

**Title:** Introduction to Innovation & Entrepreneurship **Course Code:** EP200XX

**2<sup>nd</sup> Year Breath Elective:** Offered by Rajendra Mishra School of Engineering Entrepreneurship in both Autumn and Spring Semesters.

**Objectives:** To sensitize students on the prospects, opportunities, and challenges in entrepreneurship and the potential for value creation from prospective ideas. The introduction to a project-based learning approach from Ideation to Innovation and Entrepreneurship will be the key process considered here. Learning the essential concepts of innovation and entrepreneurship through hands-on activities and the best and most relevant practical examples will be a key goal of the course.

**Expected outcome:** Students getting aware of how to make technology and process driven innovations for solving problems and how to convert their ideas into marketable solutions. The participants of the course are likely to be motivated to explore entrepreneurship as a career option based on any project idea they desire to work with or they have in mind.

**Mode of delivery:** 3 contact hours per week

1-2 lecture hours /week followed by 2-1 hours/week sessional/design/ brainstorming sessions in sessional/tutorial/project mode.

The emphasis in this course is on project-based learning leading to innovative products or services design. All activities will be based on some case studies provided by faculty members in various domains and conceptualizing a minimum viable product based on the ideas proposed by students in groups.

**Net credits = 3**

Will be offered to a section of maximum 50 students in each semester. (Autumn and Spring).

**Prerequisite:** Interest in innovation and solution building, DIY Lab grade (students scoring A or higher will be given preference), communication skills and GPA.

**Course coverage / Content:**

**3 Modules:**

**A. Product Innovation and Design Thinking**

**B. Business strategies and market options in Innovation**

**C. Entrepreneurship concepts**

Topic	Description	Hours*
1. Entrepreneurial motivation/ Introduction	Taking product or service ideas to creating value: Why should one choose to become an entrepreneur, Entrepreneurial mind-set, Intrapreneurship	1+2
<b>Module A</b>		<b>13</b>

2. Design Thinking and Affordable Innovation	Introduction to engineering design process and the concept of frugal engineering for developing innovative affordable products, effective user-interface	2+2
3. Product Innovation	Introduction to the bottlenecks of new product innovation process	2+2
4.. Digital Technology Entrepreneurship	Industry 4.0 landscape and innovations using digital technologies like AI, IOT, AR/VR, Cloud, SAAS, User Applications. The basic technology framework and development platforms	2+2
5. Analytics-based opportunities	Entrepreneurship in Data Analytics	1
<b>Module B</b>		<b>14</b>
6. B Plan	An overview of Business Plan Development, Preparing Business Concept Document	1+1
7. Going to market Strategy	Understanding and delivering Value, Product- Market Matrix, Delivery Strategy with a Difference	2+2
8. Startup Economics	Economic consideration for starting a venture, Understanding Feasibility analysis	2+2
9. Market considerations for startups	Understanding market, targeting customer and positioning product	2+2
<b>Module C:</b>		<b>6</b>
10. Factors influencing success of a business	Business model innovation, Business process management , competitive advantages, Business model canvas	1+2
11. Funding options of your business	Bootstrapping, angel investors, incubation and acceleration, concept of break-even point	1+2
	<b>Total Hours</b>	<b>36</b>

\*Each topic has 1 or 2-hour lecture module and two hours of class activity involving presentations, discussions, brainstorming sessions etc.

### **Evaluation/ grading criteria:**

Endsem (written exam and presentation evaluation): 40%,

Midsem: 30 % (based on written exam)

Continuous evaluation: 30% (based on interim brainstorming presentations, reports, class room interaction)

### **Books/References:**

- i. Entrepreneurship –by *Robert D. Hisrich* (Edition-9)
- ii. Entrepreneurship- Theory, Process & Practice –by *Kuratko & Hodgetts*, Thompson South-Western Publication
- iii. Innovation and Entrepreneurship – by *Peter Drucker*, Harper Collins
- iv. Technology Entrepreneurship Taking Innovation to the Marketplace – by *Thomas N. Duening, Robert D. Hisrich and Michael A. Lechter*, Elsevier

- v. Entrepreneurship Simplified – by Ashok Soota & S. R. Gopalan, Penguin
- vi. The Design Thinking Playbook: Mindful Digital Transformation of Teams, Products, Services, Businesses and Ecosystems Paperback – Illustrated, 29 June 2018; by Michael Lewrick , Patrick Link, Larry Leifer
- vii. Bloomsbury Design Thinking Understanding How Designers Think and Work 2019 Edition by Prof. Nigel Cross
- viii. The Art of Innovation, by Tom Kelley
- ix. Insight Out, by Tina Seelig
- x. Change by Design, Tim Brown