

Indian Institute of Technology Kanpur New Course Proposal

Experimental Course Proposal

Course Number: BSE668

Course title: Healthcare Ventures & Enterprises II

Per Week Lectures: 1 lecture/6 lab hours

Course Duration: Full semester

Proposing Department: BSBE

Other Departments/IDPs which may be interested in the proposed course: Design Dept

Other faculty members interested in teaching the proposed course: Mr. Srikant Sastri (Visiting Prof. of Practice), Prof. J.Ramkumar, Prof. B.V. Phani

Proposing Instructors: Prof. Amitabha Bandyopadhyay

Lecture Duration: 1.5 hours, Mondays 5–6:30 PM

Class size: 30 (B. Techs; M. Techs & PhDs)

Teaching hours: 14 classes \times 1.5 hours = 21 hours + Lab/workshop = 14 \times 3 = 42 hours

Course Description:

A) Objectives: This is the second course that will expose students to the world of healthcare innovation. Having worked closely with clinicians, and observed customer behavior in the previous course, students will now convert their updated hypotheses and ideas into prototypes- and where possible- experience the full journey of building a 'minimum viable product' (MVP). Students will also get exposed to key business concepts, and understand what it takes to be market-ready & investor-ready. They will continue to see how fundamental principles of innovation are universally relevant, *whether at a start-up, or as a new unit in a big company*. This course is in consonance with the recently-adopted 'Student Entrepreneurship Policy'; it prepares students for entrepreneurship through structured learning and hands-on experience.

B) Course Content:

Class#	Broad Topic	Topics	Duration (hours)
1 & 2	MVP & prototyping readiness	Taking stock of final MVP design and prototyping plans. Creating detailed execution plans	3
3 & 4	Business models & moats	Monetisation strategies & creating long-term competitiveness. IP strategy	3

5 & 6	GTM & Marketing strategy	Structured frameworks for go-to- market strategy. Innovative marketing approaches	3
7 & 8	Regulation & government	Regulation, a necessary evil. Doing business with government	3
9 & 10	Financing & funding strategy	Assessing how much funding is required. Funding sources, and their relevance	3
11 & 12	Stock-taking & peer review	Peer review and learning in the class where experiences from prototyping & MVP are shared	3
13 & 14	Pitching & storytelling	Learning the techniques to pitch successfully to investors, customers & employees	3

Prototyping and MVP Execution – Venue - The MedTech Centre of IIT Kanpur

Time of the days – As is needed basis. The facility will remain accessible between 9 AM and 9 PM on all days other than Sundays. Total hours – 14 x 6 = 84 hours in the semester

Pre-requisites: Students should have completed the Part-I summer course (BSE667). They must continue working in teams, with complementary skill sets (A team must ideally have two persons with strong technical skills, one with business analysis skills, and one person with sales/marketing mindset)

Summary: Healthcare innovation will drive quality and affordable healthcare in the post-Covid world. Rapid technology changes (especially AI & digital health) are enabling dramatic new products and services globally. Modernisation of healthcare infrastructure in India, as also import substitution, is driving medical device innovation in India. *Success begins with first developing ideas for products and services (whether physical or digital) that are based on real clinician and market insights These ideas then need to get translated into actual products and services whose initial prototypes & MVPs get tested in the market, while simultaneously building business expertise.*

Reference books:

Required Readings: How to be a Founder (Bloomsbury); The Storyteller's Secret (Macmillan); The Ventilator Project (Pan Macmillan).

Assessment:

Assessment Criteria: One mid-semester (group) presentation; a final presentation & submission; Class participation