DeAnza College

Credit- 4.5 units
Effective Quarter: Spring 2025

De Anza College
Clinical Immunology/Immunohematology Lecture, HTEC 84A

Course:	Clinical Immunology/Immunohematology Lecture HTEC 84A (CRN 01006)	
Units:	4.5 units	
Class Days/Time:	Tuesdays, 10:30am to 2:45pm	
	April 8 - June 24, 2024	
Classroom:	Online (Zoom)	
Co-requisite:	Concurrent enrollment in HTEC 84 (Clinical Immunology/ Immunohematology Lab)	
Instructor:	Rosario Mallari, CLS, SBB(ASCP)	
Office Hours:	Tuesdays – 9:30 to 10:30 am	
Email:	mallarirosario@fhda.edu	
Important Dates: *It is your responsibility to verify the dates are current.*		
TBD	Last day to Add Class	
TBD	Last day to drop w/o W*	*Withdrawal
TBD	Last day to drop w/ W*	
June 24, 2025	Comprehensive Final Exams	
DROP POLICY: It is the student's responsibility to formally drop the course with admissions and Records by the deadline documented in the schedule of classes (available online at www.deanza.edu) or refer to important dates above. Students who do not drop the course by this deadline and who stop coming to class may get an "F" grade for the course. HTEC 84 and 84A must both be dropped.		

Student Learning Outcome Statements (SLO)	Correlate clinical significance of serologic test results with possible disease states. Given patient history and various immunohematology testing, evaluate the results and correlate them with various disease states.
Course Description:	This course is an introduction to the basic concepts in Immunology and Immunohematology. Students will learn and understand the basic principles of immunological and serologic procedures routinely performed in clinical laboratory. This course must be successfully completed to qualify for the clinical externship and take the licensing exam.
Textbooks:	1. Stevens, C. and Miller, L., Clinical Immunology and Serology A Laboratory Perspective, 5th Edition, Philadelphia, F.A. Davis Company, 2017. ISBN-9780803644663 2. Harmening, Denise M., Modern Blood Banking & Transfusion Practices, 7th Edition, Philadelphia, F.A. Davis Company, 2019. ISBN-13: 978080366888-1 *NOTE: These editions are recommended. Earlier editions are acceptable.*

Learning Objectives:	A. Clinical Immunology 1. Discuss and differentiate: • Natural, acquired, immunity, roles of lymphocytes in cellular immunity, mechanism of action of immunization/vaccinations. • Illustrate immunoglobin molecules, identify parts and be able to describe structure and function. • Explain the complement cascade and other various antigen and antibody tests in the clinical lab and relate to clinical diagnosis. • Discuss immunological principles and techniques such as: Precipitation, hemagglutination, and latex agglutination, immunofluorescent, immunodiffusion, neutralization and complement fixation. B. Clinical Immunohematology 1. Describe the genetics of common blood group antigens. • Review basic genetics terminologies • Know antigen inheritance and frequencies 2. Discuss the principles, uses, and factors affecting the Antihuman Globulin Test (AHG). • Differentiate Direct Antihuman Globulin Test (DAT) versus Indirect Antihuman Globulin Test (IAT). • Discuss the significance of positive DAT and IAT. • Discuss the factors affecting AHG test and sources of errors. 3. Discuss the principle and procedures that constitute Pre-Transfusion Testing. • Determine suitability of patient and donor samples. • Discuss the compatibility testing procedures. • Discuss transfusion requirements: patient versus unit attributes. • Describe other transfusion protocols. 4. Introduction to Blood Group Systems • Nomenclatures, genetics, frequencies, detection, and corresponding antibodies 5. Detection and Identification of Antibodies • Describe the methods used in antibody identification. • Describe the commonly encountered clinically significant antibodies. • Discuss the process of antibody exclusion and initial specificity assessment. • Differentiate Warm Autoantibodies (WAA) versus Cold Autoantibodies (CAA) • Discuss Autoimmune Hemolytic Anemia • Discuss maternal alloimmunization and Hemolytic Disease of the Fetus and Newborn (HDFN). C. Discuss Transfusion Practices 1. Describe the processes on Blood donor selection, collection, Testing and Component Preparation/Modification. • Discuss the donor eligibility criteria. • Discuss the serological testing performed on donor samples. 2. Describe the process of component preparation and modification

Learning Objectives:	3. Discuss the methods used in the recognition and evaluation of a suspected transfusion reaction. • Describe the categories of adverse transfusion reaction and their management. • Discuss the causes of transmission transmitted diseases. • Describe the standard laboratory investigation of a transfusion reaction. 4. Discuss the principles of Transfusion Therapy, Transfusion Safety and Regulatory Considerations. • Describe the indications for specific blood components. • Describe the regulatory considerations that ensure transfusion safety. • Discuss the accreditation and inspection process. D. Perform collaborative exercises such as: the use of panels, case studies, and /or other assignments that may be used to support and apply course content
Student Responsibilities:	• Be prepared to spend 4 or more hours per week using and studying course materials. • Complete all reading assignments and homework before class. • Follow Study Guides • Attend and actively participate in online classes. • Complete and submit assignments on time.
Attendance:	• Online attendance is mandatory. • For urgent situations, send an email BEFORE class begins.
Methods of Instruction	• Lecture and visual aids • Discussion of assigned reading • Quiz and examination review • Homework and extended projects • Collaborative learning and small group exercises
Methods of Evaluating Objectives	• **Class activity** – Discussions and Q&A • **Written Assignments** – Case studies to evaluate the student's ability to theoretical concepts using critical thinking and problem-solving skills. • **Exams** – Written test examinations requiring students to apply theoretical concepts presented in this class to given scenarios and situations. • **Quizzes** – Quizzes will measure the student's ability to apply recently presented course material and help identify any areas that may need extra attention. • **Comprehensive Final Examination** – Written test requiring the student to demonstrate their ability to summarize, integrate, apply and analyze concepts learned throughout the course.
Homework/ Assignments:	• Readings from textbooks and/or supplemental sources. • Homework will be assigned in addition to the reading assignments. • Complete assignments before class to assess understanding of the materials. • Successful participation in class depends on being prepared by completing homework and readings. • Selected homework assignments will be submitted for grades and informed in advance which assignments will be graded. • Submitted assignments must be typed or legibly written in clean sheets of paper. • Late homework will not be graded.

Homework/ Assignments:	• Zero point for late submission after the deadline. • All homework must be completed by individual student and must not be discussed with classmates prior to submission, except for group homework. Any work received that is a duplicate of another student will result in no credit for both students. **(See Student Accountability**).
Exams/Quizzes:	• There will be **pop quizzes, 2 midterm exams** and a **comprehensive final exam.** • Exams may include, but are not limited to, multiple choice, true-false, and matching. • Materials covered in class, homework, and assigned readings will be included. • **Quizzes are unannounced and with time limits.** • **Camera must be turned on during quizzes and exams. No camera, No exam.** • **There is no make-up option for late enrollees and for those who missed the exams and quizzes.** • All concerns relating to questions on mid-term exams and quizzes must be discussed with instructor no later than 1 week following return of the results. After one week, the quiz and exams are closed.
Student Accountability:	
Academic Integrity:	• Academic dishonesty will not be tolerated in this class. • **A *zero* will be given for cheating/plagiarized tests, quizzes, exams, assignments, projects, and homework.** • If misconduct occurred in the classroom, the instructor may remove the student from class for that day and the next class meeting if the student interfered with instructional process. • Incidents involving breaches in academic integrity will be reported to the division dean. • Disciplinary action will be taken to the maximum permitted by De Anza policies. • Integrity is critical in the clinical laboratory profession. Students are responsible to know the standards and expectations for academic integrity and behavior as specified in the De Anza Student Handbook: http://www.deanza.edu/studenthandbook/academic-integrity.html Hard copy of the handbook is available upon request for non MLT students.
Tips for Success:	• Develop an effective learning strategy. • Follow Study Guides. • Complete reading assignments and homework before class. • Attend every class and take notes. • Plan study time to review reading materials (Reflection). • Answer the study questions at the end of each chapter. • Have questions clarified well before the exams. • Keep track of your grade throughout the quarter.

De Anza resources:	Student Success Center http://www.deanza.edu/studentsuccess/ Smarthinking http://www.deanza.edu/studentsuccess/onlinetutoring/
Request for Test Accommodation:	Read Test Accommodation Guidelines in the Disability Information Student Handbook Section II. Contact Disability Support Services via Clockwork to make an appointment with DSS Counselor or Learning Disability Specialist.

Grading Plan*:		
Exam 1	**100 points***	**Points subject to change.*
Exam 2	**100 points***	
Final Exam	**200 points***	
Quizzes/Assignments	**100 points***	
Total Points	**500 points***	

Grading Scheme*:*		*Grading is <u>not</u> on a curve—everyone has equal opportunity to earn an "A."*
A	90 - 100%	
B	80 - 89%	
C	75 - 79%	
D	65 - 74%	Lowest passing grade is **75%**
F	64 and below	

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Week	Date	Topic	Reading Assignment
1	April 8	1. Course Introduction 2. Fundamentals of Immunology 3. Basic Principles of Serologic Procedures 4. Diagnostic Testing 5. Serological Detection of Hepatitis Viruses	 Modern Blood Banking: Ch 3 Clinical Immunology & Serology: Section I, Ch 1 Section II: Ch 10, 11 Section IV: Ch 20, 21 Section IV: Ch 23
2	April 15	1. Immune Disorders 2. Immunization & Vaccination 3. Introduction to Immunohematology 4. Blood Bank Genetics 5. Introduction to Blood Groups	Section III: Ch 14, 15, 19 Section IV: Ch 25 **Modern Blood Banking:** Part I: p. 24 Part II: p.173
3	April 22	1. The ABO System 2.The Rh System 3. Other Major Blood Groups 4. Uncommon Blood Groups 5. The HLA System	Part II: p.119 Part II: p.149 Part II: pp. 173 Part II: pp. 212 Part IV: p. 497
4	April 29	**1. Exam 1** 2. Anti-Humanglobulin test: DAT and IAT	 Part II: p.103
5	May 6	1. Pretransfusion Testing 2. Blood Bank Testing Technologies & Automation 3. Detection and Identification of Antibodies	Part II p. 256 Part II: p. 268 Part II p. 232
6	May 13	1. Crossmatching 2. Antigen Typing: Patient and RBC Units 3. Autoimmune Hemolytic Anemia (AIHA) 4. Maternal Alloimmunization and HDFN	Part II: p. 260 Part II: p. 261 Part III: p. 441 Part III: p.427
7	May 20	1. Blood Donor Screening and Selection 2. Blood Donor Collection and Testing 3. Component Preparation/Modification 4. RBC and Platelet Preservation	Part III p. 281 Part III p. 333 Part III: p. 396 Part I
8	May 27	**1. Exam 2** 2. Transfusion Therapy/Protocols	 Part III: p.355
9	June 3	1. Adverse Effects of Transfusion 2. Transfusion Transmitted Diseases 3. Transfusion Safety	Part III: p373 Part V: p.574

10	June 10	1. Patient Blood Management 2. Quality Management 3. Inspection & Accreditation 4. cGMP	Part V: p. 531 Part V: pp. 574
11	June 17	Review	
12	June 24	**Comprehensive Final Exam**	

NOTE: Topics and assignments are subject to change. Students are responsible for reading the assigned topics. Discussions of assigned topics on schedule may not be completed due to time limitations.

De Anza Community College
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Student Attestation

I attest that I read and fully understand the content of HTEC84A Spring 25 syllabus. I agree to observe the policies and student accountabilities stated in the syllabus and in the Student Handbook. I accept my responsibilities as a student to complete the course requirements and participate in maintaining academic integrity.

Print Name: _____

Signature: _____

Date Signed: _____

DUE ON APRIL 9, 2025. ONLINE (VIA CANVAS) SUBMISSION ONLY.