

## TENTATIVE SYLLABUS

**Graduate School of Management  
Department of Marketing  
University of California - Davis**

**MGT 241: New Product Development  
Winter 2015**

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**Course Objectives**

Each year, in the US, approximately 30,000 new consumer products (i.e. CPG products) are launched. About 95% of them are failures (see Carmen Nobel (2011), *Clayton Christensen's Milkshake Marketing*). For other product categories the failure rate ranges from 40%-60%. Why is this so? Even though firms have a long history of bringing new products to the market, why do a majority of them fail? As evident from this fact, bringing a new product to market is fraught with uncertainty, and the odds are stacked against you (quite heavily!). While no course can ensure success for every new product introduction you might make, this course will help you think of ways to reduce the possibility of failure – i.e., we will study the challenges of bringing new products to market, and discuss avenues to possibly overcome them. The topics discussed are relevant whether you work for a startup or Fortune 500 firm or whether your firm focuses on the B2B or B2C space. The course focuses on state of the art frameworks, concepts and tools that have been recently validated by innovative companies. We will structure our learning around the following basic steps of the innovation process: Opportunity identification, Idea generation, Product design, Concept testing and Launch strategies. As part of this course you will also learn to deal with multiple entities that speak ‘different languages,’ helping you develop the ability to communicate ideas to the different constituencies involved in the product development process – i.e., you will be the mediator between the customer and the engineer. More information about the course follows.

**Prerequisites**

Marketing Management (MGT/P/B 204)

**Class Rules*****Academic Honor Code***

There are two individual level assignments in this course. You are expected to complete the assignments on your own, without help from your peers – i.e., you are not permitted to work with others *on any aspect* of the individually graded coursework. In case you have questions regarding the material or assignments, I'm available either in my office, by phone or email and will be happy to answer your questions.

***Use of Electronics in Class***

You are allowed to use your laptop/tablet in class – however this use is conditional. You cannot use your laptops for any other activities other than those pertaining to the class. Hence, surfing, emailing, chatting, Facebook visits and other related activities are not allowed. Smartphone/phone use is not allowed in class – you are welcome to step out of class, with my permission, if you need to answer a call.

## TENTATIVE SYLLABUS

**Required Course Material**

New Product Development TextPak, which consists of articles used in the lectures.

**Course Requirement and Grading**

The course requirements and their contribution to the overall grade are as follows:

<b>1. Assignment 1 (HW1)</b>	10%
<b>2. Assignment 2 (HW2)</b>	20%
<b>3. Class Participation</b>	10%
<b>4. Group Project</b>	60% (see below for grade split)
• Project Presentation 1	10%
• Project Presentation 2	10%
• Progress Report 1	10%
• Progress Report 2	10%
• Final Mock-up/Prototype	10%
• Minutes of Meetings	10%

**Individual Component****Assignments 1&2 (HW1 & HW2)**

Each assignment will consist of a case (as specified in the schedule) that will be given to you for your analysis of the issues the case discusses. Assignment questions related to each case will be handed out on the date specified in the course schedule. The due dates for each assignment are also clarified in the course schedule.

**Class Participation**

Meaningful class interactions enhance the learning experience. Hence, I consider class participation to be an important component of your education in this course. A lot of your learning about ideation and the creativity process will come from intensive class discussions – so, I expect that you have read all the articles assigned to each class *prior to the class* and come prepared to discuss your insights about and analysis of the articles. Additionally, feel free to go above and beyond just the class readings – bring articles that caught your attention, any prior experience you might have had with new product development also into the conversation. Conversations that enrich the class discussion are encouraged; at the same time I will discourage conversations that might veer the class off-track. Simply speaking in class without adding constructively to the class discussion will not merit any points. Finally, while I encourage you to voluntarily participate in the class discussion, also expect to be cold called from time to time.

**Group Component**

At the beginning of the course I will assign students to groups that work together for the entire period of the course. *Please note that all group work will be subject to a peer assessment at the end.* Individuals who do not contribute their fair share to the group (*as determined by the group*) will be penalized *on all* their group work. The penalty will be up to a maximum of 1/3<sup>rd</sup> of the group component of the grade (i.e. maximum of 20 points).

**Group Project**

This group project is meant to capture several aspects of the new product development process. First, it will gauge (and strengthen) your ability to work with teams from a diverse set of backgrounds. Your group will engage with a team (assigned in Class 1) from the Bioengineering school. Students in the Bioengineering school are currently, as part of another course, developing a product to meet the demands

## TENTATIVE SYLLABUS

of a particular customer. Your group will work with the team from the Bioengineering school on ways to create the product concept. Think of different ways the product can be used– are there other markets with similar needs? Could there be multiple uses for this product? Can minor modifications to the product create new opportunities beyond the current customer profile? Then, in the second half of the quarter, while the engineering students work on the technical part of the product development exercise, your group develops a marketing plan and launch strategy for the product.

For the marketing plan, you will carry out various standard market research activities that could include, but are not restricted to, interviewing clients and potential customers, gathering ethnographic data, forming price ranges, estimating market potential, analyzing possible competitors, developing a distribution strategy, and suggesting a promotion strategy for market introduction (is a promotion strategy even required?). If possible, run a preliminary concept test with ‘potential customers’. This might not be possible with an actual prototype, but try and judge customer reactions to the concept you develop. All these steps then help you devise a launch strategy for the product.

Finally, apart from accounting for the considerations of your marketing plan in the launch strategy, you must also develop an effective communication plan (message and channel). So your group needs to synthesize and convert the technical advances of the new product being developed into knowledge and benefits easily accessible to the average user of the product.

Remember: *a product is a solution to an existing need of the customer* – sometimes the customer is aware of the need, at other times they are not – it is your job to make this need salient through effective product design, pricing, distribution and communication.

As evident from the above description, this study is self-directed and comprehensive in terms of the different marketing concepts you will need to utilize. There are *6 deliverables* for this project. The *1<sup>st</sup> deliverable* is a **Progress Report #1**. The *2<sup>nd</sup> deliverable* is **Presentation #1**. The *3<sup>rd</sup> deliverable* is **Progress Report #2**. The *4<sup>th</sup> deliverable* **Presentation #2**. For the *5<sup>th</sup> deliverable* your group will design a **mock-up/prototype** of the product you are proposing. This will be due in Class 10 and will be discussed during **Presentation #2** The goal here is to create a 3-d representation of the solution you spent the whole quarter developing. Although you should consult with the engineering students on this mock-up, the objective is for you to complete it yourselves from everyday materials. This is different from the functional prototype the engineering students will deliver in Spring. You will present your findings from **Progress Report #1** and **Progress Report #2** during **Presentation #1** and **Presentation #2**, respectively. I will explain the requirements in **Progress Report #1** and **Progress Report #2** after this section. Finally, for the *6<sup>th</sup> deliverable* please see **page 6** of this syllabus.

All groups will meet with me two times during the quarter (in Week 3 and Week 7). I will set up a Google Document for you to schedule the meeting times. Finally, detailed requirements for Progress Report #1 and #2 are listed below.

## TENTATIVE SYLLABUS

**Progress Report #1:****Due on 2/3**

The focus of this report is on your (i) problem formulation, (ii) client needs assessment and customer-based innovation model, and (iii) an assessment of the state of the art and a competitive analysis.

**Please limit the main text to 12 pages, double spaced, 12 point font. All other information must be in the appendix.**

Progress reports are meant to be detailed, though you are encouraged to be clear and concise in the text and make good use of figures, tables and appendices. While it is good that figures and tables stand alone, don't assume that they will--i.e. highlight important points or summarize in the text. Provide sufficient background material and detail so that someone unfamiliar with your project might understand your motivations. It should include the following items:

**1. Problem formulation/ objective(s).**

Include sufficient background material to allow someone unfamiliar with your project to understand the problem and your motivations--e.g. describe a particular disease state or surgical technique, the current limitations, the end users, environment, etc. This section must include a clear, concise and explicit *statement summarizing the problem and objective(s)*. This is your problem statement, and should stand alone and be self-explanatory. Communicate with the engineering group to see if they have any additional insights you could benefit from.

**2. Client needs assessment and Customer Based Innovation Model.**

The aim here is to incorporate insights from patients/clients into the product design by observing how people use the proposed product. Remember that people are very good at identifying the problem they wish solved, but rarely good at proposing a solution. So it is expected that you will incorporate aspects of individual behavior into the design process. Start by listening to them, identifying the 'pain points' and articulating the outcomes expected from the new product design. Once you articulate these outcomes, obtain their importance ratings so that the most beneficial attributes of the product can be identified and included in your product design. This will be further augmented by creating customer-job maps to 'put-on-paper' how customers currently use the product. This process should also help you recognize potential improvements to the product design. This will be elaborated on in lecture #2 of your New Product Development class. Also include as an appendix a *survey or list of interview questions* that you have generated to aid you in this process. (Include a table or list in the text. Include some indication of prioritization or weighting.)

**3. Competitive Analysis**

This will help you assess the level of competition in the market, identify potential threats and recognize weaknesses in your competitors' products. First define your product space. Then, identify your most important competitors, and then conduct a SWOT analysis of their products. This should help you develop a positioning map indicating the white space available for your product to target. Also investigate patent archives to see what is under development. On this issue, the engineering team should be able to provide you with good insights too.

## TENTATIVE SYLLABUS

**Progress Report #2:**  
**Due on 3/3**

The focus of this report is on the presentation of alternative design concepts as potential solutions to your problem and a systematic screening of those concepts to identify the preferred alternative, and finally a marketing plan.

**Please limit the main text to 15 pages, double spaced, 12 point font. All other information must be in the appendix.**

Progress reports are meant to be detailed, though you are encouraged to be clear and concise in the text and make good use of figures, tables and appendices. While it is good that figures and tables stand alone, don't assume that they will--i.e. highlight important points or summarize in the text. Provide sufficient background material and detail so that someone unfamiliar with your project might understand your motivations. It should include the following items:

**1. Concept Generation and Selection (should be about 3-5 pages)**

Following the client and group meetings, the engineers will generate 3-5 alternative concepts as physical solutions to the problem. As MBAs you are expected to see which one of these concepts would be most favorable as a market outcome. Would other features, if added to the existing product, make the product more valuable or consumer friendly? Be sure to discuss/ illustrate your thought process. I would encourage you to communicate with the engineering group as they too would be required to work on this issue. While their analyses of these issues will be done in greater detail, I would encourage you to understand their concepts and communicate these ideas to a non-technical audience.

**2. Marketing plan (should be about 10-12 pages)**

As part of the marketing plan, you will propose standard product *launch* activities that include, but are not restricted to, forming price ranges, estimating market potential (market size and potential share), analyzing (comprehensively) the competitive landscape and developing a distribution strategy. The price ranges, market potential, and costs associated with product design and manufacture, as well as the costs of your communication plan, should furnish enough information for you to conduct a thorough profit and loss (or break-even) analysis.

Finally, apart from accounting for the considerations of your marketing plan in the launch strategy, you must also develop an effective communication plan (message and channel). So your group needs to synthesize and convert the technical advances of the new product into knowledge and benefits easily accessible to the average user of the product. This should also help you finalize your positioning plan. **The main aim of this marketing plan is to propose a feasible product launch strategy.**

## TENTATIVE SYLLABUS

**Minutes of the Meeting (6<sup>th</sup> Deliverable)**

Finally, this course includes an interdisciplinary element where the MBA and Bio-engineering teams work together to solve the problem they are presented with. To help promote interaction we believe that the two groups must meet (for *at least one hour*) with each other *at least 5 times in the quarter*. At each meeting the MBA group should keep minutes of the conversations, ideas developed and discussed. Once the meeting concludes, email me the minutes and your group's thoughts on the meetings, how you would improve them, restructure them, as well as thoughts on the topics discussed (except for the minutes, please keep your summary to *half-a-page, single spaced*). The minutes should also list all those in attendance at the meetings. A total of *10 points* have been allocated to this deliverable and they will be equally distributed across each submission. Please note that you should email me the minutes the same week the meetings occur.

**Below we present some guidelines for a successful collaboration:**

We are fortunate to be able to provide an interdisciplinary team experience for the BME senior design and MBA New Product Development courses. Everyone must contribute in order for this partnership to work. These types of mixed teams are typical of what you will find in the workplace, so this is an excellent opportunity to prepare you for the workplace. . *Communication* above all is key to a successful experience.

**Guidelines for collaboration**

The reporting structure for the 2 courses has been synchronized to facilitate your interaction. Although you are responsible for separate assignments and deliverables, you will gain the most from this experience if you function as a team to help each other meet your deliverables. Moreover, as there is considerable overlap in some parts of your reports, you will make the best use of everyone's time if you share information, plan client meetings together, etc.

1. First day of class or first meeting (whichever comes first) exchange e-mail addresses and phone numbers
2. Be prompt with replying to communications (same day of receipt preferable)
3. Share data and information
4. Everyone contributes. Collaboration is a two-way street.
5. Meet regularly (at least five times a quarter, or every two weeks)
6. Be flexible in scheduling meeting times
7. Generate and update timelines regularly
8. Schedule client meetings together to optimize use of client time, meet client at least 2 times over the quarter
9. Don't let time pass by with unresolved issues, meet all issues head on and quickly
10. If something is unclear-- ask! Do not make assumptions.

## TENTATIVE SYLLABUS

Course Schedule

Date	Topic
<b>Introduction to the Innovation Process</b>	
1/7	<p>Class Logistics Assignment of groups and projects Meeting with project partners from the Engineering School (<i>Tentative</i>)</p> <p><b>Reading</b></p> <ol style="list-style-type: none"> <li>The Path to Epiphany: The Customer Development Model (Chapter 2, <i>The Four Steps to Epiphany</i>, Blank 2004)</li> </ol>
<b>Identifying Opportunity and Assessing Market Potential</b>	
1/14	<p><b>Readings</b></p> <ol style="list-style-type: none"> <li>Turn Customer Input into Innovation (Ulwick 2002)</li> <li>The Customer Centered Innovation Map (Bettencourt &amp; Ulwick 2008)</li> </ol> <p><i>Supplemental Reading for Progress Report #1</i></p> <ol style="list-style-type: none"> <li>Customer Discovery and Validation for Entrepreneurs (Cespedes, Eisenmann &amp; Blank 2012)</li> <li>Direct Observation: Some Practical Advice (Patnaik &amp; Becker 1999, A Jump White Paper, <a href="http://bit.ly/dsCuq9">http://bit.ly/dsCuq9</a>).</li> <li>Bootcamp Bootleg (<a href="http://stanford.io/ipaPIa">http://stanford.io/ipaPIa</a>)</li> </ol> <p><b>HW1:</b> a. Votizen (A) &amp; (B) (Han &amp; Siegelman 2012) (<b>Due: 1/21</b>)</p>
<b>Design &amp; Ideation</b>	
1/21	<p><b>Readings</b></p> <ol style="list-style-type: none"> <li>Design Thinking. (Brown 2008)</li> <li>Energizing Innovation Through Design Thinking (Cindy Tripp 2013)</li> <li>Design Thinking and Innovation at Apple. (Thomke &amp; Feinberg 2012)</li> </ol>
<b>Empathy &amp; Observational Skills</b>	
1/28	<p>In Class Exercise on Design (100 minutes)</p> <p style="text-align: center;"><b>Concept Testing</b></p> <p><b>Reading</b></p> <ol style="list-style-type: none"> <li>Concept Testing (Dolan 1989)</li> </ol>
<b>Progress Report #1 Due on 2/3</b>	
2/4	<p><b>Presentation #1</b> (of Progress Report #1)</p> <p><i>Groups will present their results till date. Class will work on understanding and potentially improving upon the group's solution</i></p>

<b>2/9 Tentative class meeting with the engineering groups for 1 hour (at 5pm)</b>	
<b>New Product Launch Strategies</b>	
2/11	<p><b>Readings</b></p> <ol style="list-style-type: none"> <li>1. Dropbox: 'It Just Works' (Eisenmann, Pow &amp; Barley 2012)</li> <li>2. TruEarth Healthy Foods: Market Research for New a Product Introduction (Kasturi Rangan &amp; Yong 2009)</li> </ol> <p><b>HW2:</b> Metabical: Pricing, Packaging and Demand Forecasting for a New Weight-Loss Drug (Quelch &amp; Beckham 2010) (<b>Due: 2/25</b>)</p>
2/18	<p><b>Cannibalization - Reading</b></p> <ol style="list-style-type: none"> <li>1. Kookaburra Cricket Bats: Dealing with Cannibalization (Hennessy 2012)</li> </ol> <p><b>Conjoint Analysis</b>  <i>What is Conjoint Analysis?</i></p> <ol style="list-style-type: none"> <li>a. Prior to class visit: <a href="http://bit.ly/f11dqA">http://bit.ly/f11dqA</a></li> <li>b. Also visit: <a href="http://www.sawtoothsoftware.com/solutions/conjoint_analysis">http://www.sawtoothsoftware.com/solutions/conjoint_analysis</a>            Look at their short video tutorial and then demo the conjoint surveys for CBC, ACBC, ACA and CVA. <b><i>Come to class prepared to discuss your understanding of the method.</i></b> Did it work for you? What were your results from the demo? What product recommendations did you receive? How were the questions structured?</li> </ol> <p><i>Why is it used? – Reading</i></p> <ol style="list-style-type: none"> <li>1. A Practical Guide to Conjoint Analysis (Wilcox 2003)</li> </ol>
2/25	<p><b>Reading</b></p> <ol style="list-style-type: none"> <li>1. Alpen Bank: Launching the Credit Card in Romania (Kasturi Rangan &amp; Yong 2012)</li> <li>2. Metabical: Positioning and Communications Strategy for a New Weight Loss Drug (Quelch &amp; Beckham 2010)</li> </ol>
<b>Progress Report #2 Due on 3/3</b>	
<b>New Topics in Innovation</b>	
3/4	<p><b>Collective Intelligence – Readings</b></p> <ol style="list-style-type: none"> <li>1. OpenIDEO (Lakhani, Fayard, Levina &amp; Pokrywa 2012)</li> </ol> <p><b>Class Wrap-up</b></p> <p><i>External Speaker (Tentative)</i></p>
3/11	<p><b>Presentation #2 (of Progress Report #2) + Mock-up/Prototype Due</b></p>