Syllabus - Practices in Product Management

Course Proposal:

A necessity to any great company is a great product. In the new world of fast growing and new technology, excellent products that solve real problems are the launching mechanism to a successful business. All the products you use today: iphone, google search, Uber all went through a rigorous product process before they launched. The objective of this class is to enable your entrepreneurial success, by making sure you are building the best product you can possibly build by following content & learnings from entrepreneurs and product managers at companies.

The class focuses on understanding your customer problems, develop customer research hypothesis, simple MVP tests, a market requirements doc, product requirements, and product vision deck. All of these are very distinct from typical company formation deliverables as they are all geared to the use cases of problems of your customers & your actual product.

To enable your success in your new ventures with classes like NUvention, foundations of product management will give you the rigor you need to go into that class with confidence you are building an excellent product and its time to then focus with the NUvention classes on the business.

The Professor

The class teaches fundamentals of product management, and the professor himself has built over 10 products used by 2 billion people worldwide with a total market cap value of over $3B. His focus is purely on excellent products and product delivery. Example products include:

- Hardware: Climate Corporations IOT device Fieldview Drive used by 60% of all farmers in the US
- Hardware: Google [x] healthcare devices
- Software: Google maps, Google Earth, Google Maps Engine used by over 2 billion people worldwide
- Software: Climate Fieldview Yield Analysis, the #1 farming application on the ipad & iphone
- Software: Uber’s sensor & maps team. The blue dot you see in all map apps.
- Software + Hardware: A diabetes management platform and first cloud based medical record system

Overview of Class:

Product Management is designed as a 101 course for students who lack prior product management experience and who either wish to work in that role after graduation in a tech company, in a startup, or for aspiring founders who want to gain a better understanding of the product development process.

The class goals are simple: 1) Learn how to launch a product 2) Learn how to obtain a top notch product management job in tech.

Students evaluate user needs, specify functional requirements, and create a vision of how a user would experience their product. Students attend weekly sessions featuring skill-building exercises with deliverables due every week on what would be a typical product process at a tech company.

Students enrolled or wanting to enroll in future business start-up classes like, NUvention, will find this course teaches you the tools, process, and will power to build a scalable product. However, this does not replace NUvention which will teach you everything you need to know to launch a business (different than product!).

Although this class teaches content that is heavily focused on web and mobile applications, this should not discourage other individuals interested in building other products/services.
What is Product Management?

Product Managers (PMs) can have a big impact on a technology company's performance. PMs define a product's functional requirements and then lead a team responsible for its development, launch, and ongoing improvement. Practices in Product Management aims to understand the PM role and develop skills required to perform the role by addressing the following issues:

- What is a PM? Why are they necessary in Companies, Start-ups? Are they a mini-CEO?
- What does a PM do and with whom do they work at different stages of the product life cycle?
- What techniques do PMs use to understand customer needs and validate demand for a product?
- What does a PM need to know about user experience design?
- Why do some tech companies require PMs to write detailed product specifications while others do not?
- How do I organize and execute my product build?
- What does a PM need to know about technology, e.g., model-view-controller architecture, APIs, databases?
- How do I become the CEO of a problem and sell my product vision?

Course Deliverables & Evaluation

Working mostly in teams of three to five, students will deliver six major assignments during the term:

1) Research Experiment Plan
2) Market Requirements Document (MRD)
3) Wireframes for their proposed application
4) Product Requirements Document (PRD), with detailed specifications & a mock P&L
5) Reflection essay on lessons learned
6) Final Vision Presentation

There will be weekly readings (most commonly, blog format) and small assignments due in each session. Students will regularly present work-in-progress in class.

Teaching Method: Classes will follow this typical format: Recap of last week, lecture, homework template, company examples, and team working session time

Prerequisites: You will need a strong idea, strong will power, and propensity/drive/passion to execute a web, mobile, or hardware oriented product. The goal is for you to understand your customers, your product, and how to launch and scale. Marketing & Business classes are good prerequisites. A follow-on class can be NUvention.

Evaluation: Grades will be based on the five deliverables above (75%), a final presentation (15%), and class participation (10%).

Grading: Letter (ABCD/NP)

Class Modules

Module 1: Intro to product management. The first module is the first class that dives into an introduction of what product manage at a company is & what success looks like at a tech company in a product role.

Module 2: The market requirements for your product. The market requirements is typical at large corporations and run by cross-functional groups to product. Typically these are operations, marketing, sales or strategy groups that prioritize problems and discover needs & wants of their customers. This module will help you develop the skill set to work with these peers and structure your market requirements document into 4 major components:

1 - Who is your customer & what is their journey? 2 - How to research your customer’s pain points & motivations? 3 - Understanding customer segmentation for your product & interviewing those customers, finally 4 - Developing product personas that will eventually lead to your product feature roadmap
Module 3: Design & MVP. Good design is aesthetic and functional. This module will teach the basics of design, how to create user stories to match your product features & flow, how to design and iterate from wireframes, and how to get to a workable MVP.

Module 4: The product requirements & roadmap. This module focuses on translating your market requirements, design, and user stories into a final source of truth document typically called the PRD. We will dive into the “problem” priorities, your approach for solving those problems, the personas, the design, and also the “solution” stage of how you will build and launch your product.

Module 5: The product evolution. This module focuses on how to evolve your MVP into a v1.0 and beyond. This module will focus working with cross-functional teams, engineers, managing your product post launch, and how to develop your product strategy mindset for continuous value delivery to your users.

Student Participant Requirements

This is a heavy practicum class. One of the key components of this class is your drive & passion around using products. You yourself must be interesting in the problem that you are solving, and scaling the solution to that problem. All candidates for the class should strongly consider the workload of this class as the goal is to get you a job in product management and make sure you are enabled for success once you land that job.

A project suited for Product Management will fit one of two profiles:

1. Your idea is at an early stage of development. You've done enough customer discovery work to have some confidence that you've identified a real customer pain point, and you have some hypotheses about potential solutions. However, these hypotheses haven't yet been tested and you don't have specifications/preliminary designs in hand.

2. You've already launched your website/application, and you are poised to either design a new version or to add significant new features. You have hypotheses about the new version/features, but you haven't tested the hypotheses nor have you completed specification and design work.

3. You have some experience at a company, had an idea that never made it to market, and want to work on that user pain point in class.

Course Syllabus

Useful Course Documents

- **Readings** on product management -- blog posts, articles and books -- organized by topic
- **ProductHunt**
- **Sign-up & read 100PMs**
- **Research Plan Template**
- **MRD Template**
- **PRD Template**
- **Go-To-Market Plan Template**
- **Master Team Project Upload List**

For each class: read the Required Readings and preferably the Recommended Readings.

Before the first class:

- Think of an idea you want to execute. Prepare a 90 second pitch to present on Class 1.
- Ideally teams have to be formed via slack before the first class.

**Class Session:** Fridays, Weekly 9AM - 12PM with team working time included in most class sessions

**Join Class Slack** [here](#)

**Location:** The Garage

**Office Hours:** By appointment only, 48 hrs in advance, and one class will be an individual team "Jam Session"
<table>
<thead>
<tr>
<th>Session Number</th>
<th>Session Name</th>
<th>Module Description</th>
<th>Class Agenda</th>
<th>Date</th>
<th>Assignment Due (5PM before class)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Info Session</td>
<td>General information session about practices in product management class</td>
<td>Info Session Material</td>
<td>9/20/2018</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Course Introduction</td>
<td>Module 1: Introduction. The first module is the first class that dives into an introduction of what product manage at a company is &amp; what success looks like at a tech company in a product role.</td>
<td>Class Logistics Individual Idea Pitches Teams Formation Class Lecture</td>
<td>9/28/2018</td>
<td>Individual: Idea Pitch Individual: List of attributes pro’s &amp; con’s of one software product &amp; Sketch of improvement ideas</td>
</tr>
<tr>
<td>2</td>
<td>The MRD &amp; Customer Discovery</td>
<td>Module 2: The market requirements document. The market requirements document focuses on 4 major components: 1 - Who is your customer? 2 - How to research your customer 3 - Interviewing your customer and 4 - Developing Product Personas</td>
<td>Pre-Class Teams Formed Logistics Check Recap Class Lecture Company Examples MRD Team Working Session</td>
<td>10/5/2018</td>
<td>Discussion: MRD Thoughts Individual: MVP Tests for Beauty on Demand</td>
</tr>
<tr>
<td>3</td>
<td>Customer Research &amp; Customer Interviewing</td>
<td>Module 2: The market requirements document. The market requirements document focuses on 4 major components: 1 - Who is your customer? 2 - How to research your customer 3 - Interviewing your customer and 4 - Developing Product Personas</td>
<td>Logistics Check Recap Class Lecture: Customer Journeys &amp; Personas Company Examples</td>
<td>10/12/2018</td>
<td>Individual: 1 Persona Due with top 3 questions for this persona</td>
</tr>
<tr>
<td>4</td>
<td>Design</td>
<td>Module 3: Design &amp; MVP. Good design is aesthetic and functional. This module will teach the basics of design, how to match up user stories, how to design and iterate from wireframes, and how to get to a workable MVP</td>
<td>Logistics Check Recap Design Lecture Company Examples Balsmiq Demo</td>
<td>10/19/2018</td>
<td>Team: Early Product Presentation Team: Research Experiment Plan</td>
</tr>
<tr>
<td>5</td>
<td>Usability</td>
<td>Module 3: Design &amp; MVP. Good design is aesthetic and functional. This module will teach the basics of design, how to match up user stories, how to design and iterate from wireframes, and how to get to a workable MVP</td>
<td>Recap Class Presentation Company Examples PRD - Team Working Time</td>
<td>10/26/2018</td>
<td>Team: MVC 1-Pager 1-2 user stories Wireframes Content Model Mood Board</td>
</tr>
<tr>
<td>6</td>
<td>The PRD &amp; Execution</td>
<td>Module 4: The product requirements &amp; roadmap. This module focuses on translating your market requirements, design, and user stories into a final source of truth document typically called the PRD. We will dive into the “problem” priorities, your approach for solving those problems, the personas, the design, and also the</td>
<td>Class Presentation Example PRD Walk Through Company PRD Walk Through Working Time</td>
<td>11/2/2018</td>
<td>Team: MRD</td>
</tr>
</tbody>
</table>
“solution” stage of how you will build and launch your product.

7  No Lecture - 2-day workshop Scrum Certification for MEM Students, optional for Farley students
    TA Lecture for those that do not attend  11/9/2018  
    Team: Final Wireframe
    Final MRD

8  PRD & Execution
    & Careers in Product
    Module 4: No product is excellent in the first attempt. Most companies that fail
    believe they can pull a Steve Jobs and launch one excellent product. What they
    do not realize is Steve Jobs was a gigantic fan of usability testing. Testing every
    minor feature, enhancement, UI in order to “get it right”.
    Recap
    Class Presentation
    Company Examples
    PRD - Team Working Time  11/16/2018  
    None

9  PRD Reviews
    Module 4: No product is excellent in the first attempt. Most companies that fail
    believe they can pull a Steve Jobs and launch one excellent product. What they
    do not realize is Steve Jobs was a gigantic fan of usability testing. Testing every
    minor feature, enhancement, UI in order to “get it right”.
    No Lecture
    Team PRD Reviews with Prof (30 minute sessions)  11/30/2018  
    Team: PRD First Draft & Final Vision Presentation
    First Draft

10 Product Evolution
    Module 5: The product evolution. This module focuses on how to evolve your
    MVP into a v1.0 and beyond. This module will focus working with cross-functional
    teams, engineers, and how to develop your product strategy mindset to continuous
    delivery value to your users.
    Final Presentations
    Final Lecture  12/7/2018  
    Team: PRD
    Final Vision Presentation

Reflections
    Please post your essay to Canvas (No In-Class Session on Reflection)  12/7/2018  
    Individual: Reflection

Deliverable Examples & Expectations

<table>
<thead>
<tr>
<th>Deliverable</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>What type of PM are you?</td>
<td>PM Primer</td>
</tr>
<tr>
<td>Vision Statement</td>
<td>Beauty on Demand</td>
</tr>
<tr>
<td>Build your Persona &amp; Mocks Exercise</td>
<td>Sample Personas</td>
</tr>
<tr>
<td>MRD</td>
<td>Dating App  InstaGoGo</td>
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<tr>
<td>PRD</td>
<td>WesTrek TicketSwap</td>
</tr>
</tbody>
</table>
### Class by Class Syllabus [Here](#):

**Course Website:**
https://www.mccormick.northwestern.edu/engineering-management/curriculum/descriptions/490a.html

Join our slack channel, post your idea:
https://join.slack.com/t/mem490/shared_invite/MjEyNTk3OTM2NjYvLmTE0OTk4NzIxMDMtNzdhM2YzNWZkOQ

Why is this class necessary? Read: