

 Estd. 1962 "A++" Accredited by NAAC (2021) With CGPA 3.52	SHIVAJI UNIVERSITY, KOLHAPUR 416 004, MAHARASHTRA PHONE : EPABX – 2609000, BOS Section – 0231-2609094, 2609487 Web : www.unishivaji.ac.in Email: bos@unishivaji.ac.in शिवाजी विद्यापीठ, कोल्हापूर ४१६ ००४, महाराष्ट्र दूरध्वनी - इपीबीएक्स - २०६०९०००, अभ्यासमंडळे विभाग : ०२३१- २६०९०९४, २६०९४८७ वेबसाईट : www.unishivaji.ac.in ईमेल : bos@unishivaji.ac.in	 शिवाजी विद्यापीठ	 शिवाजी विद्यापीठ
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SU/BOS/Sci & Tech/ ४८

Date: 02/01/2024

To,

The Director,
 Departments of Technology,
 Shivaji University,
 Kolhapur.

Subject: Regarding new syllabus of **B. Tech. Programme (Department of Technology)** under the Faculty of Science and Technology as per National Education Policy 2020.

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that the university authorities have accepted and granted approval to the New syllabus B. Tech. under the Faculty of Science & Technology as per National Education Policy 2020.

B. Tech. Programme (Department of Technology)

Sr. No	Course Title		Credit
1.	Innovation and Entrepreneurship	OPEN ELECTIVE	3

B. Tech all Branches syllabus and Rules, Regulation, Guidelines, Structure and equivalence shall be implemented from the academic year 2023- 2024 onwards. A soft copy containing syllabus is attached herewith and it is available on university website www.unishivaji.ac.in. (Online Syllabus).

You are, therefore, requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Yours faithfully,


Dr. S. M. Kubal
 Dy. Registrar

Copy to:

1	The I/c Dean, Faculty of Science & Technology	6	Appointment Section
2	The Chairperson, Respective Board of Studies	7	Affiliation Section (T.1)
3	Director, Examination and Evaluation	8	Affiliation Section (T.2)
4	Eligibility Section	9	P.G.Admission Section
5	O.E. – 4	100	P.G Seminar Section

SHIVAJI UNIVERSITY, KOLHAPUR.

DRAFT SYLLABUS FOR OPEN ELECTIVE FOR ALL PROGRAMS UNDER SCIENCE AND TECHNOLOGY, COMMERCE AND MANAGEMENT AND HUMANITIES FACULTIES

Course Title:	Innovation and Entrepreneurship
Credits:	3
Teaching scheme:	L- 03, P:--, T:--, IOE:00, IPE:00, EOE:00, EPE:00
Examination:	100 marks, 3 Hrs duration.
Course prerequisites:	No pre-requisite
Skill imbibed:	Cognitive: Understand, Apply, Analyze, Synthesize, Evaluate Affective: Awareness, Respond, Value, Organize Psychomotor: Imitation, manipulation, articulation
Course rationale:	The world demands innovative entrepreneurs who can navigate uncertainty, identify and solve complex problems, and create value through creative and sustainable solutions. This course equips students with the knowledge, skills, and mindset to become such entrepreneurs, covering idea generation, prototyping, innovation types, business development, social responsibility, intellectual property, commercialization, and startup development. By exploring the innovation ecosystem and various entrepreneurial opportunities, students gain the tools and confidence to launch impactful ventures and become catalysts for positive change.
Course Description:	This course will equip students with the knowledge, skills, and mindset to become innovative entrepreneurs. The course will cover a wide range of topics, including idea generation, prototyping, technological and non-technological innovation, entrepreneurship, social innovation, intellectual property rights, commercialization, startup development, the innovation ecosystem, pre-incubation and incubation stages, entrepreneurial opportunities.
Course Objectives:	Upon completion of this course, students will be able to: <ul style="list-style-type: none"> • Identify and evaluate innovative ideas. • Develop prototypes and test their feasibility. • Understand the different types of innovation and their potential impact • Develop entrepreneurial skills and mindset
Course Structure:	The course will consist of six modules. (Only Lectures) AND related assignments requiring hands-on work under a mentor.
Course outcomes:	Upon completion of this course, students will be able to: <ul style="list-style-type: none"> • Think creatively and come up with innovative ideas • Develop prototypes and test their feasibility • Understand the different types of innovation and their potential impact • Apply entrepreneurial principles to solve real-world problems • Protect their intellectual property.
Syllabus:	Module 1: Introduction to Innovation and Entrepreneurship [07] Defining innovation, Types of innovation: incremental, radical, disruptive, The innovation process, Factors that drive innovation, Defining entrepreneurship,

	The entrepreneurial process, Characteristics of successful entrepreneurs, Brainstorming, Design thinking process.
	Module 2: Idea Generation and Prototyping [07]
	Techniques for brainstorming and generating ideas - Criteria for evaluating innovative ideas, Market research and feasibility analysis, Identifying potential customers and partners Developing and Testing Prototypes - The purpose and importance of prototyping, Different prototyping methods and tools, Creating low-fidelity and high-fidelity prototypes, User testing and feedback collection, Iterating and refining prototypes based on feedback.
	Module 3: Entering into market [07]
	Attaining Market-Product Fit: Prototype Designing Process and Tools for Development of Minimum Viable Product (MVP), Application of Design Thinking Tools and Approach for Right Problem Identification and Solution Development
	Module 4: Understanding the process [07]
	Understanding Technology Readiness Level (TRL), Manufacturing Readiness Level (MRL) and Investment Readiness Level (IRL) Stages & Implications in Innovation Development, Innovation Management Process, Types of IPR, Patents, patent requirements, what is not patentable, general procedure for filing patents in India, KAPILA scheme.
	Module 5: Business plans and execution [07]
	Business Plan Development: Components and Stages in Business Plan Development, Validation of Business Opportunity: Application of Market Research Tools at the Early Stage of Startup. Generation and Management of IP at the Early Stage of Innovation and Startup Development, Legal Structures and Ethical Steps in Establishing Startups. Social Entrepreneurship, Blue Ocean Strategy-I, Blue Ocean Strategy-II
	Module 6: Start-up and its working. [07]
	Start-ups, Definition, requirements, company act, opportunities and schemes, benefits of start-up formation, start-up registration process., funding opportunities, incubators and accelerators- roles, responsibilities and partnership, infrastructure. Funding, government schemes, Investments – need, sources, VC, angel investments. Start-up life cycle., documentation and recording., NISP and its features.

Textbooks:

1. 8 Steps To Innovation: Going From Jugaad To Excellence, Collins India, 2013. ISBN: 9789350293584
2. National Student and Faculty Startup Policy 2019. Government of India.
3. Pavan Soni, “Design Your Thinking - The Mindsets, Toolsets and Skill Sets For Creative Problem Solving”, Penguin Random House India Pvt. Ltd. 2020, ISBN: 9780670094097.
4. Intellectual Property, A primer for academia, Prof. Rupinder Tiwari, Mamta Bharadwaj, Publication Bureau Panjab University Chandigarh.
<https://dst.gov.in/sites/default/files/E-BOOK%20IPR.pdf>

Reference books:

1. Innovation and Entrepreneurship, Peter F. Drucker, Harper Business; Reprint, 2006, ISBN: 9780060851132.
2. The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses, Crown Currency; Illustrated, 2011. ISBN: 9780307887894.
3. Innovator's DNA, Updated, with a New Preface: Mastering the Five Skills of Disruptive Innovators, Harvard Business Review Press; Revised, 2019. ISBN: 1633697207.
4. Wiley Innovation Black Book Enterprise 4.0, 2020.
5. Problem-Solving", Penguin Random House India Pvt. Ltd. 2020, ISBN: 9780670094097
6. HBS series on Innovation and Entrepreneurship
7. Startup India KIT pdf. https://www.startupindia.gov.in/content/dam/invest-india/Templates/public/Startup%20India%20Kit_Digital_Jan19.pdf
8. <https://www.startupindia.gov.in/>

Online Swayam / NPTEL e-resources:

1. Innovation and Start-up Policy By Prof. Rahul K. Mishra | IILM Institute for Higher Education https://onlinecourses.swayam2.ac.in/imb20_mg22/preview
2. Innovation, Business Models and Entrepreneurship, By Prof . Rajat Agrawal and Prof. Vinay Sharma | IIT Roorkee https://onlinecourses.nptel.ac.in/noc19_mg55/preview
3. Design Thinking - A Primer, By Prof. Ashwin Mahalingam & Prof. Bala Ramadurai | IIT Madras, https://onlinecourses.nptel.ac.in/noc19_mg60/preview
4. Introduction to Intellectual Property By KAPILA IPR committee | IIT Kharagpur, https://onlinecourses.swayam2.ac.in/aic21_ge20/preview