MLAB - 145 - Hematology II and Immunohematology Clinical Practicum

2025-2026 Course Proposal Form

Course Information

Please select which best fits this course proposal:*
- [ ] Course New/Reactivation Proposal
- [ ] Course Revision Proposal
- [ ] Course Retirement Proposal
- [x] Course Outcomes Revision Proposal

Department* Medical Laboratory Technology

IF proposing a new course type or prefix, please select "NEW Course Type or NEW Prefix" from the dropdown and input the requested data in the new text field that follows.

Course Type:* Allied Health Sciences

NEW Course Type:

NEW Prefix:

Prefix:* MLAB

Course Number:* 145

Course Title:* Hematology II and Immunohematology Clinical Practicum

Credit(s):* 3

Course Description:* Clinical practicum in Advanced Hematology methods and instrumentation, abnormal WBC differentials, and Immunohematology methods at an affiliated clinical agency. Clinical competency hematology, coagulation, and immunohematology methods required.

Lecture Hours:* 0

Laboratory Hours:* 0

Clinical Hours:* 5

Clinical Hours:* 5

Internship Hours:* 0

Prerequisite(s): *MLAB 131* , *MLAB 132* , *MLAB 133*

Corequisite(s): MLAB 135 & MLAB 140

Pre / Corequisite(s): *None*

Required Materials* Refer to bookstore listing

Course Learning Outcomes:*

1. Perform laboratory tests in each section with precision and accuracy.

2. Operate instruments skillfully, making simple adjustments, and performing routine maintenance independently when appropriate.

3. Adhere strictly to written test procedures and proper sample and reagent identification procedures.

4. Report test results with conscientious and accurate entry/verification of instruments results in the computer system with reference to delta checks and unexpected results

Student Learning Outcomes:*

1. Describe the general operating principles of the primary Cell-Counting Instrument (and the backup Cell Counter if applicable) in use at the clinical agency by:[2]

2. Identifying all of the major components of the instrument and explaining their function[2]

3. Tracing the path of a blood sample as it is aspirated and travels through the instrument, explaining what is occurring in each component of the instrument[2]

4. Locating all reagents, quality control samples, and other supplies needed to operate the Cell Counter[3]

5. Examining and describing printouts of normal patient results, explaining how the histograms, scattergrams, and each CBC parameter are derived by the instrument[4]

6. Stating the normal ranges for each CBC parameter measured by the Cell Counting instrument[1]

7. Describing common malfunctions, how they affect patient results, and how they would be corrected.[3]

8. Perform any required daily maintenance and setup procedures on the primary Cell-Counting instrument (and the backup Cell Counter if applicable) and document the completion of these procedures in the appropriate logbook.[3]

9. Run appropriate quality control samples for the primary Cell-Counting instrument (and the backup Cell Counter if applicable), obtain acceptable results, and document completion of QC in appropriate logbooks and/or data files.[2]

10. Suggest an appropriate course of action if quality control results are not within acceptable limits.[2]

11. Properly mix EDTA samples and perform correct identification/labeling procedures to program the samples and load them onto the instrument for processing.[3]

12. Operate the Primary Cell-Counting instrument (and the backup Cell Counter if applicable) to perform CBC testing on the samples loaded onto the instrument.[3]

13. Verify patient CBC results. [4]

14. Investigate abnormal results for possible causes (patient conditions, medications, etc.) Repeat suspicious value and report final patient results.

15. Recognize common instrument error/alert messages which can indicate discrepant results and resolve these problems appropriately.[3]

16. Recognize various patient specimen characteristics (cold agglutinins, lipemia, NRBCs, giant platelets, etc.) which result in discrepant results, correlate these with histogram/scattergram printouts and instrument messages to resolve the problem and obtain valid results.[4]

17. Recognize and interpret normal and abnormal RBC and Platelet histograms, correlating the data displayed with expected instrument errors, differential smear findings, and patient conditions.[4]

18. Recognize and interpret normal and abnormal WBC histograms and scattergrams, correlating the data displayed with expected instrument errors, differential smear findings, and patient conditions.[4]

19. Recognize common malfunctions in the operation of the Primary Cell Counting instrument (and the backup Cell Counter if applicable), and make simple adjustments when instructed.[3]

20. Smoothly interrupt the workflow of routine patient testing to run a STAT sample.[2]

21. Give a thorough explanation of the operating principle of the automated slidestainer used for WBC differential smears.[3]

22. Prepare patient blood smears of acceptable quality for WBC differential analysis.[4]

23. Produce Wright-stained blood smears for WBC differential microscopic analysis of acceptable quality, using the automated slide stainer.[4]

24. Demonstrate acceptable performance and improvement in the performance of WBC differentials.[4]

General Education Outcomes:

Please select up to 2 from the list of the general education outcomes taught in this course.

Select up to 2 of the following:*

- [ ] Communicate effectively in oral and written formats
- [ ] Employ or utilize information access and literacy skills
- [x] Demonstrate problem-solving and critical thinking skills
- [ ] Employ mathematical and science literacy skills
- [ ] Acquire a cultural, artistic and global perspective
- [ ] Demonstrate professional and human relations skills

Types of Formative Assessment:

Please select at least 3 formative assessment tools that are most appropriate to the course description and outcomes, regardless of modality. Formative assessment tools are learning activities or assessments that monitor and provide ongoing feedback on student learning. Formative assessments allow students to identify their strengths and weaknesses and for instructors to address student questions and misunderstandings

Select at least 3 of the following:*

- [ ] Practice Quizzes
- [ ] Paper Drafts
- [x] Class Discussions/Q&A
- [ ] Low-stakes Group Work
- [ ] Homework Assignment
- [ ] Surveys/Polls
- [x] Laboratory/Instrument Practice
- [ ] Written Reflections
- [ ] Self-appraisal using study guides, quiz software, interactive textbook
- [ ] Other

Types of Summative Assessment:

Please select at least 2 summative assessment tools that are most appropriate to the course description and outcomes, regardless of modality. Summative assessment tools are learning activities or assessments that evaluate student learning at the end of an instructional period, like a module, unit, or course. Summative assessments are formally graded and allow instructors to determine whether and to what extent students have met the course learning outcomes.

Select at least 2 of the following:*

- [x] Instructor-Created Exams/High-Stakes Quizzes
- [ ] Standardized Tests
- [ ] Laboratory Reports
- [ ] Final Projects
- [ ] Final Essays/Research Papers
- [ ] Final Presentations
- [ ] Final Reports
- [x] Internships/ Clinical Site Evaluations
- [ ] Other

Minimum Acceptable Standards* 77% minimum on Abnormal WBC Differential practicum along with Final Satisfactory observant performance.

Please answer the following questions related to your curriculum proposal:

Why are you recommending these changes? (courses outdated, recommendation of advisory committee, results of assessment activities and data, better attainment of program/course outcomes)

Justification:* Improve clarity and conciseness

Last Semester Needed: N/A

Impact Report Statement

List all program(s) or course(s) affected by these changes. If no program(s) or course(s) are affected, please state "NA" below. Run an Impact Report by clicking in the top left corner and answer below according to the results.

Impact Report: N/A

What impact will these changes have on other courses or programs? (List impacted programs and comments or input you have gathered from other faculty, program directors, or Division Chairs)

Other Courses or Programs: No impact

What impact will these changes have on institutional resources? (Budget, faculty, equipment, labs, instructional design, etc.) Have you already discussed this impact with appropriate personnel (financial aid, administration, division chair, other faculty)?

Institutional Resources: No impact

What impact will these changes have on current students? How will you ensure that current students are not penalized by these changes?

Current Students: No impact

What impact will these changes have on transferability, national/regional association standards, etc.?

Transferability, National / Regional Association Standards, Etc.: No impact

What impact will these changes have on the institution's mission and student's achievement of general education outcomes/requirements?

Mission; General Education Outcomes / Requirements: No impact

Administrative Use Only

Please do <u>not</u> alter the information within this section.

Course OID:

Information or Voting Item:

- [x] Information Item (If the proposal does not impact other courses, select this option)
- [ ] Voting Item

Implementation Semester and Year* Fall 2025