

## Assurance of Learning Report – Product Innovation Graduate Programs Spring 2025

The following report includes definitions of program-level learning objectives, qualitative success indicators, and quantitative assessment results and sample material across three courses and corresponding comprehensive projects. The course assessments are drawn from user research in applied environments, product management, and new venture development.

### Product Innovation Program Learning Objectives

<u>Outcome Dimension</u>	<u>What Graduates Demonstrate (sample evidence)</u>
Market Discovery & Opportunity Analysis	<ul style="list-style-type: none"><li>• Systematically surface unmet user needs and problem statements</li><li>• Execute data-driven customer, competitor, and industry analyses</li><li>• Translate insights into clear product requirements</li></ul>
Design, Prototyping & Validation	<ul style="list-style-type: none"><li>• Apply needs-based design methods</li><li>• Build, iterate, and test functional prototypes or working models</li><li>• Use quantitative/qualitative feedback to refine solution fit</li></ul>
Commercial & Financial Strategy	<ul style="list-style-type: none"><li>• Craft and validate business models (revenue logic, cost structure, key metrics)</li><li>• Secure relevant IP protections and outline monetization paths</li><li>• Develop robust go-to-market plans covering positioning, channels, and launch tactics</li></ul>
Project Leadership & Persuasive Communication	<ul style="list-style-type: none"><li>• Plan and manage cross-functional product initiatives using modern project/product-management practices</li><li>• Communicate complex technical, financial, and strategic ideas clearly to stakeholders (investors, engineers, customers, executives)</li></ul>

### Program Success Indicators

Early indicators show positive impact on the first graduating cohort from the Master of Science in Product Innovation since its inception in Fall 2023. Survey results from five (of six) graduates report the following:

- Employment: 5/5 currently employed
- Job Promotion: 3/5 received a job offer or promotion since beginning of the program
- Product Launch: 2/5 launched a new product/business since beginning of the program
- Funding: 1/5 received funding towards new product/business
- Patent: 1/5 have applied or received patent protection

- Business Plan Competition Results: Numerous teams have earned top placement and prize money at business plan competitions across the U.S. and internationally, including the Arkansas Governor's Cup Business Plan Competition, Mississippi State University's Startup Summit, Stu Clark's New Venture Championships, Rice Business Plan Competition, and the Bangkok Business Challenge. Recent award winning teams include Humimic Biosystems, PulseArk Technologies, and Lapovations.

### Assurance of Learning Report – Product Innovation Graduate Programs

<b>Semester &amp; Year:</b> Spring 2025	<b>Degree Program Name:</b> Master of Science in Product Innovation
<b>Course Name:</b> User Research in Applied Environments	<b>Course Number:</b> SEVI 54203
<b>Faculty Name:</b> Kate McLean	<b>Number of Students Assessed:</b> 10
<b>Assessment Method:</b> Final Report – Journey Map & Vision Concept	
<b>Improvement Activities, Suggestions, Plans (required if results are below 80%, encourage all other times):</b>	

### Assessment Results:

SEVI 54203

<b>Market Discovery &amp; Opportunity Analysis; Design, Prototyping &amp; Validation; Project Leadership &amp; Persuasive Communication</b> <i>Goals: Rated on a scale of 1-3, 1 being Fail to Meet Expectation, 3 being Exceed Expectation</i>	<b>Exceed Expectation</b>	<b>Meet Expectation</b>	<b>Fail to Meet Expectation</b>
	8/10 (80%)	2/10 (20%)	0/10 (0%)

### Assessment Material – Final Report: Journey Map & Vision Concept

SEVI 54203

#### Research Project: Self-Care

In today's fast-paced world, self-care is increasingly recognized as a crucial element for maintaining physical, emotional, and mental well-being. However, the concept of self-care is highly personal and varies significantly across different populations. This research project seeks to explore self-care practices through a human-centered lens by focusing on the needs, motivations, and challenges of diverse individuals, with the ultimate goal of advancing our understanding of self-care and developing solutions that are both effective and meaningful.

### Example Research Questions:

- How might we enhance morning routines through innovative products and services that boost productivity, elevate mood, and improve overall well-being for individuals?
- How might we help working parents prioritize and incorporate effective self-care routines into their busy schedules?
- How might we design tools or resources that enable college students to manage stress and maintain consistent self-care habits during peak academic periods?

### Key Objectives

#### 1. Human-Centered Research

Conduct in-depth research to understand diverse morning routines, considering factors such as age, occupation, and lifestyle. Identify pain points and opportunities for improvement.

#### 2. Ideation & Conceptualization

Generate creative ideas for products or services that address the identified pain points and enhance the lives of your target audience. Consider aspects such as efficiency, delight, and overall well-being.

#### 3. Presentation

Prepare a compelling presentation and pitch that showcases your understanding of user needs, the uniqueness of your solution, and the potential positive impact on users' lives. SEVI 54203 – User Research in Applied Environments

### Deliverables

- Journey Maps

Goal: Construct a narrative that illustrates key stakeholders goals, needs, and frustrations. Maps are a synthesis of your research and should follow the journey and interactions of one or more archetypes rather than represent findings from an interview of one individual.

Overview: A Journey Map leverages deep research and storytelling to identify key insights into a process, system, or experience. Steps of the experience are arranged into a visual narrative that shows the flow of the interactions as well as the points of friction.

#### Benefits:

- Illuminate complex interdependencies to support effective solution development
- Identify key opportunities for change or improvement
- Produce a strategic roadmap grounded in rigorous research

- Vision Concepts

Goal: Develop an insight-driven collection of solution concepts to guide future strategy and solution development.

#### Overview:

- A Vision Concept is a cross between a high-level solution concept and a light

roadmap. It leverages research insights to establish a compelling, functionality-based narrative that can be used to guide future research, strategic planning, or more focused solution development.

- Each vision concept presented should be directly informed by these findings, demonstrating how the research has shaped and guided the development of the concept. For each vision concept, at least five distinct design implications must be articulated. These implications should translate the SEVI 54203 – User Research in Applied Environments research insights into practical, actionable design strategies that can be applied to create more effective, user-centered solutions.

#### Benefits

- Quickly develop and prioritize solution concepts for future planning
- Establish a shared vision for the future, grounded in research insights
- Develop a strong platform for future roadmapping

#### ● Presentation

Goal: Create a cohesive narrative that seamlessly links research insights to design outcomes, demonstrating the value of a research-driven approach to design.

#### Overview

- Effectively convey a clear and compelling narrative that connects the research findings to actionable insights and design implications. It should begin with an overview of the research objectives, methodology, and key findings, providing a thorough understanding of the context and the specific needs, challenges, and opportunities uncovered during the research process. See the provided case study document for reference.
- It must not only highlight the innovative aspects of each concept but also clearly show how the design implications address the identified needs and challenges, ensuring that the proposed solutions are both relevant and impactful.

#### Benefits

- Leverage storytelling to share learnings and strategies with your audience
- Make it easier for stakeholders to understand how to translate research into concrete strategies
- Build credibility with stakeholders, fostering trust and increasing the likelihood of buy-in and support for the proposed concepts

## Assurance of Learning Report – Product Innovation Graduate Programs

<b>Semester &amp; Year:</b> Spring 2025	<b>Degree Program Name:</b> Master of Science in Product Innovation
<b>Course Name:</b> Product Management	<b>Course Number:</b> SEVI 52403
<b>Faculty Name:</b> Stephen Kinkaid	<b>Number of Students Assessed:</b> 16
<b>Assessment Method:</b> Final Report – Product Requirements Document	
<b>Improvement Activities, Suggestions, Plans (required if results are below 80%, encourage all other times):</b>	

### Assessment Results:

SEVI 52403

<b>Market Discovery &amp; Opportunity Analysis; Design, Prototyping &amp; Validation; Project Leadership &amp; Persuasive Communication</b> <i>Goals: Rated on a scale of 1-3, 1 being Fail to Meet Expectation, 3 being Exceed Expectation</i>	<b>Exceed Expectation</b>	<b>Meet Expectation</b>	<b>Fail to Meet Expectation</b>
	16/16 (100%)	0/16 (0%)	0/16 (0%)

### Assessment Material – Final Report – Product Requirements Document

SEVI 52403

#### Objective:

Create a comprehensive Product Requirements Document (PRD) that articulates a new product idea within a business context. This document should align with the organization's strategic direction and provide detailed insights into the proposed product.

#### Format:

- Maximum of 6 pages, excluding any artifacts you choose to add to the appendix.
- Font size should be at least 10pt.
- Use a mix of paragraphs and bullet points for clarity.
- Include any artifacts, visuals, and supporting material in the appendix.

#### Sections to include:

##### Idea Title:

- Provide a succinct and descriptive title for your product idea.

**Introduction:**

- Purpose/Problem Statement: Offer a concise overview of your idea, establishing the context.
- Key Elements: Include a brief description of the core concept, its relevance, its potential impact on the organization, and a summary of benefits for the persona or customer.

**Outcome Hypothesis and Goals:**

- Explanation of Outcome Hypothesis: Define and purpose your outcome hypothesis, ensuring it's specific, measurable, relevant, realistic, time-bound, evidence-based, and aligned with organizational strategy.
- Goals Section: Detail specific objectives and desired key results, alignment with organizational strategy, measurable targets, a timeline for achievement, and priority ranking.

**State of the Business:**

- Purpose: Provide an overview of the current business environment relevant to your idea.
- Key Elements: Market analysis, internal capabilities, competitive landscape, relevant trends and changes, performance metrics, opportunities, and challenges.

**Jobs-to-be-Done:**

- Purpose: Identify and articulate the 'jobs' the product or service fulfills for customers.
- Key Elements: Identification of customer jobs, context, customer segmentation, alignment with product or service features, gap analysis, and customer feedback or research.

**Strategic Priorities and Roadmap:**

- Purpose: Outline the action plan for implementing the idea.
- Key Elements: Define strategic priorities, actionable steps, a prioritized roadmap for implementation, risk management and contingencies, and stakeholder engagement.

**User Stories**

- Write user stories in the format: *"As a [user type], I want [goal], so that [reason]."*
- Include acceptance criteria for each story.
- Group stories by features or workflows.

**Technical Requirements**

- List system, performance, or scalability requirements.
- Include APIs, integrations, or platforms to support.
- Collaborate with engineering for accurate details.

**FAQ:**

- Address common questions about feasibility, impact, required resources, risks, and contingencies.

**Appendix:**

Include links to artifacts, Business Requirements, Business Impact Analysis Workbook, prototypes or lo-fi mocks, diagrams, charts, user-journey maps, etc.

**Submission Guidelines:**

Ensure that each section of your PRD is well-structured, clear, and concise, providing valuable insights into every aspect of your proposed product idea.

Your PRD should reflect a deep understanding of the product management process, displaying creativity, strategic thinking, and alignment with business objectives.

Submit your document in the specified format by the given deadline.

This assignment is designed to challenge you to think critically and creatively, applying your knowledge of product management principles to a real-world scenario. Your document should not only propose a viable product idea but also convincingly present its potential for success within the context of the organization's goals and market dynamics.

Good luck, and we look forward to seeing your innovative ideas come to life through your Product Requirements Document!

## Assurance of Learning Report – Product Innovation Graduate Programs

<b>Semester &amp; Year:</b> Spring 2025	<b>Degree Program Name:</b> Master of Science in Product Innovation
<b>Course Name:</b> New Venture Development (Practicum)	<b>Course Number:</b> SEVI 5401V
<b>Faculty Name:</b> Phil Shellhammer & David Hinton	<b>Number of Students Assessed:</b> 8
<b>Assessment Method:</b> Final Business Plan & Pitch	
<b>Improvement Activities, Suggestions, Plans (required if results are below 80%, encourage all other times):</b>	

### Assessment Results:

SEVI 5401V

<b>Market Discovery &amp; Opportunity Analysis; Design, Prototyping &amp; Validation; Commercial &amp; Financial Strategy; Project Leadership &amp; Persuasive Communication</b> <i>Goals: Rated on a scale of 1-3, 1 being Fail to Meet Expectation, 3 being Exceed Expectation</i>	<b>Exceed Expectation</b>	<b>Meet Expectation</b>	<b>Fail to Meet Expectation</b>
Business Plan	5/8 (63%)	3/8 (38%)	0/8 (0%)
Pitch	7/8 (88%)	1/8 (13%)	0/8 (0%)
Overall/Average	75%	25%	0%

### Assessment Material – Final Business Plan & Pitch

SEVI 5401V

### Business Plan Components

<b>Executive Summary (10 points)</b>
Description of red hot pain
Market size
Market growth
Product/service benefits



Competitive advantage
Key management team members
Summary financials
Offering
Projected exit valuation (if appropriate)
Succinct
Exciting
<b>Score if final draft: /10</b>
<b>Company Overview (5 points)</b>
When founded and circumstances
Organization form
Mission
Vision
Strategy
Goals and Objectives
Specific
Timeline
Funding needed to reach milestones
Current status
<b>Overall evaluation:</b> Have you communicated your goals, your strategy to achieve those goals, and your short-term objectives. Has your company made progress toward reaching your goals?
<b>Score if final draft: /5</b>

<b>Product/Services (10 points)</b>
Description of what the pdt/service is
Description of how the pdt/service is used
Description and evidence of superiority of pdt/service over competitors' pdts/services
Description of benefits of the pdt/service
Degree to which it alleviates pain
Customer recognition of benefits
Current demand for benefits
Payback period
Can you show market acceptance for your product/service?
Discussion
Reality of market acceptance
Is the pdt/service attractive to a reseller?
Description of key events that must occur before product/service is developed
Discussion of resources (money, technological breakthroughs, contracts, personnel) needed for these to occur
Discussion of proprietary advantage - how hard would it be for others to imitate?
Discussion of product/service extension
<b>Overall:</b> Have you communicated what your product is, why your customers need its benefits, and why your product is better than the alternatives?
<b>Score if final draft: /10</b>

<b>Market and Competitive Analysis (10 points)</b>
Size of market and target market
Description
Real investment potential
Market growth
Market capacity (is there room for a new entrant)
Real Market Opportunity
Identification of competitors
Discussion of competing companies' strengths and weaknesses
Discussion of why customers would buy from you rather than from competitors
Competitive advantages of your company (not your product/service)
Attractiveness given competitive situation
Industry Trends
Social and cultural
Demographic
Technological
Economic
Political/legal
International
Other

<b>Overall:</b> Have you demonstrated that you understand the market in which you compete? Have you demonstrated that you understand where the market is going in the future?
<b>Score if final draft: /10</b>
<b>Management Team (10 points)</b>
Discussion of team background
Reality of team expertise
All major functions covered
Discussion of who is taking care of which key functions
Board of Advisors discussion
Board of Advisors reality
Discussion of compensation/options for non-student members
<b>Overall:</b> Would an investor be confident that your team, once the gaps are filled, can build a successful business?
<b>Score if final draft: /10</b>
<b>Operating Strategies (10 points)</b>
Production strategy
R&D
IP
Personnel
Identification of number of employees needed to execute strategy
Compensation strategy

Financing strategy
Marketing
Information on target market
Descriptions of sales tactics to reach them
Distribution strategy
Pricing strategy
Advertising
PR strategy
Packaging (description and challenges)
Service and warranty
Descriptions of operating strategies
Reality of ability to execute
<b>Overall:</b> Have you demonstrated that you know how to make your product and get it to your customers? Do you understand your go-to-market strategy and have you included the cost to reach your customers in your financial statements?
<b>Score if final draft: /10</b>
<b>Critical Risks (10 points)</b>
<i>Technical</i>
key tests fail/delayed
scale-up issues
Patent not issued
Patent challenges
Software doesn't work

Efficacy
Regulatory challenges
<i>Market</i>
CAC higher than expected
Sales lower/slower than expected
Macroenvironmental changes (social, technological, economic, international pressures)
Small player can't get noticed by buyers/suppliers
<i>Competitive</i>
price pressures
raw materials/supply chains tied up
strong competitive response
<i>Management</i>
Management inexperience/key member dependence
<i>Other Risks</i>
<b>Overall:</b> Do you understand the major risks confronting your business and do you have a plausible way of mitigating those risks?
<b>Score if final draft: /10</b>

<b>Sources and Uses of Funds (2.5 points)</b>
Identification of funding already received
Identification of funding needed
Identification of uses of funding
Clarity of presentation
Reasonableness of sources and uses
<b>Score if final draft: /2.5</b>
<b>Offering (5 points)</b>
Appropriate amount being requested
Rounds of funding identified
Structure of offering (debt/equity)
Discussion of exit strategy
Valuation at exit
Comparables
Explanation of how derived (multiples)
Attractiveness of exit valuation
<b>Score if final draft: /5</b>
<b>Financial Assumptions (5 points)</b>
Justification for revenue projections
Justification for COGS
Justification for expenses, especially marketing (consumer goods), R&D (high-tech), and salaries

Explanation of treatment of A/P. (Realistic reflection of when suppliers demand payment.)
Explanation of treatment of A/R. (Realistic reflection of how long until you will get paid.)
Explanation of other balance sheet figures
Explanation of unusual figures
Other
<b>Score if final draft: /5</b>
<b>Income Statement (5 points)</b>
Are revenue numbers reasonable?
Is revenue growth reasonable?
Are marketing expenditures high enough? (especially important for consumer products)
Are R&D expenditures high enough? (especially important for high tech)
Do you have the number of employees needed to support revenue projections?
Have you included payroll taxes/benefits?
Have you included insurance?
Have you included interest expense/income?
Are other likely expenses covered?
Are there funds for misc expenses (SIF)?
Have you included taxes (corporations)
Do margins make sense? (industry comparison?)



<b>Score if final draft: /5</b>
<b>Cash Flow Statement (5 points)</b>
Has net income been reconciled correctly?
Has investment activity been covered correctly?
Has financing activity been covered correctly?
Have tax payments/distributions for taxes been included?
Does ending cash from one period equal beginning cash for next period?
Is there a cash cushion to cover late payments and unexpected expenses?
Does cash on cash flow equal cash on balance sheet?
<b>Score if final draft: /5</b>
<b>Balance Sheet (2.5 points)</b>
Do assets equal liabilities plus equity?
Are A/R handled correctly?
Are A/P handled correctly?
Is there sufficient inventory to support revenues?
Is depreciation/amortization handled correctly?
Is debt reflected accurately (short-term and long-term)?
Is income from income statement cumulated in retained earnings?

Have distributions been made to cover tax liability (LLCs)?
<b>Score if final draft: /2.5</b>
<b>Financials overall:</b> Have you communicated that you understand the financial resources needed to build your company? Have you provided evidence that your investors can get a good return given the level of risk with your business?
<b>Writing (10 points)</b>
1 inch margins, 12 point font, double-spaced, left justified, 25 pages body max, 10 pages appendix max
Written in first person, active voice
Table of contents, page numbers
Sections clearly labeled
Well-organized paper
Interesting sentence structure
Minimal redundancies
Few, if any, spelling errors
Few, if any, grammatical errors
Easy to read
Exciting to read
<b>Writing score: /10</b>

## Pitch Components

Team:	Notes	Points Possible
Clear explanation of problem you are solving (mapped to your paying customer)		5
Clear explanation of your solution (product or service) and value proposition		5
Believable competitive analysis (including your team & competitive advantage)		5
Clear description of competitive advantage		5
Clear explanation of how your customer discovery shaped your business model		5
Visual design of slides and overall flow of presentation		5