Course Title	**Immunohaematology**				
Course Code	ABS304				
Course Type	Compulsory				
Level	BSc (Level 1)				
Year / Semester	3rd / 6th Semester				
Teacher's Name	Dr Paul Costeas, Dr Vasilia Tamamouna				
ECTS	6	Lectures / week	3	Laboratories/week	2
Course Purpose	To provide students with the basic theory on clinical immunohematology and promote their understanding of the principles of pre-analytical, analytical and post-analytical immunohematology diagnostic procedures, transfusion and transfusion reactions.				
Learning Outcomes	After completion of the course students are expected to be able to: **1.** Discuss the clinical importance and categorize all blood groups with regard to genetics and biochemical characteristics and identification. **2.** Account for proper controls for blood cell typing, antibody identification and screening. **3.** Describe and account for the use of the techniques and application used in blood banking. **4.** Explain the principle of the antiglobulin reaction, reaction testing and identification of source. **5.** Discuss the compatibility test in donor-recipient screening, and the requirement for specimen identity and for cross matching. **6.** Define transfusion reaction and describe the requirements for hepatitis testing of blood. **7.** Explain the mechanisms for hemolytic disease of the newborn and tests required to identify it. **8.** Grade and interpret antibody-antigen reactions according to the established criteria **9.** Explain the ethical dilemmas in blood typing and transfusion and account for the laws/regulations that govern transfusion, transplantation. **10.** Review critically scientific literature and report on current practices in the relevant fields of immunotechnology for blood samples.				
Prerequisites	ABS207, ABS209	Corequisites	None		
Course Content	Theory: 1. Blood and blood components; Immunology in blood banking; 2. Blood sample collection, handling, storage, transport 3. Principles relating blood types to genetics 4. Antibody detection and identification				

	5. Molecular testing for blood groups in transfusion 6. Donor screening/ Pretransfusion testing 7. Red blood cell groups (the ABO, Rh, Lewis, other blood groups). 8. Transfusion practices and adverse effects of transfusion 9. The hematology laboratory- Blood component isolation/ preservation 10. Hemolytic diseases of the newborn 11. Autoimmune hemolytic anaemia; Drugs and hemolytic anaemia 12. Quality assurance and safety in immunohematology Laboratory exercises: Laboratory exercises will consist of hands on practicals/demonstrations /workshops and case presentations which will cover the above topics.
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/ case presentations to better understand and comprehend concepts of Immunohematology. During lecture, a discussion is carried out and students are encouraged to answer questions and draw their own conclusions.
Bibliography	Textbooks: 1. Modern Blood Banking & Transfusion Practices Seventh Edition (2018), Denise M. Harmening, F.A. Davis Company; ISBN-13 978-0803668881 References: A list of recent 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/demonstration 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