LECTURES IN ENGINEERING ENTREPRENEURSHIP
ENG/TE 460 (on-site and online)/ENG/TE 360
SYLLABUS – FALL 2015
Instructor: Gary Durack and Guest Speakers
Teaching Assistant: Jinhua Xing

Class meeting time and location
Thursdays, 5:30 – 6:50 p.m., Room 1404 Siebel Center for Computer Science (SIEBL)
Exceptions, if any, as noted in the class calendar on Illinois Compass

Contact
Gary Durack
durack@illinois.edu

Jinhua Xing
jxing5@illinois.edu

Course Facebook Group
UIUC ENG/TE 360 / ENG/TE 460
www.facebook.com/groups/IIUCENG360/

Office hours
By appointment: Please request by email (see Email instructions below). In addition, open office hours will be held once a month and the location will be announced during lecture.

Materials
(2) Relevant articles in business publications such as the Economist or the Wall Street Journal
(3) The course website for videotaped lectures, announcements, online quizzes, and the grade book are available through Illinois Compass, at: https://compass2g.illinois.edu. Logging in will require your NetID and password.

Weekly Topics and the Course Objectives:
Each week, students will hear directly from entrepreneurs and professionals who are actively working to promote entrepreneurship. The timing of specific lecture topics is dictated by the availability of the speakers who are busy, successful, serial entrepreneurs, educators, venture capitalists, public servants, etc.

- In-class activities will be used to reinforce key aspects of the topic.
- The weekly readings will introduce the process, in a practical manner, for starting a new business.
- Students will be invited (and encouraged!) throughout the semester to participate in campus and community events for entrepreneurs.
The objectives for the course instruction and activities are:

- Present and discuss the critical importance of entrepreneurship to the world’s economy (employment, technology advancement, societal development, etc...)
- Present the building blocks and practical steps for starting a new enterprise
- Be a portal for students to access TEC, campus, and local entrepreneurial resources
- Enable students to hear from, and interact with, entrepreneurs from various sectors of the economy: software, telephony, energy, light, water, bio- and medical sciences, social networks and enterprises, intrapreneurship, and finance. The course focuses on business sectors that derive from disciplines and areas of study within the College of Engineering and the Campus.

Course Requirements:
Your participation in the course consists of attending ALL on-site lectures, reading assigned materials, completing a course project, and completing quizzes on readings and lectures. ENG/TE 360 students must participate on a team to host a guest lecturer. ENG/TE 460 students and online students must submit an additional research paper on COMPASS by the end of week 14 of the semester.

Attendance Policy
Attendance is ABSOLUTELY required at on-site lectures. Attendance will be taken at each class meeting by either swiping your student ID cards or through a sign-in sheet. Attendance is the single most important indicator of courtesy and respect for guest speakers who have taken time out of very busy schedules to address the class (and in many cases, travel to do it). In addition, please be mindful in your representation of the school when in attendance; professionalism and attentiveness is expected during lecture and Q & A. Due to the size of the class, you are responsible for recording your attendance at each class meeting. Each student is granted TWO (2) free absences -- you may take them for good reason, bad reason, or no reason at all. We don’t have to know about them; we don’t care if, why, or how you use them. We strongly suggest that you CONSERVE them and use them wisely (for example, for illness, interviews, doctor’s appointments, or emergencies.) On the third absence, your final grade in the course will be reduced a full letter grade. On the fourth absence, you will receive an automatic "F" in the course. Due to the size of the class, you are responsible for seeing to it that you carry your student ID card on the day of each class meeting. We will not "credit" you after the fact for a class you attended, but for which you did not swipe the ID or sign the sign-in sheet.

- Signing in for another student is not acceptable. Should this happen, both students involved will receive an automatic “F” in the course.
- Signing in at the beginning of class and then not staying for substantially the entire lecture will be counted as an absence.
- Students arriving substantially late for class, will be counted as absent.
- Students taking the course online are exempt from the in class attendance requirement however, they are expected to view all lectures posted to the online course. All other requirements are applicable to online students.
**ENG/TE 360 Guest Lecturer Host Team (Not required for ENG/TE 460 students)**
Each ENG/TE 360 student must participate on a team that will host the guest lecturer for weeks 4 to 14 of the class. Assignments for each team will be posted on Compass by the end of week 3 of the course.

Each team will research the guest lecturer; learning about their background in business, their academic path, and activities in entrepreneurship. Working collaboratively, the team will:
1. use the template provided to prepare powerpoint slides to introduce the speaker.
2. choose up to two team members to introduce the speaker at the beginning of class,
3. by the Tuesday preceding the lecture, submit the powerpoint slides and a list of at least 10 questions suitable for the post lecture Q&A.
4. be prepared to ask relevant questions during the Q & A.

Within seven days after the lecture, each team member must submit a one paragraph review of the lecture, highlighting points of interest, to receive credit for hosting.

**Online Lectures**
All on-site lectures will be recorded and available to online students on the course site. Once they are posted, they will continue to be accessible for the duration of the semester. Online students may view them as often as desired.

**Readings and Quizzes**
You are required to read the assigned materials. There will be quizzes that cover both the assigned readings and key elements of the lectures, posted on Illinois Compass each week.

**Semester Entrepreneurial Project**
Each student must complete and submit a semester “Business Model Canvas” project which will count for 30% of the final course grade. The objectives of this project are:
1. to familiarize the student with the form and process of representing a business model in the canvas format
2. to demonstrate the value of the canvas as a tool for finding a reproducible and scalable business model

Students may work in groups of up to three, however EACH STUDENT must independently submit their own materials.

The project requires the submission of draft materials at the end of week 6 of the course, and final materials, updated based on new information, by the end of week 12 of the course. Both submissions are required to receive full credit.
Each submission must include:
   a. A one paragraph description of an innovative product or service that will be the subject of your project
   b. A business model canvas that describes the business model for the product idea or service.
   c. Plans and/or documented progress for validating elements in the business model canvas.

The subject of the project may be a product idea or service the student or team is actually considering for a startup or it can simply be hypothetical. Grading will be based solely on the quality, comprehensiveness, logical construction, and content of the business model canvas.

**ENG/TE 460 and Online Student Paper Requirements (Not required for ENG/TE 360 students)**

All students in the ENG/TE 460 sections on-site and all online students taking the course for credit must write a two-page commercialization paper on a technology of their choice. This paper should be a two-page assessment of the commercial potential for a technology, or research idea, that you are either working on as part of your masters or Ph.D. studies, something related to your graduate work, something one of your professors is working on, or (if you are in the workforce), an idea from your company, R&D division, etc.

The paper should address the following question:
- What is/are the market(s) for this technology/research/idea?
- What problems would it solve?
- Who would the likely customers be?
- What would be the impediments to getting it to market? (Technical feasibility? Costs? Sales channels? Competition?)
- What would be the best business model be (Starting a company? Licensing to an existing company?)
- Who/what is the competition?
- Why is this technology/research/idea an improvement?
- What intellectual property could best protect it (if any)?

You need not devote much space to discussing the technical aspects of the technology - except to the extent that it impacts the above questions. Try to incorporate as much of what you have read, heard and otherwise learned from the readings and lectures this semester. If you do NOT happen to be working on a technology idea as part of your studies or work responsibilities, then simply select a technology idea in your field generally that you are familiar with.

The paper will be due by the end of week 14 of the class. Late papers will not be accepted. Written responses should be no more than 2 pages, double spaced, 11 pt. Times New Roman font with
1.0” margins. In addition to the 2 page paper, references and in-text citations are **required**. The responses will be graded according to the following marking guidelines.

**460 Research Paper Marking Guidelines**

- Analysis of Subject Matter 80%
- Response Organization 10%
- Clarity and Quality of Writing 5%
- Formatting and References 5%

**Announcements**

Announcements will be made periodically during in-class lectures, posted on the course website and e-mailed to the class. *Please make sure you watch the videotaped announcements and check the calendar on Illinois Compass frequently.*

**Extra Credit Events and Social Media**

Throughout the semester students will be invited to attend and participate in several local events, many of which have free food, intended to promote networking and education in entrepreneurship. To take advantage of this, students must post a comment and pic from the event to the class Facebook page: **UIUC ENG/TE 360 / ENG/TE 460**.

Students will get 1% extra credit added to their final course grade for attending the first extra credit event. The extra credit award will increase by 0.5% for each additional event attended (as indicated below) up to a total potential award of 10% extra credit toward the final course grade.

- 1st event: 1%
- 2nd event: 1.5%
- 3rd event: 2%
- 4th event: 2.5%
- 5th event: 3%

**E-mail**

Please e-mail TAs and instructors at their respective e-mail addresses listed on this syllabus and not through the e-mail function in Compass (which we do not typically open with any frequency). When emailing, include the **course code** along with your **last name** in the subject line of your email. Allow at least 24 – 48 hours for a response.
**Grading Policies**

Your grade in this course will be based upon your attendance, the quizzes, participation in a host team and a two-page paper. There will be no final exam, per se.

**ENG/TE 360 / 460 / Online**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester Project</td>
<td>30%/30%/30%</td>
<td></td>
</tr>
<tr>
<td>Weekly Responses/ Quizzes</td>
<td>40%/30%/35%</td>
<td>(There will be 5 multiple choice quizzes)</td>
</tr>
<tr>
<td>Research Paper</td>
<td>—/40%/35%</td>
<td></td>
</tr>
<tr>
<td>Host Team Participation</td>
<td>30%/-/%</td>
<td></td>
</tr>
</tbody>
</table>

The sum total of all points associated with all of the quizzes, hosting, research paper, attendance and extra-credit will be tallied. The grading scale for the class is then applied, as follows:

- 90% - 100% of the total points will be an A. (Approximately 90% - 93% will be an A-; 98% and higher will be an A+)
- 80% - 89% of the total points will be a B. (Approximately 80% – 83% will be a B-; 88% - 89% will be a B+)
- 70% - 79% of the total points will be a C. (Approximately 70% - 73% will be a C-; 78% - 79% will be a C+)
- 60% - 69% of the total points will be a D. (Approximately 60% - 63% will be a D-; 68% - 69% will be a D+)
- Anything below 60% of the total points will receive a failing grade.

**NOTE:**

- **Missing 3 lectures will result in the loss of a full letter grade.**
- **Missing more than three lectures will result in a failing grade for the course.**

**Key Due Dates for Students**

<table>
<thead>
<tr>
<th>Week 1</th>
<th>Thursday, August 27, 2015</th>
<th>Course Begins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 3</td>
<td>Thursday, September 10, 2015</td>
<td>Hosting Team Assignments Made</td>
</tr>
<tr>
<td>Week 6</td>
<td>Thursday, September 24, 2015</td>
<td>Course Project Draft Submission Due</td>
</tr>
<tr>
<td>Week 12</td>
<td>Thursday, November 12, 2015</td>
<td>Course Project Final Submission Due</td>
</tr>
<tr>
<td>Week 14</td>
<td>Thursday, December 03, 2015</td>
<td>ENG/TE 460 and Online Research Paper Due</td>
</tr>
</tbody>
</table>
APPENDIX

LIST OF RELEVANT TERMS RELATING TO ENTREPRENEURSHIP

A list of terms that you will likely come across over the course of the semester has been provided here. The definitions have not been provided; you are responsible for finding and understanding the definitions and applications of these terms. We strongly encourage you to consult the dictionary, use online resources and ask questions of the lecturers in order to accomplish this. Many of the essays in the books as well as the lectures will refer to these terms, and some of their definitions may appear in the online quizzes, so it is in your best interest to look them up as you come across them in your readings or in the lectures.

Please be familiar with the definition of each of the following terms as they relate to business and entrepreneurship.

Acquisition
Angel investor
Annual report
Asset
BAA (broad agency announcement)
Balance sheet
Board of directors
Bonds
Bootstrapping
Bubble
Business model canvas
Business plan
CEO (chief executive officer)
CTO (chief technology officer)
Capital/capitalization
Cash flow
Closely-held
Copyrights
Corporation
DARPA
DOD, DOE, DNR
Debt financing
Directors (see also "board of")
Dividend
Dot-com
Due diligence
EBITDA (earnings before interest, taxes, depreciation and amortization)
Earnings

E-commerce
Economies of scale
Elevator pitch
Entrepreneur, entrepreneurship
Equity
Exit strategy
External financing
Fair market value
Financial statement
First-round funding; first-round financing
Franchise
Going public
Gross income
Gross revenue
IPO (initial public offering)
Income
Incubator
Intellectual property (IP)
Entrepreneur; entrepreneurship
Leverage
Leveraged buyout (LBO)
Liability; liabilities
Limited liability Company
Limited liability partnership
Limited partnership
Liquidity; liquidity event
Market research
Market value (see also "fair market value")
Merger
Mezzanine funding
Mortgage
NASDAQ (National Association of Securities Dealers Automated Quotation system)
Negotiable instrument
Net asset value
Net earnings
Net income
NYSE (New York Stock Exchange)
Officers
Operating costs
Options
Outsourcing
Overhead
Owner’s equity
Parent Corporation
Partnership
Pass-through taxation
Patents
Post-money valuation
Pre-market value
Profit
Proof of concept
Prospectus
Publicly traded
R&D (research and development)
FRP (request for proposal)
ROI (return on investment)
ROR (rate of return)
Revenue
Risk-return trade-off
Road show
S&P 500
SBIR grant (small business innovation research)
S corporation
STTR grant (small business technology transfer)
Securities
Seed funding
Service provider
Shareholder (see also "stockholder")
Silicon Valley
Startup
Sole proprietorship
Stockholder (see also "shareholder")

Stocks
Sweat equity
Term sheet
Trademarks
Trade secrets
Valuation
Venture capitalist ("VC")
Vertical integration
Yield