

MLS 3120 – HEMATOLOGY/CELLULAR PATHOPHYSIOLOGY

OAKLAND UNIVERSITY – SCHOOL OF HEALTH SCIENCES
CLINICAL & DIAGNOSTIC SCIENCES
WINTER 2018

COURSE: MLS 3120- 3.0 credits
HEMATOLOGY/CELLULAR PATHOPHYSIOLOGY

TIME: Mon,Wed : 9:05-10:27
Jan 3-April 17 (Final Exam: April 25)

LOCATION: 4042 Human Health Building (HHB)

INSTRUCTOR: Dr. Lynne Williams
Office: 3161 HHB
Office Hours: M: 10:30-11:00; T: 9:00-9:45; or by appointment
Office phone: 248-364-8689
jlwillia@oakland.edu

Course Description: This course will provide the student with an introduction to the fields of hematology, hemostasis and cellular pathophysiology. Topics include current concepts of hematopoiesis, including selected topics in red blood cell, white blood cell and platelet morphogenesis, physiology and pathophysiology; and an introduction to the basic principles involved in cellular disease mechanisms. There is no required book; handouts and selected reprints will be provided on Moodle.

Course Format: on-campus meetings

Learning Outcomes

Students will be able to:

1. Recall essential facts about the development and function of blood cells, and the process of hemostasis.
2. Critically evaluate the effects of structural and functional abnormalities of blood cells on the overall homeostatic function of the individual.
3. Correlate critical alterations in cell number or distribution with potential pathologic outcome.
4. Critically evaluate scientific information from published journal articles, summarize and communicate this information effectively.

Course Materials:

Powerpoint files will be provided for each segment of the class, and will be posted on Moodle.

Recommended Text:

Clinical Laboratory Hematology, 3rd Ed, by McKenzie & Williams, Pearson Publishers, 2015. ISBN 978-0-13-307601-1

Technology Help:

- For help using Moodle, use the Get Help link at the top of the Moodle page (moodle.oakland.edu).
- For access to technology and in-person assistance, call or visit the [Student Technology Center](https://www.oakland.edu/stc/) (Link to Student Technology Center: <https://www.oakland.edu/stc/>).
- For general technology assistance, consult the OU Help Desk (Link to Help Desk: <https://www.oakland.edu/helpdesk/>).

Assignments and Grade Weight:

The course is divided into the following major segments:

- I. General introduction, hematopoiesis
- II. Erythropoiesis, Erythrocyte structure and function: erythrocytic disorders
- III. Megakaryopoiesis/thrombopoiesis; platelet structure & function; hemostasis; hemostatic disorders
- IV. Leukopoiesis, leukocyte structure and function; leukocytic disorders
- V. General concepts of cellular disease, inflammation and healing

The final course grade will be based on the following:

Exam I (Parts I, II)	25%
Exam II (Part III)	25%
Exam III (Parts IV & V)	25%
Quizzes & Assignments	25%
Quiz 1: after erythrocyte structure and function	
Quiz 2: after platelet structure and function	
Quiz 3: after leukocyte structure and function	
Assignments (see separate file for description on Moodle):	
Journal article #1: due Feb 26 th	
Journal article #2: due April 16 th	

Grading:

- **A range** – Comprehensive, thorough coverage of all objectives, required content, critical and higher level thinking, original and creative, sound use of English skills, both written and oral
- **B range** – Competent, mastery of basic content and concept, adequate use of English
- **C range** – Slightly below average work, has met minimum requirements but with difficulty
- **D range** – Has not met requirements of assignment/course, has significant difficulties in many areas
- **F** – Has not completed requirements; has not officially withdrawn from course before drop date

Classroom and University Policies:

1. **Academic conduct policy:** All members of the academic community at Oakland University are expected to practice and uphold standards of academic integrity and honesty. Academic integrity means representing oneself and one's work honestly. Misrepresentation is cheating since it means students are claiming credit for ideas or work not actually theirs and are thereby seeking a grade that is not actually earned. Following are some examples of academic dishonesty:
 - a. **Cheating.** This includes using materials such as books and/or notes when not authorized by the instructor, copying from someone else's paper, helping someone else copy work, substituting another's work as one's own, theft of exam copies, or other forms of misconduct on exams.
 - b. **Plagiarizing the work of others.** Plagiarism is using someone else's work or ideas without giving that person credit; by doing this, students are in effect claiming credit for someone else's thinking. Whether students have read or heard the information used, they must document the source of information. When dealing with written sources, a clear distinction should be made between quotations (which reproduce information from the source word-for-word within quotation marks) and paraphrases (which digest the source of information and produce it in the student's own words). Both direct quotations and paraphrases must be documented. Even if students rephrase, condense or select from another person's work, the ideas are still the other person's, and failure to give credit constitutes misrepresentation of the student's actual work and plagiarism of another's ideas. Buying a paper or using information from the World Wide Web or Internet without attribution and handing it in as one's own work is plagiarism.
 - c. **Falsifying records** or providing misinformation regarding one's credentials.
 - d. **Unauthorized collaboration** on computer assignments and unauthorized access to and use of computer programs, including modifying computer files created by others and representing that work as one's own.
2. **Behavioral Code of Conduct.** Appropriate behavior is required in class and on campus. Disrespectful, disruptive and dangerous behavior are not conducive to a positive learning environment and may result in consequences. Core Standards for Student Conduct at OU includes
 - a. **Integrity.** See academic conduct policy points above.
 - b. **Community.** Policies regarding disruptive behavior, damage and destruction, weapons, and animals.
 - c. **Respect.** Policies regarding harassment, hazing, and [sexual misconduct](#) ([Link to Sexual Misconduct policy: https://www.oakland.edu/policies/health-and-safety/625/](#))
 - d. **Responsibility.** Policies regarding alcohol, drugs, and other substances

See the [Student Code of Conduct](#) for details. (Link to Student Code of Conduct: <https://www.oakland.edu/deanofstudents/student-code-of-conduct/philosophy-and-purpose/>)

3. **Add/Drops:** The university policy will be explicitly followed. It is the student's responsibility to be aware of [deadline dates for dropping courses](#) and officially drop the course. (Link to deadlines for dropping courses: <https://www.oakland.edu/registrar/registration/dropornot/>).
4. **Special Considerations:** Oakland University is committed to providing everyone the support and services needed to participate in their courses. Students with disabilities who may require special accommodations should make an appointment with campus [Disability Support Services](#) (DSS), 106 North Foundation Hall, phone 248 370-3266. If you qualify for accommodations because of a disability, please submit to your professor a letter from Disability Support Services in a timely manner (for exam accommodations provide your letter at least one week prior to the exam) so that your needs can be addressed. DSS determines accommodations based on documented disabilities. Contact DSS at 248-370-3266 or by e-mail at dss@oakland.edu.

For information on additional academic support services and equipment, visit the [Study Aids](#) webpage of Disability Support Services website. (Link to Disability Support Services website: <https://www.oakland.edu/dss/>)

For academic help, such as study and reading skills, contact the Academic Skills/Tutoring Center, 103 North Foundation Hall, phone 248 370-4215.

5. **Attendance:** In accordance with professional behavior, it is expected that you will attend course lectures/labs. If you are unable to come to a class, professional courtesy asks that you send an email (jlwillia@oakland.edu) explaining your absence. Students should arrive on time for class and are expected NOT to leave early. Points will be deducted for repeated abuses of the attendance policy. Students must turn off communication devices before entering the classroom. Cell phone usage will not be tolerated during class for any reason. **NO** texting is allowed during class. I will confiscate any personal communication devices that are inappropriately used during the scheduled class time. Potential personal emergencies must be discussed with the instructor prior to the beginning of class. Portable computers or notebooks may be used **only** for note taking relative to this specific class. **Communication devices may not be brought to examinations.**
6. **Assignments must be turned in at the beginning of class to receive credit.** Assignments turned at any other time during class will not be scored.

7. **Exams:** You are expected to prepare for and take exams on the date and time scheduled. Additional time for exams will not be allowed if you are tardy. You will receive a zero for missed exams or quizzes due to unexplained absences. All examinations will take place during scheduled lectures. Examinations will consist of a combination of multiple choice, matching, true/false questions and short answer questions. The examination questions will be based off the course objectives for each unit.

Students unable to take an examination due to extenuating circumstances should contact the instructor **immediately**. The decision to allow the make-up examination is at the discretion of the instructor. Students may be asked to provide supporting documentation. Examples of extenuating circumstances include: hospitalization of the student or an immediate family member, the death of an immediate family member, jury duty or subpoena to appear in court. Immediate family members include parents, partners and children. It is the student's responsibility to request a make-up examination. In the event that you miss an exam/quiz, I reserve the right to issue an alternative assignment/exam or to drop that score from your average. This will be handled on a case-by-case basis.

If the university closes for weather related emergencies, natural disasters or public safety issues during a scheduled exam time, the examination will be rescheduled.

8. **Excused Absence Policy:** This policy for university excused absences applies to participation as an athlete, manager or student trainer in NCAA intercollegiate competitions, or participation as a representative of Oakland University at academic events and artistic performances approved by the Provost or designee. A student must notify and make arrangements with the professor in advance. For responsibilities and procedures see [Academic Policies and Procedures](#). (Link to Academic Policies and Procedures:
<https://www.oakland.edu/deanofstudents/conduct-regulations/>)
9. **Religious Observances:** Student should discuss with professor at the beginning of the semester to make appropriate arrangements. Although Oakland University, as a public institution, does not observe religious holidays, it will continue to make every reasonable effort to help students avoid negative academic consequences when their religious obligations conflict with academic requirements. See The [OU Diversity Calendar](#) for more information. (Link to calendar:
<https://www.oakland.edu/diversity/calendar/>)

WRITTEN JOURNAL REPORT GUIDELINES

REPORT: Typewritten preferred, double space; 4-5 pages

JOURNAL: Selection criteria:

1. Refereed
2. Any medical/health/laboratory science field
3. Published within last 3 years

ARTICLE Selection criteria:

1. Pertinent to Hematology/Cellular Pathology
2. Minimum length of 3 pages

CONTENT OF REPORT:

1. Who - author(s)
2. What - topic
3. When - date and time frame of research
4. Where - journal; place of research
5. Why - purpose of research/investigation
6. How - methods used
7. Conclusions - of author(s)
8. Your opinion - critique - what did you learn?
 - a. clarity
 - b. logical - sequencing
 - c. appropriately referenced
 - d. expertise of author

NOTE: These are to be research articles; as such, they should have an "Introduction", "Methods and Materials", "Results" and "Discussion". Do not use a "review article" which will simply discuss a topic, even though these may appear interesting. The purpose of this exercise is to introduce you to the current research being conducted in these fields.

The original article is to be attached to the report. Any plagiarism will result in a 0.0 for the assignment. Articles must be summarized in the student's own words.

The first article will be due no later than the Monday following mid-semester break. This will be evaluated and returned. The second article is due no later than the last day of the regularly scheduled class, and will be graded.