Overview / General information

Calendar description: An introduction to the theory and practice of hematology, this course will include the morphology, structure, and function of red cells, white cells, and platelets, malignant and benign conditions that affect each cell type, and tests to distinguish among disease states including anemia and leukemia.

MLSCI 230 consists of M W F lectures from 1000-1050 and T R labs from 0930-1220.

Course Coordinator & Instructor

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Course Competencies

A. Gain knowledge and understanding of the major theoretical principles of hematology.

B. Describe the ontogeny, function, and morphological characteristics of blood components (red blood cells, white blood cells, and platelets).

C. Understand the pathophysiology of qualitative and quantitative RBC, WBC, and PLT disorders, and relate to laboratory findings (4.01).

D. Perform laboratory analysis of hematological specimens: (2.03, 2.05, 2.08, 2.12, 3.01, 3.02, 3.03, 3.09, 3.13, 3.14, 4.01, 4.02, 4.03, 4.05, 5.02, 5.03, 5.04, 6.06)
   a) and understand the analytical principles of various tests in the hematology lab
   b) with precision and accuracy
   c) while applying quality control principles
   d) and distinguish between normal and disease findings

E. Use appropriate technical and scientific vocabulary in the field of hematology.

F. Use and care for basic equipment and maintain safety regulations while in the laboratory. (1.01, 1.02, 1.03, 1.04, 1.05, 1.06, 1.07, 1.08, 1.09, 1.10, 1.12, 1.15, 3.24)

G. Demonstrate professional skills such as effective communication, displaying respect, teamwork, time and resource management (6.01, 6.05, 7.01, 7.02, 8.01, 8.06, 8.12, 8.13)

Methods of Instruction

1. Lectures:

   Principles that form the basis of hematology will be presented in lecture form by a variety of subject experts (such as medical laboratory technologists, pathologists, and graduate students). Students are required to supplement this material by reading from the course textbook and other related references.

2. Labs:

   Students will:
   - perform basic hematology tests
   - analyse and interpret test results.

   The lab manual format consists of:
Objectives: These describe the knowledge and skills to be acquired in each laboratory session and help in exam preparation.

Theory and methods: This section includes detailed information about laboratory tests.

Worksheets: These sections contain pre-lab questions, review charts, specific performance instructions, data-entry sheets, and questions regarding test interpretation.

Students are expected to integrate learning from the lectures and labs. Lab quizzes assess and provide feedback on student comprehension and ability to manipulate data and interpret test results. Quizzes may draw on material from either lecture or lab. Assignments related to the labs reinforce learning and comprehension of the material.

Prior to each lab:

a) Review methods in the manual to become familiar with test rationale and procedure;

b) Complete pre-lab question sheets, which will be discussed during the lab session. Students are expected to use resources beyond the lab manual to complete the pre-lab assignments.

The demonstrators and instructor will be available for students to ask questions and seek help as required. Resources are available on eClass for reviewing cell identification. Extra reading is encouraged in order to enhance learning.

Occasionally there will be assignments associated with the labs. They are to be handed in by the start of lab (0930) on the day they are due. Late assignments will receive a penalty of 20% of the assignment value per day late. Refer to the section on Attendance for absences when assignments are due.

Distribution of Marks

Laboratory work is an integral part of the MLSCI 230 course and accounts for 55% of the final grade. Students must obtain a minimum mark of 60% in the laboratory component to pass MLSCI 230. The marks breakdown is as follows:

**MLSCI 230:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Lecture</td>
<td>45%</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>15%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
</tr>
<tr>
<td>Laboratory</td>
<td>55%</td>
</tr>
<tr>
<td>Assignments</td>
<td>6%</td>
</tr>
<tr>
<td>Group Presentation</td>
<td>7%</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>10%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>12%</td>
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<tr>
<td>Final Exam</td>
<td>20%</td>
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</tbody>
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**MLSCI 231:**

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<td>15%</td>
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<tr>
<td>Final Exam</td>
<td>55%</td>
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Final grades are assigned based on class distributions. Final grades are subject to the approval of the MLS program director.

Attendance

Due to the amount and depth of material covered, it is in the student’s best interest to attend lectures. However, attendance in laboratory sessions is compulsory. Should illness or significant personal difficulties prevent lab attendance or if unusual circumstances suggest tardiness, notifying the MLS office before the lab is mandatory (phone 780-492-6601). Whenever
possible, also notify the course coordinator (klew@ualberta.ca, 780-492-6603). Failure to notify the Division may result in a grade of zero on missed quizzes and assignments, or the denial for any requests for makeup course work or examinations.

Unexcused absences may result in a student being refused permission to write the final examinations (see University of Alberta Calendar, University Regulations and Information for Students, 23.3 – Attendance).

The student is responsible for ensuring that they learn the missed material. The student will contact the instructor as soon as possible to make arrangements for covering missed labs. Any assignments due during the period of the student’s absence must be handed in by the start of class on the day of their return, or subject to a late grade penalty. If a quiz is missed during an excused absence, the weighting of that quiz will be eliminated from the overall weight of the quizzes.

Academic Integrity and Student Behaviour

The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (http://www.governance.ualberta.ca/CodesofConductandResidenceCommunityStandards/CodeofStudentBehaviour.aspx) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

It is also expected that students will behave according to the Canadian Society of Medical Laboratory Science Code of Conduct: http://csmls.org/About-CSMLS/Who-We-Serve/Code-of-Conduct.aspx

Audio or video recording of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as a part of an approved accommodation plan. Recorded material is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the instructor.

Students are responsible checking and reading their ualberta e-mail on a regular basis. **Outside of the classroom and laboratory, e-mail will be the mode of communication from the instructor(s).** The instructor will answer e-mails during business hours Monday to Friday, and will respond to e-mails received within one business day.

http://www.registrar.ualberta.ca/calendar-archive/calendar-2015-2016/Regulations-and-Information/Academic-Regulation/23.4.html#23.4

*Policy about course outlines can be found in Course Requirements, Evaluation Procedures and Grading of the University Calendar. http://calendar.ualberta.ca/content.php?catoid=6&navoid=806#course-requirements,-evaluation-procedures-and-grading-a*