



17-619: Product Management Essentials I

Fall 2025, 6 Units

Instructor

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Office and Office Hours

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Office Hours (see Calendar on Canvas)

Course Description. This course prepares students to understand and use essential product management concepts and practices of product innovation. This 6-unit course emphasizes learning-by-doing to achieve the learning objectives. Students will work individually on a hands-on, course-long project focused on a problem space selected by the student and approved by the instructor for course fit.

Students will acquire customer-centric thinking skills to compose a well-defined, worthwhile customer problem to solve; to generate and specify an innovative product solution concept; to design, price and quantify a compelling and differentiated customer value proposition. These skills are used in the early stage of every new product or service idea.

Prior Knowledge. It is beneficial, but not required, for students to have taken an introductory course or have experience in one of the following: business, strategy, marketing, product design, product development, innovation, or entrepreneurship. Most important is a desire to learn product management concepts and to use critical thinking.

Learning Objectives. By the end of this course, students will be able to:

- Identify and recognize essential concepts used in conceiving, describing, and planning new product ideas
- Use the whole problem framework to compose a well-defined customer problem.
- Apply solutioning techniques to generate product ideas, define a product concept from multiple viewpoints, and identify product requirements.
- Apply value-centric concepts to design, price and quantify a customer value proposition that customers find compelling and justifiable to buy/use a product idea.
- Use the customer perspective to analyze competition for positioning opportunities.
- Make market and product focus decisions.

Learning Resources. You'll be provided with the class slides, examples, articles and papers. Each of these items are accessible within the course assignments on Canvas.

Technology Resources. In this course, we will use several technologies:

- Canvas – Our course Canvas site will be the central place for your assignments, learning materials, and the class slides. Make sure you are setup to receive notifications of announcements and of new and changed assignments.
- Slack – Our course's slack channel will be used to communicate and answer questions about the course.
- OLI platform – Specific learning activities have been prepared using CMU's Open Learning Initiative (OLI) software platform. These activities feature low-stake exercises in the form of multiple choice, true/false, multiple answers, and other similar types.
- Google Suite – We'll provide Google Docs and Forms for you to complete various tasks during some course learning activities.

Graded Learning Activity and Assignments. There are several types of activity and assignments in this course to develop a student's competency and to earn points toward a student's final course grade.

In-Class Learning Activity (In-Class Exercises.) In every class session except the first one, there is an exercise to practice applying the concept(s) that were just taught in the class and to hear immediate feedback on selected submissions. These are low-stake exercises.

- There are 12 in-class exercises that are worth 1 point each.
- Students must submit their work DURING the class session to get this point as this course emphasizes learning-by doing.
- The work must show a credible effort to get this point; the correctness or skill will not be graded on these practice exercises.

Post-Class Learning Activity (with Online Exercises.) After most class sessions, there is a mix of assigned readings, videos and online exercises to complete. The online exercises will reinforce the concepts taught in-class and in the readings/videos. These are low-stake, closed-ended online exercises (e.g. multiple choice; matching, true/false) that provide immediate feedback.

- There are 12 modules of online exercises that are worth 1 point each.
- Students will earn 1 point for getting the entire set of online exercises correct by the deadline.
- Students can take an unlimited number of attempts to complete the exercises correctly.

Product Assignments. Each week, students will apply the concepts taught in the preceding classes, readings and videos to their individual project. These are high-stakes assignments. Each one builds upon the work in the previous Product Assignment. Students can make changes to their previously submitted work, but the changes are not re-graded.

- There are 7 Product Assignments worth a total of 80 points.

Flexibility with Attendance, Participation, Assignments and Deadlines. This course recognizes that there are occasions that arise that prevent or reduce a student's ability to attend class and/or complete a graded activity or assignment on-time in a high-quality manner. These reasons include:

- Physical or mental illness or injury
- Personal or family emergency
- Immigration Visa delays
- A competing deadline in another course
- Late finish of another class before a class in this course
- Technology issues
- Transportation issues
- Job interviews and career fairs
- Any other circumstances and unexpected events

As such, the course is already designed to empower all students with significant flexibility – but not unlimited flexibility – to maximize their performance and to achieve the learning objectives. Therefore, students do not need to ask – and should not ask - for an excused absence, a deadline extension, a waiver of late penalties, extra credit opportunities, or another way to make up for lost points. None of these will be granted for ANY reason. Such requests are not necessary because of the following features of the course.

Flexibility for Graded Learning Activity and Assignments.

1. There are 24 learning activities – in-class exercises and online exercise modules – that are worth 1 point each towards the maximum of 20 points on the Learning Activity component of a student's course grade. *This means students can miss up to 4 of these activities without affecting their grade.*
2. There are 4 optional, bonus opportunities to earn points towards the Learning Activity component of the course grade. These bonus opportunities are "AI Workshops" that will be held on 4 Friday afternoons in September and are worth up to 1 point each. *This means that many students will have 28 opportunities to earn the 20 points for the Learning Activity part of their course grade.*
3. A 1-point per Late-Day penalty is applied to the first 6 of 7 Product Assignment submissions that miss the deadline. A "Late-Day" begins one minute after the deadline and ends 24 hours later. *All students are given 3 Late-Day credits at the start of the course. A student's remaining credits are applied by the TA when grading.*
4. For the final Product Assignment No. 7, the deadline is set for the last possible day of the semester and prior to the Fall Break week. *All students are given a grace period of about 3 days to submit their assignment late during Fall Break week without penalty.* The specific details are published on the Canvas site.

Flexibility for Class Attendance and Participation.

- Attendance is not part of the grading in this course.
 - See the above sections on *Graded Learning Activity and Assignments* to know the consequences of missing a class.
- Any student can participate remotely by zoom. However, there are some considerations and implications:
 - We do not use, and will not use, the Zoom room for all class sessions. It is used only during class sessions when sections D and F are participating. See the class schedule for those times.
 - Remote students must have their video turned ON during the entire class to earn credit for their in-class exercise submission.
 - International students have restrictions on the number of courses they can take online during their degree program. The number of class sessions taken online in this course could affect a student's VISA status. Students should consult with the CMU Office of International Education for specific guidance for their specific situation.
- Students can attend a class for a different section of the course as each class covers the same content. However, there will be no credit given for the in-class exercise.

Exceptions. There are the only 2 exceptions to the above policies.

1. Students working full-time. Students who are enrolled in an online degree program (e.g. MSE Online) or enrolled as a local, part-time student are working full-time. These students should work with the instructor at the start of the course to agree to an alternative plan.
2. Extenuating Circumstances. For this course, an extenuating circumstance is one that will affect a student's performance in all their courses and for more than one week. This includes a disability or a physical or mental health situation. The student must provide evidence that they are working with a CMU Student Support organization (e.g. Office of Disability Resources; Counseling and Psychological Services; Office of International Education) and work with the instructor to agree to an alternative plan.

Grading System.

Activity	Final Grade (Points = %)
Learning Activities	20
Product Assignment 1	4
Product Assignment 2	10
Product Assignment 3	14
Product Assignment 4	14
Product Assignment 5	15

Grade	Percentage Interval
A+, A, A-	99-100%, 93-98%, 90-92%
B+, B, B-	87-89%, 83-86%, 80-82%
C	70-79%
D	60-69%
R (F)	59% or below

Product Assignment 6	10
Product Assignment 7	13
TOTAL	100 points

Grades are rounded up or down to the nearest integer. For example, 89.49 rounds down to an 89. An 89.50 rounds up to a 90.

Course Schedule at a Glance. The course schedule including class dates, topics, exercises, and assignments is published on the Canvas site. Below is a summary of the schedule.

Class	Topic
1	Course Overview. Introduction to Product Management.
2	Customer Problem Space – Part 1: Problem Space Framework, the Customer Concept, Job To Be Done
3	Customer Problem Space – Part 2: Outcomes, Problems
4	Customer Problem Space – Part 3: Problem Causes, Customer Journey Mapping, Problem Reframing
5	Customer Problem Space – Part 4: Use Cases, Problem Sizing and Communication
6	Market Space – part 1: Market segmentation
7	Market Space – part 2: Competition and Product Positioning
8	Market Space – part 3: Market and Product Focus Decisions. Solution Space – part 1: Product Idea Generation, Product Concept Outline
9	Solution Space – part 2: Functional Requirements and User Views
10	Solution Space – part 3: Non-Functional Requirements and Context Views.
11	Customer Value Space – part 1: Customer Value, Features/Benefits, Differentiated Value
12	Customer Value Space – part 2: Value Proposition Strategy and Value-Based Pricing
13	Customer Value Space – part 3. Customer Purchase Justification, Total Addressable Market size, and Product Idea Brief.

Accommodations for Students Disabilities. If you have a disability and have an accommodations letter form the Disability Resources office, I encourage you to discuss your accommodations and needs with me as early in the semester as possible. I will work with you to ensure that accommodations are provided as appropriate. If you suspect that you may have a disability and would benefit from accommodations but are not yet registered with the Office of Disability Resources, I encourage you to contact them at access@andrew.cmu.edu.

Academic Integrity. Honesty and transparency are important to good scholarship. Plagiarism and cheating, however, are serious academic offenses with serious consequences. If you are discovered engaging in either behavior in this course, you will earn a failing grade on the assignment in question, and further disciplinary action may be taken.

For a clear description of what counts as plagiarism, cheating, and/or the use of unauthorized sources, please see the [University's Policy on Academic Integrity](#).

If you have any questions regarding plagiarism or cheating, please ask me as soon as possible to avoid any misunderstandings. For more information about Carnegie Mellon's standards with respect to academic integrity, you can also check out the [Office of Community Standards & Integrity](#) website.

Student Wellness. As a student, you may experience a range of challenges that can interfere with learning, such as strained relationships, increased anxiety, substance use, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. CMU services are available, and treatment does work. You can learn more about confidential mental health services available on campus at the [Counseling and Psychological Services](#) website. Support is always available (24/7) from Counseling and Psychological Services: 412-268-2922.

Respect for Diversity. It is my intent that students from all diverse backgrounds and perspective be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength, and benefit. It is my intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture. Your suggestions are encouraged and appreciated. Please let me know if any of our class meetings conflict with your religious observations so that I can make alternate arrangements for you.