grading, and learning group grading is available on Blackboard. Read the online syllabus for important information about these. Special note: Tremendous learning happens during student interactions in meeting that cannot be replicated for individuals missing meeting. Students missing a meeting are expected to make prior arrangements to learn the material and contribute to others’ learning despite their absence. Contact your CA if you expect to miss or be late to a meeting and provide him/her with your learning/contribution plan.
I’d like to ensure there is no confusion on this point: an employee can earn an A in this course only if
1. his grades are at an A average,
2. he has completed satisfactorily all complete/incomplete tasks, and
3. he has attended and contributed superior comments to more than 90% of meetings.

Please review the information in the online syllabus to determine minimum requirements for B and C grades.

Key Dates
There are specific and different assignment questions for each case and for the presentation. All dates can be found on Blackboard instead of here. Clickable links in the online syllabus take you to the Learning Objectives and the specific assignments. All deliverables should be uploaded to the Bb assignment link and no deliverable needs to be printed out and brought to class.

Every deliverable is due by noon the day before the meeting period associated with that assignment unless otherwise noted.

Assignments
All assignments can be found on Blackboard. The online syllabus has clickable links that take you to the specific assignments. For all memos, put your Learning Group number and members’ names on the first page. Use 12-point font and single space for all memos.

University Ethics Statement
The strength of the university depends on academic and personal integrity. In this course, you must be honest and truthful. Ethical violations include cheating on exams, plagiarism, reuse of assignments, improper use of the Internet and electronic devices, unauthorized collaboration, alteration of graded assignments, forgery and falsification, lying, facilitating academic dishonesty, and unfair competition.

You may collaborate with other students in this course, but, with the exception of group work, your final work must be your own. If you have questions about this policy, please ask the instructor.

Report any violations you witness to the instructor. You can find more information about university misconduct policies on the web at these sites:
- For undergraduates: http://e-catalog.jhu.edu/undergrad-students/student-life-policies/
- For graduate students: http://e-catalog.jhu.edu/grad-students/graduate-specific-policies/

Students with Disabilities
Any student with a disability who may need accommodations in this class must obtain an accommodation letter from Student Disability Services, 385 Garland, (410) 516-4720, studentdisabilityservices@jhu.edu.

ABET Outcomes
• Ability to function on multidisciplinary teams (d). Understanding of professional and ethical responsibility (f). Ability to communicate effectively (g).
• The broad education necessary to understand the impact of engineering solutions in a global and societal context (h). Recognition of the need for and an ability to engage in life-long learning (i).
• Knowledge of contemporary issues (j).