Course Title	**Principles of Biomedical Sciences; the disciplines**				
Course Code	ABS309				
Course Type	Program specific elective				
Level	BSc (Level 1)				
Year / Semester	3rd / 5th				
Teacher's Name	Dr Despina Charalambous				
ECTS	6	Lectures / week	3	Laboratories / week	2
Course Objectives	Biomedical science is an umbrella term that encompasses many disciplines; biochemistry, haematology, immunology, microbiology, histology, cytology, and infectious diseases among many others. Thus it is important for students to understand these different disciplines and how these integrate together to formulate laboratory tests which help in disease diagnosis, in disease monitoring as well as in shaping therapeutic decisions. The main objectives of the course are: To provide the background on the basic disciplines which comprise Biomedical Sciences To highlight the basic principles of working in a Clinical laboratory and teach students the fundamental rules about laboratory health and safety, and the use of laboratory protocols To introduce students to the terminology that is used in Biomedical Sciences To teach the main features/characteristics of common diseases To demonstrate how the different disciplines are used to diagnose human diseases using kidney disorders as a prime example.				
Learning Outcomes	At the completion of the course the students will be able to: • Know the different disciplines of Biomedical Sciences and be prepared for the more in depth courses that will follow • Learn the terminology used in Biomedical Sciences • Become familiar with common medical terms • Learn about safety and use of protocols in the Clinical laboratory • Understand the integration of the different disciplines, to diagnose disease by using the laboratory investigation of specific kidney diseases as a prime example, at different time points of disease progression				
Prerequisites	None	Required	None		
Course Content	Theory: • Students learn about the principles of Biomedical Sciences and explore concepts of biology and medicine amongst other				

	disciplines so as to determine and understand different factors that can cause diseases. Learn the characteristics of diseases and key micro-organisms of medical importance. • Students examine the interactions of human body systems as they explore and learn about homeostasis in the body. • Students will learn and establish life style choices in exercise, diet and healthy habits that will promote a healthy heart. • Work with a fictional patient that has a disease such as familial heamaturia and follow their health/symptoms, throughout different scenarios of clinical outcomes <u>Workshops/exercises:</u> • Hands-on projects will enable students to learn about the use of the different disciplines in the investigation of human disorders • Presentation of cases demonstrating the application of the different disciplines in the diagnosis, monitoring and treatment
Principles of Teaching	The teaching of the course includes lectures to help students understand the basic terminology used in Biomedical Sciences as well as the main diagnostic disciplines that are used in Clinical laboratories. Methods such as discussion, questions/answers, and pros/cons, are used to enhance student's participation. PowerPoint and image-rich material and short animations are used to better understand the principles of Biomedical Science.
Bibliography	<u>Textbooks:</u> • The Biology of disease, Murray P et al, Publ Wiley Blackwell, ISBN9780632054046 • An introduction to Biomedical Science in Professional Clinical Practice, Pitt SJ and Cunningham J, Publ Wiley, ISBN9780470057155 <u>References:</u> • Biomedical Research, Medicine, and Disease. Edited ByRC Sobti, Aastha Sobti. Edition 1st Edition. First Published 2023 • Introduction to the Biomedical Sciences Laboratory Manual, Ivy Fitzgerald, 2nd edition, 2020
Assessment	Course Work 40% • Mid-term Test 20% • Workshops/projects 20% Final Exam 60% For student evaluation, the overall grade is determined by a written midterm exam (20%), workshops/projects (20%) and a written final exam (60%). The mid-term exam is carried out between the 6th and 8th week and it mainly includes short answer- questions and problem- solving questions and examines specific modules of the course. As far as the workshops/exercises/projects grade is concerned, students also have to prepare and present a project and the outcome is evaluated

	with discussion, questions/answers, pros/cons and case studies, related to the field of Biomedical Sciences, in the class. The final exam of the course is carried out during the 14th-16th week of each semester and includes short answer questions, decision questions, and problem-solving questions regarding all course modules. The final assessment of the students is formative and summative and is assured to comply with the subject's expected learning outcomes and the quality of the course.
Language	Greek, English