

3000747 Healthcare Innovation and Entrepreneurship

Group Project Instructions

1. Overview

In today's rapidly evolving healthcare landscape, clinical expertise alone is no longer sufficient to drive systemic change. Healthcare innovation and technopreneurship empower clinical science students to move beyond the "how" of treating individual patients to the "why" and "who" of broader healthcare delivery and business models. By integrating entrepreneurial skills, medical professionals transform from pure clinicians into holistic innovators capable of identifying unmet patient needs, navigating complex regulatory realities, and improving health outcomes at scale. Whether launching a health-tech startup or leading quality improvement within a major hospital system, entrepreneurship education provides the essential toolkit to turn clinical insights into real-world, accessible solutions.

In this semester-long group project, you will transition from "Clinical Science Students" to "Healthcare Startup Co-Founders." The goal of this project is not just to conceptualize a medtech product, but to build a sustainable business case in healthcare setting. Working in teams, you will identify a real-world problem (pain point) within clinical workflows, patient care, digital health, medical devices, or therapeutics. You will then apply the principles of healthcare innovation to develop a solution, validate it with real users (patients, providers, or stakeholders), and build a Minimum Viable Product (MVP)—whether that is a digital health wireframe, a MedTech benchtop prototype, or a formulated functional supplement.

By the end of the semester, your team will pitch your startup to a panel, demonstrating not only that your solution improves care (Clinical and Technical Feasibility), but that there is a sustainable, scalable market for it (Business Viability).

Weight: 40%

2. Project Requirements

A. Team Formation

- Form a team of: 2 Students (Suggested)
- Select a "CEO" (Team Lead) to coordinate submissions on MyCourseVille.

B. The Problem & Solution (Scope)

- Sector: Your startup idea must solve a problem using an engineering solution and Technology.
- Constraint: The solution must be a physical product or a hardware-integrated system (not just a mobile app).

C. The MVP (Minimum Viable Product). You must prove your concept is viable.

- For Digital Health
 - UI/UX Design: A detailed, high-fidelity digital model (using Figma, Sketch, Adobe XD, etc.) of your core application or a critical user journey (e.g., patient dashboard, provider interface).
 - Digital Prototype: A "looks-like" or "works-like" prototype. This can be an interactive clickable mockup, built using no-code/low-code/vibe-coding tools or a basic coded version using mock up.
- For MedTech
 - Engineering & Systems Design: A detailed 3D CAD model (using SolidWorks, Fusion360, etc.) for physical components and a systems architecture diagram mapping out how sensors, electronics, and software will integrate.
 - Prototype: A "works-like" physical model (often called a breadboard prototype). This typically combines 3D-printed or machined housings with off-the-shelf sensors, microcontrollers (e.g., Arduino), and actuators to simulate the core medical device.
- For Nutraceuticals & Herbal Extracts (Focuses on functional foods, botanical therapeutics, and standardized health supplements).
 - Formulation & Process Design: A detailed process flow diagram for the extraction method (e.g., specifying solvents, temperatures, and equipment) and a documented formulation recipe for the final delivery method (capsule, gummy, tincture, powder).
 - Lab-Scale Prototype: A small-batch physical sample of the extract or the final formulated supplement. This acts as the "looks-like/tastes-like" prototype.
- For the rest, please contact the instructor to discuss.

D. Business Validation

- Customer Discovery: You must interview or survey potential users/stakeholders (2 potential users per 1 student) to validate that the problem is real. Then, present a summary table of feedback received and how to incorporate it into your MVP.
- Business Model: Complete a Business Model Canvas (BMC) detailing your value proposition, customer segments, and revenue streams.

E. Final Deliverables

- Pitch Deck (PDF): A 10-12 slide investor presentation covering all lecture modules.
Note: the page count excludes the cover pages; animation is permitted; and the backup should not exceed five pages.
- Validated results from the interviewing/demonstrating with the potential users (2 potential users per 1 student)
- 5-7 Minute Video: A demo video showcasing the problem, your solution, and the conceptual prototype in action.
- MVP: Bring your prototype or equivalent to the final class for the showcase.
- Final Report (1000-word count excluding references and infographics): A summary of your journey, validation data, and technical specifications.

Note on AI Usage: Students are required to strictly follow the course guidelines regarding the use of Artificial Intelligence tools.

Note on references: All information sources, including AI-generated content, must be properly cited using APA format (see full instructions here <https://guides.lib.monash.edu/apa-7/getting-started/in-text-citation>).

3. Grading Rubric (Total 40%)

Criteria	Weight	Details
Problem-Solution Fit	10%	Is the problem real? Does the solution actually address the problem based on customer insights?
MVP	5%	Quality of design; Feasibility and quality of the prototype;
Validation Evidence	5%	Did they conduct the user testing or experiment with the user using a prototype? Do they plan to improve the product feature using the user feedback (e.g., "We changed the design because user X said Y").
Business Viability	10%	Evidence of market needs and a viable Business Model
Presentation & Pitch	10%	Clarity, storytelling, and persuasion skills