Managing New High Tech Product Launches  
EGR 590-604 Special Topics in Engineering

Course Overview

This course covers new high-tech product development and launch from the perspective of the technical product manager responsible for developing and launching new products and new lines of business within the high tech firm. Topics cover entrepreneurship and “intrapreneurship”, product management, the entire spectrum of the new products development and launch process starting from concept generation, ideation, concept evaluation, and business case analysis all the way through market testing and product launch. A particular emphasis is placed on the planning and development of a new product for the student’s current employer. Students may also use this course to plan a new start up company if they are not currently employed. Each phase of the new products management process will be covered and illustrated by case studies. Life cycle product management will also be addressed. Students will generate a new product business plan as a course project. 3 credit hours.

This course will be operated as an online asynchronous seminar course. The course covers a wide range of topics and here, they will be addressed through a series of mini case studies. The course consists of 14 weeks. Each week, there will be 2 video lectures. The video should be watched on or about Monday and Thursday, although you can vary this to fit your schedule. You may complete your readings, study and assignments at any time throughout the week. There will be reading every week. After the fourth week of the course, there will be ongoing project work. Twice during the semester, you will be asked to submit a case report.

Prerequisite
Graduate standing with an undergraduate technical degree.

Course Topics Include:

- New Products Planning and Development Process
- Opportunity Identification/Selection and Business Case Analysis
- Concept Generation and Ideation. The IDEO Process.
- Market Research – market size, market trends, market behavior
- Product Design and Positioning
- Development Team Selection and Management. Cross Functional Teams.
- Product Use Testing. Alpha and Beta Testing.
- Launch Management and Market Testing
- Customer Service, Maintenance, Training, Help Desk

Course Format

This course is an online asynchronous course. However, students are expected to remain on the same weekly schedule. The following components are used in this course and are all considered relevant and important:

1. Video lectures with PowerPoint. There is approximately two hours per week of recorded lectures. These are meant to highlight the important concepts in the course and motivate the students. The lectures are not a complete coverage of the course and students are expected to engage in the other course components below.

2. Supplementary readings including textbook, occasional papers and case studies.

3. An online discussion forum where regular engagement in discussion of open ended questions is expected.

4. Occasional supplemental YouTube video clips.

5. Research leading up to a business plan.

This course is not:

1. a course requiring deep technical knowledge or mathematical calculations

2. a purely academic or theoretical survey of traditional topics in product management, but instead it involves the development of a plan of your own

Course Requirements

Expectations:

Your success in the class depends on a mix of learning from others and developing ideas and concepts of your own. The course requires learning from assigned readings, threaded discussions, and a term project to develop a product launch plan. Students are expected to complete reading assignments (available on the course website) before viewing the twice-weekly posted videos. You will need to provide a webcam and headset (earphones and
microphone) to record your final presentation at the end of the course. You must complete the requirements under Grading below.

**Requirements and Grading:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Studies</td>
<td>20%</td>
<td>Two written case reports worth 10 points each</td>
</tr>
<tr>
<td>Participation</td>
<td>20%</td>
<td>Based on 2 participation reports worth 10 points each</td>
</tr>
<tr>
<td>Midterm Quiz</td>
<td>20%</td>
<td>Open book multiple choice quiz containing 20 questions</td>
</tr>
<tr>
<td>Business Plan</td>
<td>30%</td>
<td>10 Page Business Plan with a 10 Chart Pitch</td>
</tr>
<tr>
<td>Project Exercise</td>
<td>10%</td>
<td>Evaluation of others projects playing role of “VC”</td>
</tr>
</tbody>
</table>

**Textbooks**

**Required.** The following book is required reading in the course as assigned by the course syllabus. Each week, specific details about the relative importance of the various topics will be posted through course announcements.

**NEW PRODUCTS MANAGEMENT, 10th Edition** by Crawford and Di Benedetto, McGraw Hill 2011, $110

In addition, a case study has materials that need to be purchased and financial analysis tools are needed. These are provided in the lecture charts, and they are summarized below:

- IDEO Harvard Case Study (approx $10)
- Abrams Electronic Financial Worksheets, $44

The total cost of all required materials for this course (book and case materials) is approximately $165

**References.** The following are References for the course and are “NOT REQUIRED” to be purchased. However, students may want to review some of them in the library.

1. Engineering Your Start Up, by
2. Leveraging the Horizon, by Ed Addison
3. The Art of the Start, by Guy Kawasaki.
4. Product Management, by Haines.
5. Crossing the Chasm, by Geoffery Moore.
6. The Innovator’s Dilemma, by Clayton Christensen.
7. The innovator’s Solution, by Clayton Christensen.
Instructor

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Skype: edaddison214
LinkedIn: Ed Addison

Class Meeting Times

Class is to be offered online via Moodle with captured video lectures. Students will watch 26 lectures of 60-75 minutes each. Lectures will be scheduled for Mondays and Thursdays (you may watch when you want but stay close to the schedule) except for school holidays. Assignments and grading will be synchronized to the scheduled dates, allowing for some slack in the event of business travel. Asynchronous discussions will be active as stated in the schedule by the letters “DQ” for Discussion Question.

Course Project

Each student will complete a new product business plan. This is for a product selected by the student and related to the student’s job or graduate program. Ideally, it is a plan for a new product launch for the student’s employer, but it may also be a new start up company business plan if the student is not employed. A detailed handout on the course project will be provided by the second week of the course. The business plan will be in the form of a 10 chart PowerPoint presentation which must be presented online. The student should also submit the backup research leading up to the final plan including the financial analysis. The elements of the business plan include:

- Product Description
- Background on the business
- The Market Opportunity
- Competition
- Product Positioning
- Market Penetration Plan
- Sales Forecast
- Management and Technical Team
- Capital Requirements
- Return on Investment

In addition, students must play the role of "VC" and evaluate other student's project submissions for “funding” decisions (a fun exercise).
Student Learning Outcomes

Upon completion of this course, students will:

- Understand the principal issues involved in technical product management throughout all phases of the product life cycle.

- Be able to develop, plan and manage with a product management plan that covers design, development, test, marketing and sales, and customer support.

- Be able to use strategic planning tools

- Develop skills in writing business plans

- Be skilled at participating in the development of a strategic plan that relates to organizational objectives for a product or product area including its phase out and replacement at the end of the product life cycle.

- Understand the relationship of supply chain issues and performance as it relates to the product manager’s job.

- Acquire skills at making persuasive presentations

- Be aware of product liability issues, product warranties and their management and product recalls and their impact and management.

- Acquire basic financial management tools needed by product managers.

- Learn about the role of regulatory agencies and administrative law as it affects the provision of products to the marketplace.

- Become exposed to several markets through case studies including pharmaceutical, medical device, software, alternative energy products, electronics, telecommunications and entertainment products. Case studies will be sued so that students can learn the similarities and differences impacting product management in different markets.

Course Schedule and Assignments

A detailed course calendar with specific due dates will be published each term this course is offered. The following outlines the course content and assignments by week
### Course Calendar

**Managing New High Tech Product Launches**  
Term: Spring 2015

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Lecture Date</th>
<th>Text Ref</th>
<th>Assignment</th>
<th>Due Date</th>
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<tbody>
<tr>
<td>1 Course Intro.</td>
<td>1-8-15</td>
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<tr>
<td>2 Strategy. Disruption.</td>
<td>1-12-15</td>
<td>Ch 1</td>
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<td>1-14-15</td>
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<td>4 Market Research</td>
<td>1-22-15</td>
<td>Ch 3</td>
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<td>1-28-15</td>
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<td>5 Creativity and Design</td>
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<td>Ch 4</td>
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<td>2-8-15</td>
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<td>8 Analysis Part 1-2</td>
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<td>Ch 6-7</td>
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<td>9 Business Case Analysis</td>
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<td>12 Test &amp; Screen</td>
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<td>14 Forecasting</td>
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<td>15 Forecasting Tools</td>
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<td>SPRING BREAK</td>
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<td>26 Product Life Cycle</td>
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<td>Evaluation</td>
<td>5-7-15*</td>
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*Late submission not accepted for these items
Policies

Academic Integrity – Students must do their own work except where assignments are stated as group assignments. The University policy on academic integrity can be found in the Code of Student Conduct (POL11.35.01). The Honor Pledge will be used upon submission of each assignment. It is expected that students will tests and assignments with honesty.

Late Assignments – Assignments must be submitted by the due date. Late assignments are reduced 5% per day for up to 5 days. After 5 days, assignments are not accepted.

Posting to Discussion Forums – Discussion forums are an important part of this course. The initial questions will be posted at the beginning of the week, but additional questions may be added at any time. These are intended to be conversations, not solo essays. You are not graded as if it was a homework assignment, but rather you are graded for your active contribution to an intelligent conversation. You need not be comprehensive in your posts. Instead, just keep the conversation flowing and post only one idea at a time. You cannot be engaged in a conversation by waiting until Sunday night and then doing all your posts at once. You should log in periodically and post at least twice per question.