

Course Title	Personalized Medicine				
Course Code	BMS416				
Course Type	Elective				
Level	Bachelor (1 st cycle)				
Year / Semester	4 th Year / 7 th Semester				
Teacher's Name	TBA				
ECTS	5	Lectures / week	3 Hours	Laboratories / week	None
Course Purpose and Objectives	This course provides an introduction to the principles and applications of personalized medicine, an emerging practice of medicine that uses an individual's genetic profile to guide decisions made with regard to prevention, diagnosis, and treatment of disease.				
Learning Outcomes	<p>Upon successful completion of this course, students should be able to:</p> <ul style="list-style-type: none"> • describe the basics of heredity; what is a gene and the patterns of gene inheritance • comprehend the basic principles of molecular medicine and human genetics, how individual gene variations affect health and disease • understand the biology of genetic issues relevant to genetic test results, and various disease conditions • analyze the purpose, strengths and limitations of current and emerging genome technologies • describe the basic principles of pharmacogenetics, the use of personal genetic information in clinical medicine, and ethical, legal, and social issues concerned with genetic testing • learn how a broad range of issues impact the application of personalized medicine • understand the need for individualized diagnostics and therapeutics for patient-tailored medicine 				
Prerequisites	BMS224	Co-requisites	None		
Course Content	<p>Theory: Overview of genes and chromosomes</p> <ul style="list-style-type: none"> • Overview of pedigree analysis • The human genome project • Genes: mutations and polymorphisms 				

	<ul style="list-style-type: none"> • Individual genomes: copy number variants and transposable elements • Gene expression and epigenetics • Principles of genomic technologies (Genome Wide Association Studies, Next Generation Sequencing) • Human variants and drug response • Pharmacogenetics • Ethical considerations in Personalized Medicine 										
Teaching Methodology	Face- to- face										
Bibliography	Essentials of Genomic and Personalized Medicine, Geoffrey S. Ginsburg and Huntington F. Willard, Academic Press, 1 st Edition, ISBN-13: 978-0123749345										
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										