

Subject Description Form

Subject Code	ABCT5112
Subject Title	Capstone Project
Credit Value	3
Level	5
Pre-requisite	Nil
Co-requisite	Nil
Exclusion	Nil
Objectives	<ol style="list-style-type: none"> 1. Translate theoretical understanding to real-world biopharmaceutical case studies and scenarios. 2. Develop interdisciplinary problem-solving and innovation through team projects. 3. Cultivate effective communication of complex scientific and business concepts. 4. Formulate and present comprehensive biobusiness plans, considering various strategic elements. 5. Navigate through different funding avenues and comprehend capital acquisition strategies in biobusiness.
Intended Learning Outcomes	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"> a) collaborate effectively within a team, demonstrating both leadership and cooperative skills, to successfully manage and execute group projects. b) develop and articulate strategic plans for biopharmaceutical startups, including market analysis, operational strategy, and risk management. c) apply multidisciplinary knowledge from course modules to solve challenges presented in biopharmaceutical case studies. d) apply ethical considerations and sustainability principles to decision-making in the development and commercialization of biopharmaceutical products.
Subject Synopsis/ Indicative Syllabus	<p>The Capstone Project is an integrative and experiential learning subject where students apply their foundational knowledge from the program to solve real-world problems in biobusiness. Through case studies and group projects, students will delve into various aspects like strategic planning, regulatory compliance, ethical considerations, and commercial viability within the biopharmaceutical and biotechnological sectors.</p>

	<p>1. Introduction to Biobusiness Challenges:</p> <ul style="list-style-type: none"> - Overview of common challenges in biobusiness. - Exploration of case studies highlighting various obstacles and opportunities in the biopharmaceutical industry. <p>2. Strategic Planning in Biobusiness:</p> <ul style="list-style-type: none"> - Principles of strategic planning specific to biotechnology startups and established companies. - Case analysis and strategy development. <p>3. Regulatory and Ethical Compliance:</p> <ul style="list-style-type: none"> - Understanding regulatory frameworks and ethical considerations in biobusiness. - Developing strategies to navigate through regulatory pathways and ethical dilemmas. <p>4. Commercial Viability and Market Strategy:</p> <ul style="list-style-type: none"> - Assessing commercial viability of biotechnological products/services. - Developing and evaluating market entry and expansion strategies. <p>5. Project Management:</p> <ul style="list-style-type: none"> - Principles and tools for effective project management. - Managing timelines, resources, and stakeholder expectations. <p>6. Group Projects:</p> <ul style="list-style-type: none"> - Analyzing real-world biobusiness cases. - Developing solutions and strategies addressing the specific challenges presented in the cases. <p>7. Presentations and Discussions:</p> <ul style="list-style-type: none"> - Group presentations of strategic plans developed for the cases. - Peer and instructor feedback sessions, fostering a collaborative learning environment. <p>8. Reflection and Learning Integration:</p> <ul style="list-style-type: none"> - Reflecting on the learning and experiences gained through the capstone project. - Integrating knowledge across different subjects of the program and applying it in practical scenarios.
<p>Teaching/Learning Methodology</p>	<p>Lectures, Tutorials, Assignments, Group Projects, and Presentations</p> <p>1. Individual Assignment (Essay) – rooted in scenario-based learning, serves as a pivotal assessment tool to evaluate students’ critical thinking skills within the context of tangible, real-world biobusiness scenarios. This method ensures that students not only grasp theoretical knowledge but also effectively apply this understanding to navigate complex, practical situations they might encounter in the biopharmaceutical industry. By dissecting and analyzing given scenarios, students demonstrate their ability to synthesize information, make informed decisions, and foresee potential implications, thereby showcasing their preparedness to tackle genuine challenges in their</p>

	<p>future careers.</p> <p>2. Group Project - centered around detailed case studies, is designed to cultivate the students' abilities to collaboratively gather and assimilate information, seek expertise, and make informed decisions within the biopharmaceutical industry context. The objective is to nurture their investigative and analytical skills, prompting them to explore various facets of biobusiness scenarios. Engaging with experienced professionals and leveraging their insights, students will navigate through real-world challenges, developing strategies and solutions that are not only theoretically sound but also practically applicable, enhancing their readiness for the diverse, dynamic challenges of the biopharmaceutical industry.</p> <p>3. Presentation - students will delve into historical case studies exploring notable failures or controversies within the biotechnology industry. Each group will select a specific case, thoroughly analyze the factors that contributed to its unfavorable outcome, and identify the key lessons learned. Furthermore, students will utilize their knowledge in biopharmaceutical development and commercialization to devise strategic interventions that could have potentially altered the original trajectory of the case. This involves proposing robust scientific, regulatory, and business strategies that address the identified challenges and prevent collapse. The presentation will not only be a reflection on historical events but also a forward-looking analysis, encouraging students to apply learned theories to practical scenarios and envision innovative solutions for sustainable biotechnology business management.</p>
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Assessment Methods in Alignment with Intended Learning Outcomes	Specific assessment methods/tasks	% (weighting)	Intended subject learning outcomes to be assessed (Please tick as appropriate)			
			a	b	c	d
	1. Essay	50			√	√
	2. Group Project	25	√	√	√	
	3. Presentation	25	√	√	√	
	Total	100 %				
<p>Students are allowed to use GenAI tools to support their writing of and essays. If GenAI tools are used to support their essay writings, students must declare the use of such tools and how they have been used in the assessments. It should be noted that submitting a work generated by GenAI, in part or in whole, as your own (even in paraphrased form) constitutes an act of academic dishonesty; it is no different from asking another person to write your assignment or claiming others' ideas as yours.</p>						

Student Study Effort Expected	Class contact:	
	▪ Lecture	21 Hrs.
	▪ Tutorial	18 Hrs.
	Other student study effort:	
	▪ Assignment	50 Hrs.
	▪ Presentation	30 Hrs.
	▪ Project	15 Hrs
	Total student study effort	115 Hrs
Reading List and References	Khan, F. A. (2014). Biotechnology in medical sciences. CRC Press/Taylor & Francis Group. ISBN : 1482223678 (hardcover)	