RARITAN VALLEY COMMUNITY COLLEGE
ACADEMIC COURSE OUTLINE

MLTC 298 Clinical Experience: Immunohematology

I. Basic Course Information

A. Course Number and Title: MLTC 298 Clinical Experience: Immunohematology

B. New or Modified Course: Modified

C. Date of Proposal: Semester: Fall Year: 2024

D. Effective Term: Fall 2025

E. Sponsoring Department: Science & Engineering

F. Semester Credit Hours: 2

G. Weekly Contact Hours: Clinical: 96 total hours
Out of class student work per week: 0

H. Prerequisites/Corequisites: MLTC 220 with a grade C or higher or with instructor's permission

I. Laboratory Fees: None

II. Catalog Description

Prerequisite – MLTC 220 with a grade C or higher or with instructor's permission
This course provides entry-level clinical laboratory experience in the area of Immunohematology. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations.

III. Statement of Course Need

A. Clinical chemistry testing and analysis are necessary skills needed for competent MLTs. This course is required for the Medical Laboratory Technology program.

B. This course is completed at the clinical site.

C. This course generally transfers as a Free Elective, but dependent on the transfer institution, it may transfer as a Program Elective to schools that offer a B.S. degree in Clinical Laboratory Science.

IV. Place of Course in College Curriculum

A. Free Elective
B. This course meets a program requirement for the Associate of Applied Science degree program in Medical Laboratory Technology
C. To see course transferability: a) for New Jersey schools, go to the NJ Transfer website, www.njtransfer.org; b) for all other colleges and universities, go to the individual websites.

V. Outline of Course Content

1. Guideline of obtaining donor history in Blood Bank
2. Blood drawing procedure from the donor.
3. ABO blood grouping procedure and resolving discrepancies
4. Rh typing including Weak D testing
5. Techniques for compatibility testing and interpretation of results
6. Procedures for labeling and storing the blood in Blood Bank
7. Transfusion reaction investigation and workup in Blood Bank
8. Procedure for logging the donor and recipient information
9. Quality control and determination of any variance from the accepted values
10. Postnatal investigations including:

    a. selection and screening of Rh immune globulin candidates
    b. ABO grouping and Rh typing of baby
    c. direct antiglobulin test on baby's red cells
    d. elution and identification of antibody from baby's red cells
    e. selection of blood for exchange transfusion

11. Serological investigation of autoimmune hemolytic anemia using the following tests:
    a. direct antiglobulin test
    b. elution and identification of antibody from red cells
    c. identification of antibody in the serum
12. Blood group systems identification including,

    a. Rh
    b. P (P1 and P2)
    c. MNSs
    d. Duffy (Fya and Fyb)
    e. Kell (k and K)
    f. Kidd (Jka and Jkb)
    g. Lewis

h.Ii
i. Lu

13. Antibody screening and identification procedures including,

    a. screen blood samples for unexpected antibodies
    b. perform an antibody identification panel including LISS and enzyme techniques
    c. correctly interpret the results of the panel in terms of antigenic content of the panel cells
    d. suggest further testing that may be necessary

14. Use and preparation of various blood components including,

    a. red blood cells
    b. platelet concentrates
    c. frozen red cells
    d. fresh frozen plasma
    e. cryoprecipitate
    f. Factor VIII Concentrate
    g. Irradiated Red Blood Cells
    h. Washed Red Blood Cells

VI. A. <u>Course Learning Outcomes:</u>

At the completion of the course, students will be able to:

1. Explain the principles and significance of immunohematology tests and results (GE-1).
2. Use appropriate mathematical applications to interpret data (GE-2*).
3. Explain the principles of and demonstrate correct use of immunohematology instrumentation and technology (GE-1, 3, 4).

(*Embedded critical thinking)

4. Perform the appropriate manual and automated analyses in Immunohematology lab with accuracy and precision.
5. Evaluate and apply quality control measurements in all phases of analysis in the clinical immunohematology lab.
6. Handle specimens for assay procedures following standard precautions and safety.
7. Identify the abnormal patient results and correlate those results with the patient's condition, and accurately report them.
8. Develop professionalism, communication skills, and interpersonal relationships by working cooperatively with instructors, preceptors and fellow students

A. <u>Assessment Instruments</u>

Students in this course are evaluated by the following methods.

1- Observation by clinical site instructors
2- Weekly Journal
3- Presentation

VII. Grade Determinants

1- Observation by Clinical Instructors

2- Weekly Journal

Students are expected to maintain a weekly journal and are graded based on completion.

3- Presentation

Students are graded based on the rubric provided to them.

VIII. Texts and Materials

Students must maintain the weekly lab journal during their clinical rotation.

BLOOD BANKING AND TRANSFUSION BY PAULA BROWN, 5TH EDITION (ELSEVIER)
ISBN: 9780323430616

The course outline is intended only as a guide to course content and resources. Do not purchase textbooks based on this outline. The RVCC Bookstore is the sole resource for the most up-to-date information about textbooks.

IX. Resources

A. Clinical site laboratory
B. RVCC library database

X. Honors Options

An Honors Option is not available for this course.