SYLLABUS
University of Massachusetts Lowell
Department of Management

New Product Development
66.630 – Spring 2010
(3 credits)

1 GENERAL COURSE INFORMATION

1.1 Instructor Contact Information

Elena Garcia-Barragan
E-mail Address: Please e-mail me through the course's website only. I will check and respond to e-mail in the evenings but if I have an opportunity during the day, I may occasionally check the e-mail then too. For instructions on how to use Blackboard Vista's mail tool, please visit
http://continuinged.uml.edu/online/tutorial/WebCT/getstarted.htm
Telephone Number, except during office hours, 09:00 AM to 05:00 PM, Massachusetts time (09:00 – 17:00 EST): (508) 572-5766
Alternative e-mail address: elena_garciabarragan@uml.edu

1.2 Pre-Requisites

Enrollment in Master of Science in Innovation and Technological Entrepreneurship or in the MBA program offered by the College of Management.
Otherwise, no pre-requisites ☺

1.3 Required Textbooks and Materials:

K. T. Ulrich and S. D. Eppinger, Product Design and Development, 4th Edition, McGraw Hill, New York, 2008.
Other Reference Material: TBD

Please contact the UML bookstore for information about the books either by visiting the bookstore or by clicking on http://umlowell.bncollege.com.

1.4 Lecture Activation Day

Every Sunday night, so that the course material is available to the students on Monday morning. See '4 'GENERAL COURSE INFORMATION' below.

1.5 Chat Time

I will be available for chatting every week on Thursday from 06:00 PM to 07:00 PM, Massachusetts time (18:00 to 19:00 EST). This gives you a chance to review the material for the week and bring up questions for discussions. If a change in schedule is unavoidable, I will announce it ahead of time via Blackboard Vista e-mail or announcement, with an alternate date.

1.6 Catalog Description

This course will enable students to understand the complexities involved in new innovation and technology-based product development. Through examples and exercises, students will be exposed to such topics as creative problem solving, customer/suppliers/partners involvements and inputs processes, integration among all functions, building and managing cross functional teams, rapid prototyping and development, creating a learning organization and measurements.

1.7 Course Overview

New Product Development is normally associated with IT but it happens in any industry segment! Every time a need is identified where a product does not exist to satisfy this need, an opportunity to develop a new product to target this need presents itself. New Product Development takes this idea (to create a product for an as-yet-not-satisfied need) from the concept towards its implementation. Notice that this includes areas where there are products available but they may not be fulfilling the need.

The process of development for new products is fraught with risk: despite the importance of new products and services to the success of any business, it is a known and well-documented fact that the failure rate among new products is extremely high. Since the well-being of businesses depends largely on their ability to come up with viable new products (lifecycle of products is constantly being reduced), fostering the ability to develop successful new products is critical. In this course, we will explore the new product development process and the various tools and techniques for identifying ideas and opportunities for new products and evaluating market opportunities for turning those ideas into viable products, and for introducing those products to the market.

This course focuses on frequently used techniques of managing or leading the process of new product development, which have been found effective, including new product development processes, and related tools, techniques and organizational structures.

1.8 Course Rationale

The course intends to walk students through the new product development process in a way to help them acquire the skills required for successful product development in today's competitive markets. Students can expect to gain an understanding of the process and of useful tools, techniques and organizational structures that support the process. These tools, techniques and structures are focused on but not limited to new product development and can be applied to innovation in general. Design concepts and techniques will be discussed. There will be a project where students will go through the entire product design sequence and write up a report and present the results.

2 ONLINE INTERACTION GUIDELINES

Please follow the guidelines detailed next and use all available resources to help you achieve your course goals. Additionally, the Continuing Studies and Corporate Education support staff are also available to help with any technical issues that may arise. Please let them know immediately if you run into any trouble with the technology.

2.1 Communication and Participation Guidelines

Interaction for this course will be done using the Blackboard Vista tool's e-mail, chat room and discussion board as discussed below.

2.2 E-Mails

E-mails will only be used for announcement, questions and referential information; they will not be included in grading so please include any information you wish to have considered in your grading in postings on the Discussion Board as applicable. All e-mail interaction will be done using the Blackboard Vista tool.

You need to log on to Blackboard Vista to access your Blackboard Vista E-mail. Please plan to log on once a day to ensure you keep up-to-date with your Blackboard Vista E-mail. I try to log on at the same time every day and find it helpful to remember and keep up with it this way.

IMPORTANT

Since e-mail will not be used for course-specific material, please post your questions on the discussion board and do not send them via e-mail. Thus, if anybody else has a similar question the answer will be visible to all.

2.3 Chat Room Guidelines

- All chatting interaction will be done using the Blackboard Vista tool and attendance is recommended but not included in the grading.
- Please keep subject matter related to course material, particularly the material being covered during the week within which the chat session occurs.
- When you are "talking" to someone in particular, please begin your statement with that person's name, followed by a colon. For example, if you wanted to ask John Smith a question, your statement would look something like: "John: What do you think about..."
- Of course, no profanity. If profanity or any other type of harassment takes place, you will automatically be prohibited from entering any course related chat rooms in the future.

2.4 Questions about Assignments

Please make a point of at least skimming through the material shortly after it is posted so that you have plenty of time to post your questions and get the answers and still have time to complete your assignments on time. Refer to the calendar, also in this syllabus, to see the dates when the week's material will be posted and the due dates for the assignments.

2.5 Accessibility and Feedback

I normally answer all correspondence addressed to me within 24 hours, though occasionally my response is that I will follow up at length later. I will usually respond after work hours or during the weekend, since I have a day job but rest assured that I will get back to you as soon as I can ☺. I have included one of my telephone numbers but please do not call me during office hours unless it is absolutely necessary, as I have a day job that limits the number of non-work related calls that I can receive during those hours.

3 ASSIGNMENT GUIDELINES

3.1 Type of Assignments

There are two types of assignments each week, with the exception of the final week, when there is a final project instead (described a bit later in this document). One assignment type refers to questions related to the material being covered during that week. The other assignment refers to application on this material towards (first) identifying ideas for new products and (later in the semester) working on a specific product for your final project. The idea is to build your final project from the very

beginning of the course while applying what you are learning. The guidelines for each week and the due dates are detailed in the course calendar, at the end of this syllabus. In addition, most weeks will have additional reading material and the questions related to the material being covered during a week will include questions about this additional reading material.

3.2 Assignment Guidelines and Expectations

In order to attain the course objectives, students have to do the following by the due dates, according to the course calendar, also in this syllabus:

- Read assigned material
- Complete assignments on the discussion board and participate in ongoing discussions (40% of the final grade).
- Take an intermediate examination (25% of the final grade).
- Prepare a final project paper (35% of the final grade).
  This final project will be something you will start working on from the beginning of the semester, first to identify and select what you will be working on and then to actually work on the final project.

3.3 Weekly Assignment / Posting Board

Online discussions will be used each week to respond to topics presented when the material for the week is posted. These topics will be related to course material and thus will require that you review and analyze the course contents for the week. In addition to your own answers, you are expected to comment on the postings of your peers. What you post on the discussion board will be graded and will count for 40% of your final grade. The grading of online discussions will be done as described below.

Point Value per Week Posting, for an available grand total of up to 30 points (no posting = 0)

Criteria	**Points**				
The answer to the discussion question was adequate ('Correct' but there is no single correct answer)	5	4	3	2	1
The answer was coherent and cohesive and it was clearly presented.	5	4	3	2	1
Provided meaningful feedback to the answer of one fellow student.	5	4	3	2	1
Provided meaningful feedback to the answer of another fellow student (or more).	5	4	3	2	1
Demonstrated mastery of the subject matter covered by the question throughout all postings related to the question.	5	4	3	2	1
Correct and appropriate grammar, punctuation, spelling, syntax, and word usage were present in all answers.	5	4	3	2	1

Notice that 1/3 of the total points are dependent on your feedback to your classmates.

For all the rows in the previous table, excluding the last one, points will be given based on the following criteria (for the last row, a grammatically and syntactically correct set of postings without any spelling mistakes will rank a 5; anything less will have deductions according to the quality of the postings).

Criteria	Points
Extremely brief postings (50 words or less, average posting) and no elaboration with respect to the assignment. For feedback to peers: no meaningful responses beyond 'I agree / disagree' or 'good comment'.	1
Brief postings (close to 50 words, average posting) and minimal elaboration with respect to the assignment. For feedback to peers: some comments related to peers' discussion response without further elaboration.	2
Each posting is about 50 words in average, and contains adequate content concerning assignment or course content related to it. For feedback to peers: posting contains remarks about peers' writing or discussion response.	3
Each posting is 50 words or more, average, and contains thoughtful, substantive ideas concerning assignment or course content related to it. For feedback to peers: posting contains detailed remarks about peers' writing or discussion response.	4
Same as previous row PLUS posting includes relevant references to outside resources, including specific real-life cases. In the feedback to peers, the feedback expands peers' responses by modifying and further questions.	5

NOTES:

1. Each week's assignment will consist of one or more question but the grading is for the complete week's assignment. Weekly assignments will be posted at the same time as the week's content material and are due within a week. Specific dates and times will be detailed in the course calendar. Please refer to the online interaction guidelines section and the course calendar section of this syllabus for further information.
2. The first week's assignment will not be considered for the course grade but it will still be graded as if it were to ensure you are familiar with the posting system and you have an example of how I will be grading during the course so it is in your best interest that you prepare this week's assignment as you would any other week's assignment.

3.4 Structure and Format of Postings on the Discussion Board

The postings on the discussion board should have a clear and descriptive subject line and be written clearly, correctly and concisely. If there are any attachments present, they should be RTF or Word documents, preferably. Otherwise, PowerPoint or Excel files are also acceptable.

3.5 Overview of the Final Project Paper

The grade of the Final Project Paper will follow similar guidelines to what was described for weekly assignments except for the following (please refer to the calendar, also in this syllabus, for exact dates):

- The project is due on the last Tuesday of the semester at the latest (to give your peers and yourself time to provide feedback from Tuesday to Friday), counts for 80% of the final project's grade (28% of the total grade for the course) and should be presented in the format described below.
- You need to post feedback to your peers' final paper for the remaining 20% of the final project's grade (7% of the total grade for the course). You should at least provide feedback on two final papers. This feedback will be posted on the discussion board and can include document attachments and is due on the last Friday of the semester at the latest.

3.6 Topic of the Final Project Paper

Every week we will be covering one to two chapters of the textbook, which follows the sequence that may new products follow during development. As part of the weekly assignments, you are expected to apply what you learn during the week towards building your final project, which will be a simplified new product development cycle (simplified due to the fact that this is a course and due to the fact that either you will have to select a very simple product concept to be able to cover most of the new product cycle in a semester or you will not be actually 'producing' what you select, except in theory). The first week will be covering introductory concepts and an overview of the new product development process. During weeks two and three we will go over product planning and identifying customer needs and your final project-specific assignment will be to apply these concepts to start identifying possible 'products' for you to select for your final project. Weeks four and five (product specification and concept generation) will help you refine the ideas identified during the previous weeks and weeks six and seven (concept selection and testing) will allow you to finally select the topic of your final project. Similarly, during the rest of the semester we will continue applying each week's concept towards your final project.

3.7 Structure and Format of the Final Project Paper

The Final Project paper will be posted on the discussion board as a document attachment following the format specified next:

- Arial or Times New Roman 12 point font, single line within paragraphs, double line between paragraphs; all margins 1 inch.
- Title Page
- Table of Contents
- Table of Figures (if figures are present)
- Introduction
- Body of the Project Paper / Presentation and Analysis.
- Conclusions / Summary
- Appendix (if needed
- The total number of pages should be between 20 and 30 pages (20 pages without figures).

Failure to conform to these guidelines will result in a reduction of your grade. In addition, late papers will also be marked down a half grade each day (e.g., if the paper is due on a Monday, so an "A" paper on Monday will become an "A-" paper on Tuesday, a "B+" paper on Wednesday, etc..).

3.8 Performance Objectives

Upon completion of the course participants will be able to understand the required cross-functional work to achieve bringing a new product to life and thus will be able to work with technical specialists and business management teams. In addition, students will know and understand steps that are necessary to produce a viable product and will be able to define and achieve both short and long term technical and business goals. They will also understand the no matter how great a plan looks on paper, reality forces companies to adapt accordingly and this is especially true for new product development, particularly within the current rapidly evolving marketplace.

3.9 UML Academic Integrity Policy

At the University of Massachusetts Lowell academic integrity is of utmost importance and thus faculty, staff and students must ensure they are familiar with UML Academic Integrity Policy and follow their guidelines. Please ensure you review this policy at http://continuinged.uml.edu/policies/academicintegrity.htm

4 COURSE CALENDAR

All assignments must be posted on the online discussion board on the due date by noon time (Massachusetts time / EST) at the latest, otherwise they will be counted as 'no posting' = 0 (zero).

The online week for this course runs from Monday to Sunday, Massachusetts time. Thus, each Sunday night I will post the new online week's material and open a new discussion board so that you have it available on Monday morning. I recommend that you plan to skim the materials as soon as you can after I post the material, so that you can post your questions, if any, right away. This will allow you time to get answers and still place the first posting by Thursday at the latest and then any follow up to your posting and your classmates' postings by Friday and any further follow-up no later than Sunday morning. This will allow time for meaningful interaction among all of us.

Week	Date (M-S) Activation Date = Mon.	Topic / Required Reading (Textbook)	Due Date	
			First Posting (Answer)	Later Postings (Feedback)
1	**01/25** – 01/31	Development Processes and Organizations (Chapters 1,2)	Thu. 01/28	Sun. 01/31
2	**02/01** – 02/07	Product Planning (Chapter 3)	**Thu. 02/04**	**Sun. 02/07**
3	**02/08** – 02/14	Identifying Customer Needs (Chapter 4)	**Thu. 02/11**	**Sun. 02/14**
4	**02/15** – 02/21	Product Specifications (Chapter 5)	**Thu. 02/18**	**Sun. 02/21**
5	**02/22** – 02/28	Concept Generation (Chapter 6)	**Thu. 02/25**	**Sun. 02/28**
6	**03/01** – 03/07	Concept Selection (Chapter 7)	**Thu. 03/04**	**Sun. 03/07**
7	**03/08** – 03/14	Concept Testing (Chapter 8)	**Thu. 03/11**	**Sun. 03/14**
--	**03/15** – 03/21	Spring Break	**--**	**--**
8	**03/22** – 03/28	Product Architecture (Chapter 9)	**Thu. 03/25**	**Sun. 03/28**
9	**03/29** – 04/04	Industrial Design (Chapter 10)	**Thu. 04/01**	**Sun. 04/04**
10	**04/05** – 04/11	Design for Manufacturing and Robust Design (Chapters 11, 13)	**Thu. 04/08**	**Sun. 04/11**
11	**04/12** – 04/18	Prototyping (Chapter 12)	**Thu. 04/15**	**Sun. 04/18**
12	**04/19** – 04/25	Patents and Intellectual Property (Chapter 14)	**Thu. 04/22**	**Sun. 04/25**
13	**04/26** – 05/02	Product Development Economics (Chapter 15)	**Thu. 04/29**	**Sun. 05/02**
14	**05/03** – 05/09	Managing Projects (Chapter 16)	**Thu. 05/06**	**Sun. 05/09**
--	**05/10 – 05/16**	**N/A (Finals Week) Final Project Due Dates:**	**TUE. 05/11**	**FRI. 05/14**

The specific weekly assignments will be announced with the week's posting (along with additional reading material) and consist of the following each week, except for the final week when the final project is due:

- Textbook questions: one or two questions will be selected for discussion.
- Questions about additional reading: one or two questions, except where noted
- Questions towards the final project.