Course Title	**Advanced Hematology & Transplantation**				
Course Code	ABS405				
Course Type	Compulsory				
Level	BSc (Level 1)				
Year / Semester	4th /7th Semester				
Teacher's Name	Dr Paul Costeas, Dr Vasilia Tamamouna				
ECTS	5	Lectures / week	3	Laboratories/week	2
Course Purpose	To provide students with advanced knowledge of hematological disorders and diagnostic techniques to critically analyze, interpret and communicate complex scientific and medical topics to the level of professional biomedical laboratory scientists. Students will gain a deep insight into the process of cellular transplantation, including organ harvesting collection and infusion.				
Learning Outcomes	After completion of the course students are expected to be able to: • Recognise critical limits and conditions associated with the major haematological tests conducted in pathology services. • State the theoretical aspects of automated, routine and specialized hematology tests; • correlate their importance in diagnostic, emergency, and screening protocols; • analyze the responses of the hematopoietic system to pathological and reactive changes in the human body and assess related clinical condition or blood dyscrasia; • correlate and evaluate complete blood count parameters; • integrate theoretical aspects of primary and secondary hemostatic mechanisms; • analyze coagulation test results and correlate to probable coagulopathy or hemostatic defect; • identify sources of error in all tests and relate appropriate corrective actions • Outline requirements and procedure of cellular transplanation				
Prerequisites	ABS207	Corequisites	none		
Course Content	Theory: 1. Anaemia 2. Thalassaemia and haemoglobinopathies 3. Leukaemia 4. Lymphoma 5. Myeloproliferative disorders 6. Myelodysplastic syndromes 7. Multiple myeloma and related disorders 8. Pediatric and obstetric haematology 9. Cellular transplantation				

	Laboratory exercises: Students will gain hands on experience by using manual methods which are currently used in clinical hematology, including blood film morphology, cytochemistry, flow cytometry, cytogenetics, molecular techniques and analysis of the results of coagulation tests and relate them to a possible coagulation or hemostatic defect. Applications of manual and automated technologies for the critical diagnosis of challenging hematological cases.
Teaching Methodology	Teaching methodology includes lectures, poster and/or oral presentations, case studies, independent study and review sessions on the theoretical background and laboratory exercises / experiments to better understand and comprehend concepts of Immunohematology. During lectures, a discussion is carried out and students are encouraged to answer questions and draw their own conclusions.
Bibliography	Textbooks: 1. Clinical Hematology: Theory & Procedures, Enhanced Edition: Theory & Procedures, Enhanced Edition 6th Edition, 2019. Mary Lou Turgeon, ISBN: 978-1284294491 2. Hoffbrand's Essential Haematology, 8th Edition, 2019, Victor Hoffbrand, David P. Steensma. ISBN: 978-1-119-49590-1 References: A list of recently published articles will be provided for further reading.
Assessment	For student evaluation, the overall grade is determined by a written midterm exam (20%), a laboratory grade (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 most modules of the course. As far as the laboratory grade is concerned, it comprises of the evaluation of the laboratory reports (60% of the laboratory grade) submitted by the students for each experiment and a final laboratory examination (40% of the laboratory grade) which mainly includes short answer questions and problem-solving questions. In the laboratory reports, students are asked to describe the experiment procedure, to evaluate and analyse their results and to answer specific questions. The following criteria are taken into account when evaluating laboratory reports: (a) experimental data collection (30%), (b) data analysis (40%), and application of theory to draw conclusions (30%). The final exam of the course is carried out during the 14th -16th week of each semester and it includes short answer questions, critical thinking questions, and problem-solving questions regarding all course modules. The final assessment of the students is formative and summative and complies with the subject's expected learning outcomes and the quality of the course.
Language	Greek, English