INFO 6215: BUSINESS ANALYSIS & INFORMATION ENGINEERING

SOFTWARE PRODUCT MANAGEMENT

SPRING 2024

Instructor:	Shirali Patel, D.Eng.
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Class time:	Tuesday, 6:00 – 9:00 pm
Office Hours:	Virtual, As Requested

Course Description

This is a project-based course that uses a "learn-by-doing" approach to build product management skills for a software system. Assuming a role as a software product development lifecycle manager, students will perform market research, construct business analysis, evaluate system requirements, determine the specific feature functionality, and design the feature compatible with the whole system. This course teaches a balanced approach to software systems engineering, applying both top-down and bottom-up development approaches. It is designed for students who are interested in a product manager's role but have no prior experience.

Course Learning Objectives

Product managers can have a tremendous 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. Upon successful completion of this course, students will build an understanding of the PM role and develop skills required to perform the role:

- Product Management vs Project Management
- Attributes of a Software Product Manager
- Software Product Management Lifecycle
- Software development methodologies
- Understanding market needs, customer demands, and competitive landscape
- Managing system requirements and feature functionalities
- System of Systems integration and interfaces

- Software architecting and design elements
- Data-driven product development approach
- User Experience (UX) design considerations
- Proof of Concept and Proof of Value
- Product Roadmap
- Go-To-Market and Launch with Minimum Viable Product (MVP)
- Deployment and Software Release Lifecycle
- Maintenance and upgrades

Reading Materials

Case Studies: As assigned.

Grading

Class attendance & participation:	14%	(14 classes, 1% each)
Individual Assignments:	50%	(5 Assignments, 10% each)
Project Presentation:	20%	(based on project quality, and faculty evaluation)
Final Exam:	15%	(Full Syllabus)
Class Evaluation & Review:	1%	(Help the professor get better!)

Grading/Evaluation Standards

Late submission of assignments with deadlines will receive credit deductions. The assignment grade is lowered by 1% for one-day delay and 2% after that. No submissions accepted beyond one week after the due date.

Team Project will be graded subjectively on the project quality and learning shown by all the team members during the final presentation. Peer evaluation will also be considered for all team members to rate team participation.

Academic Integrity

All work done for this course that is either written or presented orally is expected and assumed to be the original work of the student. Any material handed in that is copied/pasted from any source whatsoever (including but not limited to books, magazines, and internet sites) and not properly cited will be considered plagiarized. This practice is expressly prohibited, and any student found to have turned in such material will receive an automatic F for this course. No opportunity will be given to any student to re-do any such work.

Class Attendance & Participation

It is important for students to take part in this class by reading the assigned material and coming to class prepared to discuss it. Class attendance is critical for a robust learning experience and is required aside from irrevocable circumstances like sickness or work emergencies. If you are not able to attend a particular class session, please email me in advance. Please note that you are responsible for catching up with the class in your absence; please work within your team to address any material you may have missed.

Professionalism

- It is essential that students are respectful and engaged in class content. During class discussions, be willing to speak up and support your point of view, and—at the same time—be willing to hear what others have to say, even when their view differs from yours. It is important to keep a discussion focused on the topic at hand.
- Please use technology minimally during class. The use of technology other than as necessary for the class is disruptive for you, your classmates, and the instructor. One way to get participation grades is to pay attention and stay focused.
- The grade for this course is determined by how well you do on the team project. Everyone on the team should be working together to get the job done. This includes being there for one another when it is necessary, as well as dedicating time to working together either face-to-face or online. Make sure that each person on the team contributes in a meaningful way, so that everyone has an equal say in decision making, and everyone gets a fair share of the work.

Class	Date	Topic	Discussion Points	In-Class Exercises	Assignment
1	1/9/2024	Introduction	• Role of Product Manager • Product Management vs. Project Management • Software vs. Hardware Product Management • Product Team Structure & Organization	Icebreaker & Introduction	Research and select project topic for the coursework
2	1/16/2024	Software Product Management	• Software Product Development Lifecycle • Software Development Methodologies	Project Topic Discussion	
3	1/23/2024	Business Analysis	• Product Vision • Customer Insights • Addressable Market • Product Demand	EX1: Value Proposition Canvas	
4	1/30/2024	Business Analysis	• Competitive Analysis • Product Strategy • **Guest Speaker**	EX2: Product Comparison	ASSN#1: Product Strategy
5	2/6/2024	Product Planning	• OKRs • Prioritization Framework • Product pricing	EX3: OKRs	
6	2/13/2024	Product Planning	• Business Case • Product Roadmap • **Guest Speaker**		ASSN#2: Product Roadmap
7	2/20/2024	Requirements Analysis	• Compatibility & Interfacing • System Requirements • Feature backlog prioritization framework	EX4: Customer Journey Mapping	ASSN#3: Feature Mapping & Prioritization

8	2/27/2024	Product Design	• System architecture • Design cycle • Functional interfaces	EX5: Design Solutions	
	3/5/2024	**HOLIDAY**	• **Spring Break**		
9	3/12/2024	Product Design	• UI/UX considerations • Language, stack, platform, security measures • **Guest Speaker**	EX6: User Flow / Storyboard	ASSN#4: Design Sprint
10	3/19/2024	Product Development	• Team Oversight • Data-driven development • Software development plan	EX7: Sprint Plan	
11	3/26/2024	Test & Validation	• Proof of Concept & MVP • Proof of Value • Service Validation • Quality Assurance • **Guest Speaker**	EX8: Test Cases	ASSN#5: Software Test Plan
12	4/2/2024	Launch & Deployment	• Launch Considerations • Product-Led Growth • Early Adopters • Go-To-Market	EX9: Go-To-Market Strategy	
13	4/9/2024	Operations & Maintenance	• Customer Success Metrics • Enhancements, bug fixes, new features • Market expansion and adjacencies • **Guest Speaker**	EX10: Product Retrospective	PROJECT ASSN: Team Presentation
14	4/16/2024	Presentations	• Team Presentations		Prepare for Final
	4/23/2024	Final Exam	• Full Syllabus		