Syllabus
ETM 562/662 - New Venture Management
Winter 2012

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PSU Office: Fourth Avenue Building 55-08; Office phone: 503-725-4663
Office hours: Monday 15:30 – 16:30

Class Time: Monday, 17:10-21:10

This is a draft version of the syllabus to give you an idea of what this course is about. Details will follow in the first week of the term.

Course Overview & Learning Objectives:

This course is designed to give student teams hands-on experience in the early front-end evaluation process for entrepreneurial opportunities. Students will work in teams closely with PSU inventors (faculty or students) who, as a result of carrying out research at PSU, have developed a technology that has significant potential for commercialization. The teams will evaluate the opportunity from the perspective of the technology, the market, and intellectual property, and synthesize an evaluation of the technology into a “go / no-go” recommendation, the reasons for the decision, and in the case of a “go” a preliminary suggestion for a route to commercialization.

The recommendations will be presented at the end of the term to a panel of experts that includes the inventors, IP experts, venture capital experts, and technology transfer officers. The recommendations given by the student teams will serve as the starting point for further investigation and possibly a full on commercialization. If students want to stay involved in the project after the end of the term, they can join follow-on teams for capstone or independent study credit.

The course puts emphasis on hands-on experience to and relies heavily on guest lecturers (some of them online) and student projects. It does not have any formal prerequisites. While some prior knowledge entrepreneurship, technology assessment, or marketing is helpful, it isn’t necessary to succeed: we will provide ample opportunities to obtain the knowledge “in flight”. In addition to students in Engineering Management, it is open to students from other graduate programs. For this term’s projects, we particularly welcome students with a technology background in software, mathematics, electrical engineering, civil engineering, architecture, and business. (Please contact the instructor if you have difficulties registering online).

Grading and types of assignments:

This course wants to make a difference in two ways: By allowing students to experience firsthand what it takes to successfully commercialize inventions and by informing inventors about pathways to growing and maturing their ideas. I believe that this can best be done in self-motivated teams who continuously work together throughout the term – your team’s deliverables therefore determine 60% of your individual grade. However, to be a good team player, you must also “know your stuff” and communicate what you know. Your individual contributions therefore determine 40% of your grade:

Individual Contributions (40% of your grade):

- Participation in class discussions (quality and frequency)
• Short essays to answer thought questions – they are guidelines for your reading lists and hopefully help you to think things through. You can read the textbook and answer these questions at your own pace, but you have to have all of them completed by midterm – and hopefully earlier than that.

• 360°-reviews of your own and your team members’ contributions (show your performance as a team player and your ability to give fair and constructive feedback about your team members)

**Team assignments (60% of your grade):**

Teams will engage in a variety of activities to understand the invention and its context, to identify the technology’s characteristics and benefits, to research its potential market applications, and to recommend pathways to commercialization. They will report on their findings in presentations and short reports and in a final project presentation.

All materials will be made available and all assignments have to be submitted through PSU’s "Desire to Learn" (D2L) Platform. To learn more about this system and how to access it, please review: http://www.pdx.edu/psuonline. Once you have registered for the course, you can log in with your ODIN account at: https://d2l.pdx.edu.

**Required Reading**

**Textbook**


**Links to Web Sites and Monographs**

1. “Small Biz Stats & Trends” http://www.score.org/small_biz_stats.html
6. LASSONDE CENTER PROJECT EVALUATION: Utah Slanted Electrode Array for Bladder Control, Provided Courtesy of The Pierre Lassonde Entrepreneur Center at the Univ. of Utah. (This can be obtained from the class Blackboard site in Unit 3. Please be aware that this is only to be used for this course and may not be reproduced for other purposes)
Sample course plan (there will be changes to details of the assignment and the speaker line up)

<table>
<thead>
<tr>
<th>Week/Day</th>
<th>Subjects/Activities</th>
<th>Individual Assignments due</th>
<th>Team assignments</th>
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</thead>
</table>
| Week 1 (01/07/13) | • Introductions  
  • Objectives for Entire Course  
  o Entrepreneurial Process  
  o Opportunity Recognition  
  o Definition of Product/Service—“What problem does it solve?”  
  o Business Evaluation  
  o Plan for evaluation, innovation & implementation  
  o How to access startup funds  
  o Operational strategy  
  o Launch  
  **Inventor Concept Presentation**  
  • Inventors will get 15 minutes to present their ideas, followed by 15 minutes Q&A  
  • Teams will be formed and topics chosen | Read:  
  1. Technology Entrepreneurship, Chapt. 1.2.1-2.2  
  **Hand in:**  
  Short essays to answer 3 thought questions about Chp 1 & 2 (final deadline Week 5)  
  Note: Because vital information needed to make project decisions will be presented during the first session, it is critical that all students be present. | |
| Week 2 (01/14/13) | | | |
| Week 3 (01/21/13) | University closed (MLK) | Read:  
  1. Technology Entrepreneurship, Chapt. 3.1.1-3.1.5,3.2-3.5  
  2. “Small Biz Stats & Trends”  
  [http://www.score.org/small_biz_stats.html](http://www.score.org/small_biz_stats.html)  
  3. “Start-up Failure Rates Vary — Choosing the Right Industry” | During the week before the holiday  
  Clarify logistics, get to know each other, and do initial web research to understand your team’s technology base. |
| Week 4  
(01/28/13) | **Learning Objectives:**  
- Methods to recognize opportunities  
- Seeking potential solutions to problems  
- Avoiding initial over-focus in favor of brainstorming  
- Technology Characteristics:  
  - Uniqueness  
  - Scalability  
  - Maturation (Trajectory)  
  - Current players, inventors  
  - Future implementers  
  - Complementary or disruptive?  

**Team Presentations**  
Preliminary Elevator Pitch Presentations
| Read:  
1. **Technology Entrepreneurship**, Chapt. 10.1  
4. LASSONDE CENTER PROJECT EVALUATION: Utah Slanted Electrode Array for Bladder Control
| During the week before class  
Understand how your team’s technology base is different from / better than the current state-of-the-art. Is the technology brand new vs known? What is new and unique?  

**In class**  
Present Preliminary Elevator Pitch (no slides!) describing the technology opportunity (Only the technology—not the market)
| Hand in:  
Short essays to answer 4 thought questions on evaluation criteria (final deadline Week 5) |

| Week 5  
(02/04/13) | **Learning Objectives:**  
- How to “brainstorm” new product concepts. |
| Read:  
| During the week before class  
1. Prepare your first full presentation (with slides) of up |
<table>
<thead>
<tr>
<th>Week 6 (02/11/13)</th>
<th>Learning Objectives</th>
<th>Read:</th>
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<tbody>
<tr>
<td></td>
<td>• How to present a brief “snapshot” of your idea in a winning way – the elevator pitch</td>
<td>1. <strong>Technology Entrepreneurship</strong>, Chapt. 11</td>
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<td></td>
<td>• Have a preliminary understanding of how you will accomplish commercializing the idea</td>
<td>2. “How Entrepreneurs Identify New Business Opportunities”, Knowledge@wharton, <a href="http://knowledge.wharton.upenn.edu/article.cfm?articleid=2370">http://knowledge.wharton.upenn.edu/article.cfm?articleid=2370</a></td>
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<td></td>
<td>Invited Speaker</td>
<td>Hand in:</td>
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<tr>
<td></td>
<td>Speaker from a seed capital venture fund</td>
<td>Short questions to answer 4 thought questions on Chapter 3 and entrepreneurial risk (deadline is this week!!!)</td>
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**Hand in:**
- Short essays to answer 4 thought questions on Chapter 3 and entrepreneurial risk (deadline is this week!!!)

**Invited Speaker Presentation**
Dr. Brian Hatt – Spinning out a new business from university research and how we considered the potential applications

**Team presentations**
Students will give a 5-10 minute presentation on their team’s opportunity choice (where and how to use the technology) and why.

Feedback given on presentation and areas of improvement indicated.

Team works on improvements

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**Invited Speaker**
Speaker from a seed capital venture fund

**Read:**
1. [Technology Entrepreneurship](http://knowledge.wharton.upenn.edu/article.cfm?articleid=2370)

**Hand in:**
- A high level summary of your roadmap is to 10 min length – executive summary of opportunity including potential market and technology opportunities at a very high level.
- Identify ideas to “flesh out” for next presentation
- Begin to assemble the matrix of evaluation criteria for your chosen topic. Decide on team assignments to gather the data.
- Hint: There is generally not enough time in the term for everyone to work on every metric. It is advisable to parcel each one out to one or two people and each person should not have more than two metrics.

**In class**
1. Give presentation on your project
2. Incorporate feedback to improve your presentation

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**During the week before class**
Based on the evaluation you have started last week, prepare your final version of your opportunity selection presentation (5-10 minutes) and a 1-5 page written summary of your decision process (why the team chose the opportunity and why it thinks it will be good commercial prospect).

Create a preliminary “technology maturation & staging roadmap” for your product, including all milestones that must be accomplished, who will do the work, and how they will be accomplished.
<table>
<thead>
<tr>
<th>Team Presentations</th>
<th>Student teams will give the final version of their opportunity selection presentation</th>
<th>to be included in your presentation.</th>
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<tr>
<td><strong>Week 7</strong>&lt;br&gt;(02/18/12)</td>
<td><strong>Learning Objectives:</strong>&lt;br&gt;• How to define the basic idea behind your product – the product concept&lt;br&gt;• The beginning process of defining the business model – what you are selling and why people will want to buy it.&lt;br&gt;• How to capture value through alternative routes to technology commercialization&lt;br&gt;• Market identification</td>
<td><strong>During the week before class</strong>&lt;br&gt;Beginning of market survey:&lt;br&gt;1. Identify current players&lt;br&gt;2. Identify customer value chain&lt;br&gt;3. Identify commercialization route possibilities&lt;br&gt;4. What is the potential total market size and estimate for accessible market?</td>
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| Invited Speakers Presentations | **TBD – Outbound open innovation or Marketing Specialist** |  |

<p>| <strong>Week 8</strong>&lt;br&gt;(02/25/13) | <strong>Learning Objectives:</strong>&lt;br&gt;• Methods to recognize opportunities&lt;br&gt;  o Seeking potential solutions to problems&lt;br&gt;  o Avoiding initial over-focus in favor of brainstorming&lt;br&gt;  o Marketing:&lt;br&gt;  ▪ Market identification and size&lt;br&gt;  ▪ Customer profile&lt;br&gt;  ▪ USP&lt;br&gt;  ▪ Potential problem that product/service solves&lt;br&gt;  ▪ Cost per sale? | <strong>During the week before class</strong>&lt;br&gt;Do customer needs and competitor research:&lt;br&gt;1. Define the “Product Concept” for your project&lt;br&gt;2. State the Value Proposition or the “USP—Unique Selling Proposition” for your product.&lt;br&gt;3. Identify your customers by markets and market segments.&lt;br&gt;4. Indicate how you will capture the “voice of the customer” for your product. |</p>
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<tr>
<th>Learning Objectives</th>
<th>Read:</th>
<th>During the week before class</th>
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| Protecting your assets - understanding the value of IP | 1. *Technology Entrepreneurship*, Chapt. 7  
2. Decide what method works best for each element of the IP.  
3. Establish the uniqueness or “patentability” position by carrying out a USPTO patents database search  
4. Synthesize and overall IP protection strategy  
5. Referring back to last week’s work, integrate it all and come up with a market strategy, including market defense through IP protection.  
6. Identify known competitors—Here a keyword based literature search, and conversations with your inventor will be required. |
| Alternative approaches to commercializing IP | Invited Speaker  
- IP Lawyer  
- Joe Janda, Director of Technology Transfer | 5. Indicate your “channels” or how the product will eventually be sold and delivered to the customer  
(These activities require talking to potential customers!!) |
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<th>Week 10 (03/11/13)</th>
<th>Learning Objectives:</th>
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<tr>
<td></td>
<td>• Putting it together—</td>
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<td></td>
<td>o Will it work?</td>
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<td>o How can we defend it?</td>
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<td>o What will be the next steps?</td>
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<td>Team Assignment:</td>
<td>• Give presentation of Market Assessment, definition and strategy along with written summary</td>
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<td>• Using feedback, begin work on the final integrated presentation of complete opportunity assessment</td>
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<td>• Add final recommendations:</td>
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<td>o “No” it is not an idea that should be pursued and why not. or</td>
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<tr>
<td></td>
<td>o “Yes” it is a good idea, here are the technology and market assessments and recommendations for development</td>
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<td>During the week before class</td>
<td>1. Prepare team presentation of market opportunity summary and IP protection strategy—Presentation should only include these elements.</td>
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<td>2. Make a preliminary estimate of the ASP (Average Selling Price) for your product.</td>
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<td>3. Begin working on integration of entire opportunity assessment into the final presentation. – Assign individual presentation segments to team members</td>
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<td>4. Schedule at least one or two practice “dry run” presentations and try to anticipate questions that will be asked and prepare a few “backup” slides to address them</td>
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<tr>
<td>In class</td>
<td>Give presentation on market opportunity and IP strategy</td>
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<th>Week 11 (03/18/12)</th>
<th>Learning Objectives:</th>
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<tr>
<td></td>
<td>“Dress rehearsal” for final presentations</td>
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<td>(will occur in 1:1 meetings of the teams with the instructor)</td>
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<tr>
<td>During the week before class</td>
<td>1. Prepare the complete commercialization assessment presentation as a “dry run preparation”.</td>
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<td>2. Each team member must present at least one segment of the presentation</td>
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<td>3. Make sure every element in the evaluation matrix has a valid score that you can justify</td>
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<td>4. Try to anticipate the panel’s questions and prepare some backup slides to address them</td>
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| Week 11 (03/19/12) | **Team Presentations:**  
Give final integrated presentations of opportunity to faculty, inventors and a panel of outside experts.  
1. Full up recommendation starting with go/no-go, then in the case of “go”: opportunity analysis, including both technology and market assessment, IP value and suggested protection strategy, marketing strategy and suggestion for commercialization route.  
2. Hand in written executive summary, summarizing your work. Generally this will be a minimum of 5 pages and may be as long as 20. This document should be in terms of content and look, professional in all aspects as it will be referred to frequently by future student teams who may take the opportunity the rest of the way to commercialization. | During the week before class  
Prepare final deliverables for the course; practice presentation |