

**Name of the Programme:** M.Sc. Biotechnology

**Course Code:** GBT-525

**Title of the Course:** BIOENTREPRENEURSHIP

**Number of Credits: 2**

**Effective from AY: 2022-23**

<b>Pre-requisites for the Course:</b>	No prerequisite is required.
<b>Course Objectives:</b>	Research and business belong together and both are needed. In a rapidly developing life science industry, there is an urgent need for people who combine business knowledge with an understanding of science & technology. Bio-entrepreneurship, an interdisciplinary course, revolves around the central theme of how t <ol style="list-style-type: none"> <li>1) to manage and develop life science companies and projects.</li> <li>2) to teach students about concepts of entrepreneurship including identifying a winning business opportunity, gathering funding and launching a business, growing and nurturing the organization and harvesting the rewards.</li> </ol>
<b>Content:</b>	<div style="text-align: center;"><b><u>MODULE I</u></b></div> <ul style="list-style-type: none"> <li>Fundamentals of Entrepreneurship.</li> <li>Mission, vision, entrepreneurial qualities.</li> <li>How to innovate, Design Thinking, Design-Driven Innovation, Systems thinking, Open innovation, How to start a start-up? Statutory and legal requirements for starting a company/venture (IPR, GST, Labor law), E business setup, management.</li> <li>Dos &amp; Dons in entrepreneurship.</li> </ul> <p><b>Business plan:</b></p> <ul style="list-style-type: none"> <li>Making a business proposal/Plan for seeking loans from financial institution and Banks; Approach a bank for a loan; Sources of financial assistance; Funds from bank for capital expenditure and for working.</li> <li>Funding new ventures – bootstrapping, crowd sourcing, Angel investors, VCs, debt financing, and due diligence, Incubation and acceleration, Government incentives for entrepreneurship.</li> <li>Budget planning and cash flow management;</li> </ul>
	<b>No. of hours</b>
	15

	Negotiations/Strategy With financiers, bankers etc.; Profit & Loss statement, Balance sheet, Cash flow, Cost-volume-profit & Bread-Even analysis, Capital budgeting.	
	<p style="text-align: center;"><b><u>MODULE II</u></b></p> <p><b>Marketing management:</b></p> <ul style="list-style-type: none"> <li>Assessment of market demand for potential product(s) of interest; Market conditions, segments; Prediction of market changes; Identifying needs of customers including gaps in the market, packaging the product; Market linkages, branding issues; Developing distribution channels; Pricing/Policies/Competition; Promotion/Advertising; Services Marketing Dispute resolution skills</li> </ul> <p><b>Human Resource management in start-ups:</b></p> <ul style="list-style-type: none"> <li>Human Resource Development (HRD) Leadership skills; Managerial skills; Organization structure, pros &amp; cons of different structures; Team building, teamwork; Appraisal; Rewards in small scale set up. External environment/changes; Crisis/Avoiding/Managing; Broader vision–Global thinking.</li> </ul>	15
<b>Pedagogy:</b>	Lectures, tutorials, assignments	
<b>References/Readings:</b>	<ol style="list-style-type: none"> <li>D. J. Adams, &amp; J. C. Sparrow, Enterprise for Life Scientists: Developing Innovation and Entrepreneurship in the Biosciences. Bloxham: Scion, 2008.</li> <li>A. J. Byrne, World Changers: 25 Entrepreneurs Who Changed Business as We Knew it. New York: Penguin, 2011.</li> <li>Jordan, J. F. Routledge., Companies: Creating Value and Competitive Advantage with the Milestone Bridge. Innovation, Commercialization, and Start-Ups in Life Sciences. London: CRC Press, 2014.</li> <li>V. Desai, The Dynamics of Entrepreneurial Development and Management. New Delhi: Himalaya Pub. House, 2009.</li> <li>J. Lynn, The Entrepreneur's Almanac: Fascinating Figures, Fundamentals and Facts at your Fingertips. Canada: Entrepreneur</li> </ol>	

	<p>Media Inc, 2007.</p> <p>6. D. Ramsey, Entre Leadership: 20 Years of Practical Business Wisdom from the Trenches. New York: Howard Books, 2011</p> <p>7. C. D. Shimasaki, Biotechnology Entrepreneurship: Starting, Managing, 2014.</p>
<b>Course Outcomes:</b>	<ol style="list-style-type: none"> <li>1. Students should be able to gain entrepreneurial skills, understand the various operations involved in venture creation.</li> <li>2. Students will be able to identify the scope for entrepreneurship in biosciences and utilize the schemes promoted through knowledge centers and various agencies.</li> <li>3. The knowledge pertaining to management will help the students to be able to build up a strong network within the industry.</li> <li>4. Students will be able to relate and develop entrepreneurship venture with biotechnological products they studied.</li> </ol>