

Subject Description Form

Subject Code	ABCT5105
Subject Title	Ethics and Management in Life Sciences
Credit Value	3
Level	5
Pre-requisite	Nil
Co-requisite	Nil
Exclusion	Nil
Objectives	<p>This subject aims to educate the students about the following important topics related to ethics and management in life sciences:</p> <ol style="list-style-type: none">1. Ethical Frameworks: Explore the major ethical theories and principles that underpin decision-making in biotechnology. Topics to be covered include bioethics, medical ethics, environmental ethics, business ethics and social responsibility.2. Ethical Issues in Biotechnology: Examine the ethical implications associated with emerging biotechnological advancements such as genetic engineering, stem cell research, bioprospecting, biosecurity, and human enhancement.3. Regulatory and Legal Landscape: Understand the regulatory frameworks and legal considerations governing biotechnology at the international, national, and local levels, including intellectual property rights, patents, and ethical guidelines.4. Business Ethics, Corporate Social Responsibility: Assess the role of biotechnology companies in promoting social welfare, sustainability, and ethical practices, and develop strategies for integrating corporate social responsibility into biotech business models.5. Ethical Decision-making: Develop analytical and critical thinking skills to evaluate ethical dilemmas in biotechnology and apply ethical decision-making frameworks to resolve conflicts between scientific progress, societal concerns, and individual rights.6. Stakeholder Engagement: Explore effective strategies for engaging and communicating with diverse stakeholders, including the public, policymakers, patient groups, and advocacy organizations, to foster transparency, inclusivity, and ethical decision-making processes.7. Risk Assessment and Management: Understand the principles of risk assessment and risk management in biotechnology, including the identification, evaluation, and mitigation of potential risks associated with the development, production, and commercialization of biotech products.8. Professional Ethics and Leadership: Develop a strong ethical foundation and leadership skills necessary for ethical conduct, responsible innovation, and effective management in biotechnology organizations.

<p>Intended Learning Outcomes</p>	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"> a) understand the ethical considerations and managerial principles relevant to the field of biotechnology. b) cultivate a critical mindset and develop practical skills necessary for addressing the ethical challenges and effectively managing biotechnological endeavors in various sectors. c) analyze real-world case studies and engage in practical exercises to apply ethical principles and managerial strategies to address complex ethical and management challenges in biotechnology.
<p>Subject Synopsis/ Indicative Syllabus</p>	<ol style="list-style-type: none"> I. Bioethics and biotechnology <ul style="list-style-type: none"> - Biotechnology is at the interface of science and ethics. - Relationship between technology developments, ethical vision, and the available technology. II. Ethics in clinical research <ul style="list-style-type: none"> - Clinical research ensures that, when treatments are brought to market, they have been proven safe and effective, with any potential side effects disclosed. - Commitment to ethical standards to ensure the data are accurate and transparent, and the treatment has been properly tested. III. Medical ethics <ul style="list-style-type: none"> - The obligation of the health care professionals is to ensure patient's well-being and to respect their human rights. - 4 pillars: autonomy, Justice, Beneficence, Nonmaleficence IV. Environmental ethics <ul style="list-style-type: none"> - Principles of environmental ethics: biocentrism vs. ecocentrism. - Impact of biotechnology on environment and ecosystems V. Risk assessment and risk management <ul style="list-style-type: none"> - Principles of risk assessment in biotechnology. - Strategies of managing ethical issues in biotechnology VI. Business ethics and social responsibility <ul style="list-style-type: none"> - Business ethics is related to the implementation of business policies and practices, such as corporate governance, social responsibility, and fiduciary responsibilities. - Seven principles: accountability, care and respect, honesty, healthy competition, loyalty, transparency, and respect for the rule of law.
<p>Teaching/Learning Methodology</p>	<p>Lectures, Tutorials, Quiz, Assignments, Examinations.</p> <ol style="list-style-type: none"> 1. Attendance – Students are expected to attend at least 80% of both the lecture and tutorial classes. 2. Quiz – Throughout the course, students will undertake periodic quizzes to test their understanding of specific topics. The quizzes will be a mix of multiple-choice questions, short answers, and scenario-based problems. The objective is to ensure continuous learning and retention of course material.

	<p>3. Written Assignments – Students will be tasked with drafting essays on selected topics related to ethics and management in biopharmaceutical industry. These essays will be assessed based on the depth of understanding of the topic and the insight or perspective provided. Students are expected to provide their own insights and perspectives, showcasing their analytical prowess and capability to critically evaluate and manage ethical issues in the biotech sector.</p> <p>4. Final Examination - Written exams assess how much students have learned about the concepts of bioethics and their strategic management for the biopharmaceutical industry. Case studies of real-world examples will be conducted.</p>				
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
	1. Attendance	10	√	√	√
	2. Quiz	20	√	√	
	3. Written Assignments	20	√		√
	4. Examination	50	√	√	√
	Total	100 %			
Student Study Effort Expected	Class contact:				
	▪ Lecture	26 Hrs.			
	▪ Tutorial	13 Hrs.			
	Other student study effort:				
	▪ Assignment	15 Hrs.			
	▪ Self study	63 Hrs.			

	Total student study effort	117 Hrs
Reading List and References	<ul style="list-style-type: none"> i) Veatch, R. M. (2003). The basics of bioethics. Upper Saddle River, NJ. Prentice Hall. ii) Dickenson, D. (2012). Bioethics. London, Hodder Education. iii) OECD International Futures Project on “The Bioeconomy to 2030: Designing a Policy Agenda”, Biotechnology: Ethical and Social Debates, February 2008. iv) OECD Internal Co-ordination Group for Biotechnology, Biotechnology Update, December 2021, ICGB Newsletter No. 40 v) O’Mathuna, D. P. Bioethics and biotechnology. Cytotechnology (2007) 53:113-119. 	