

Course Title	Biotechnology				
Course Code	BIO307				
Course Type	Compulsory				
Level	Bachelor (1st Cycle)				
Year / Semester	3 <sup>rd</sup> Year / 5 <sup>th</sup> Semester				
Teacher's Name	TBA				
ECTS	5	Lectures / week	3 Hours	Laboratories / week	None
Course Purpose and Objectives	The main aim of the course is to familiarize the students with basic principles and important applications of Biotechnology in animals, plants and microorganisms while at the same time giving them the chance to ponder over economic, social and ethical implications that may rise.				
Learning Outcomes	<p>Upon successful completion of the course, students will be able to:</p> <ul style="list-style-type: none"> <li>• Describe basic principles and applications of both classical and modern Biotechnology.</li> <li>• Explain basic principles and molecular processes involved in the technology of recombinant DNA</li> <li>• Summarize the main applications of Biotechnology in relation to animals, plants and microorganisms</li> <li>• Describe the main applications of Biotechnology in the food, and the environment as well as in medicine</li> </ul> <p>Discuss modern issues of bioethics in terms of Biotechnology applications and their implications in society and economy</p>				
Prerequisites	BMS111	Co-requisites	None		
Course Content	<p><b>Description:</b></p> <ul style="list-style-type: none"> <li>-Introduction and historical perspective of the use of Biotechnology since ancient times. Comparison with modern Biotechnology</li> <li>-Recombinant DNA technology</li> <li>-Fermentation</li> <li>-Enzymatic reactions</li> <li>-Use of microorganisms in Biotechnology</li> <li>-Biotechnology in preparation and processing of food ingredients</li> <li>-Animals and Biotechnology</li> <li>-Plants and Biotechnology, genetic modification, classical genetic improvement</li> <li>-Biotechnology products: food, beverages, chemical compounds, drugs, fuels.</li> <li>-Medical Biochemistry</li> <li>-Biochemistry and safety</li> </ul>				

	-Societal, economical, legal and ethical considerations concerning the increasing use of Biotechnology in everyday life.										
Teaching Methodology	Face- to- face										
Bibliography	<p>Basic Biotechnology, by Bjorn Kristiansen and Colin Ratledge, Cambridge University Press, 3<sup>rd</sup> edition.</p> <p>Textbook of animal Biotechnology, by B.Singh, SK.Gauyam, and MS. Chauhan, The Energy and Resources Institute.</p> <p>Medical Biotechnology, by Judit Pongracz and Mary Kenn, Elsevier, 2008.</p> <p>Plant Biotechnology and agriculture: Prospects for the 21<sup>st</sup> century, by A. Altman and PM. Hasegawa, Associated press.</p>										
Assessment	<table border="1"> <tr> <td>Mid – Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignments/Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid – Term Examination	30%	Final Examination	40%	Assignments/Lab	20%	Class Participation	10%		100%
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Language	English										