

Course Title	Cancer Biology				
Course Code	BMS413				
Course Type	Compulsory				
Level	Bachelor (1st Cycle)				
Year / Semester	4 th Year / 7 th Semester				
Teacher's Name	TBA				
ECTS	6	Lectures / week	3 Hours	Laboratories / week	None
Course Purpose and Objectives	The main objective of the Cancer Biology course is to provide a comprehensive overview of the biology and pathology of cancer, as well as methods of diagnosis and treatment approaches.				
Learning Outcomes	<p>Upon completion of the course, students will be able to:</p> <ul style="list-style-type: none"> • Differentiate normal and cancer cells • Describe the hallmarks of cancer • Describe the main characteristics of common cancer types • Explain the types of gene mutations leading to carcinogenesis • Define oncogenes and tumor suppressor genes • Clarify how cancer cells escape cell death • List and describe the steps that lead to metastasis • Outline major therapeutic approaches against cancer 				
Prerequisites	BMS111	Co-requisites	None		
Course Content	<ul style="list-style-type: none"> • Cancer definition: benign vs malignant tumor • Hallmarks of cancer • Main characteristics of the most common types of cancer (breast, prostate, lung, liver, brain, colon) • Mutagens and mutations. Tumor viruses. • DNA repair defects and cancer • Oncogenes and tumor suppressor genes, growth factors and their receptors in carcinogenesis • Cell cycle control and the Rb tumor suppressor • Apoptosis and the p53 tumor suppressor • Cellular senescence and telomeres. Cellular immortalization and tumorigenesis. Telomerase as a therapeutic target • Cancer stem cells • Angiogenesis • Metastasis 				

	<ul style="list-style-type: none"> • Familial cancer syndromes, hereditary cancer (i.e. breast cancer, colon cancer) • Diagnosis of cancer-new genomic and proteomic technologies • Tumor biomarkers • Therapeutic approaches: chemotherapy, immunotherapy, targeted therapy 										
Teaching Methodology	Face- to- face										
Bibliography	<p>Molecular Biology of Cancer: Mechanisms, Targets and Therapeutics 2nd Edition, by Lauren Pecorino. Oxford Press</p> <p>Robbins and Cotran, Pathologic Basis of Disease, 7th Ed. Kumar, Abbas, Fausto, Elsevier, Saunders, 2005.</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%
Mid – Term Examination	30%										
Final Examination	40%										
Assignments/Lab	20%										
Class Participation	10%										
	100%										
Language	English										