

PSL539 – Principles of Cell Biology and Pathophysiology

Fall Semester 2 - 2017

Updated: 08/04/2017 mht

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Notice to Students: Although course syllabi at MSUCOM have a consistent format, vitally important details differ by course. For this reason, you must read the syllabus thoroughly at the onset of each course to know what the course will provide and what is expected of you.

Section 1 – Course Information

Course Description

PSL539 is a 4 credit hour course.

Modern concepts of cell biology as a basis for understanding integration of structure (histology) and function (physiology) in health and disease (pathology). Introductions to adaptive growth response, cell injury, inflammation, hemodynamic disorders, and tissue repair.

Course Goals

Each of the following Goals is described more fully in the "Overview of the Course", which is found at beginning of PSL 539 Course Pack.

- To help you learn the most medically relevant vocabulary and concepts in cell biology, physiology and pathology.
- To help you begin to grasp the profound implications of the fact that function is always linked to structure, in every organ system and at every level of organization, from molecules to the whole body.
- To help you learn to "see" microscopic structure.
- To help you apply the clinically important concepts of cell biology, physiology and pathology to solve problems and make logical predictions.
- To help train you in the disciplines of self-study and lifelong learning.
- To foster collaborative learning.
- To personify the approach and character of basic biomedical science.
- To prepare you for Socratic clinical instruction.
- To help you understand that cell biology, physiology and pathology is a tool for patient care.

Learning Objectives

Specific Learning Objectives are provided in the Course Pack (Study Guide), at the beginning of the material for each lecture session and lab session.

Instructional Team

E-mail is the generally-preferred method of contact.

Key to Campus sites:

- EL = East Lansing
- DMC = Detroit Medical Center
- MUC = Macomb University Center

Course Coordinator

(Note - Preferred method of contact is shown in italics)

Name: Mei-Hui Tai, Ph.D.
Phone: 517-884-5126
Email: taimeihu@msu.edu (preferred method)
Address: 3186 Biomedical and Physical Sciences Building, EL

Histology Laboratory Director

Name: Frances Kennedy, D.V.M., M.S.
Phone: 517-432-0467
Email: Frances.Kennedy@radiology.msu.edu
Office: A514-C East Fee, EL

Histology Lab Leaders

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|--------------|------------------------------|--|--------------|
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| MUC | Carrie Nazaroff, Ph.D. | Carrie.Nazaroff@radiology.msu.edu Room 1173 Building 4 | 582-263-6743 |

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| Anas Al-Janadi, M.D. | aljanadi@msu.edu | 517-353-6625 | EL |
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| Robert Stephenson, Ph.D. | stephen9@msu.edu | 517-884-5057 | EL |
| Mei-Hui Tai, Ph.D. | taimeihu@msu.edu | 517-884-5126 | EL |
| John Wang, Ph.D. | wangj@msu.edu | 517-353-9542 | EL |
| Sarah Weitz, M.S., R.D. | Sarah.Weitz@hc.msu.edu | 586-263-6066 | MUC |
| Hua Xiao, M.D., Ph.D. | xiaoh@msu.edu | 517-884-5127 | EL |

****Dr. DiCarlo will be the contact faculty for Dr. Stephenson's lecture content. Please contact Dr. DiCarlo for any inquiries and questions of Dr. Stephenson's lectures.**

Curriculum Assistants

| Site | Name | Email | Phone |
|--------------|-----------------------|--|--------------|
| East Lansing | Stephanie Goodrich | Stephanie.Goodrich@msu.edu | 517-432-5637 |
| DMC | Karim Robinson-Howell | Karim.Richardson-Howell@hc.msu.edu | 313-578-9629 |
| MUC | Beata Rodriguez | Beata.Rodriguez@hc.msu.edu | 586-263-6799 |

Lab Attendants: Several second-year COM and CHM students assist in the histology laboratory.

Lines of Communication

- For administrative aspects of the Course: contact the course coordinator Dr. Mei-Hui Tai (taimeihu@msu.edu).
- For content questions relating to a specific lecture or topic: contact the faculty presenter for that specific portion of the course or your SE MI on-site instructor.
 - At East Lansing – Dr. Mei-Hui Tai (taimeihu@msu.edu)
 - At DMC -- Dr. Janice Schwartz (Janice.Schwartz@hc.msu.edu)
 - At MUC -- Dr. Carrie Nazaroff (Carrie.Nazaroff@radiology.msu.edu)
- For absences/missed exams (see excused absence information below)

Office Hours

Questions concerning may be discussed individually by making an appointment with the Course Coordinator, Dr. Mei-Hui Tai, 3186 Biomedical and Physical Sciences Building, EL, by phone at (517) 884-5126 or via e-mail: taimeihu@msu.edu. The course coordinator is generally available on Tuesday from 3-5 PM and Thursday afternoons from 1-3 PM. DMC and MUC students can also arrange for a conference call or Zoom meeting on those times. Be sure to e-mail for an appointment.

Course Web Site

The URL for the Course website is: <https://d2l.msu.edu>.

The PSL 539 course web site on D2L will be used to post material important to your success in the course. For example:

The course D2L site has these main sections:

- **Course announcements** -- Course-related communication to the class will be posted here (including any changes to the Course Calendar).
- **Course Syllabus** – Including any changes or updates
- Critical information about the Histology Laboratory – Including your lab section assignment, how to access the virtual microscope, etc..
- Course Events, including opening dates and due dates for online problem sets – In addition, read about the LON-CAPA system, below.
- **Course content** – Links to lecture recordings, tutorials, self-study modules, practice exam questions, and all other course-related scientific material will be posted on the Course D2L site
- Answers to frequently-asked questions, FAQ (or those that should be) – Faculty responses to pertinent questions that students have asked. It is recommended that you check the "Answers to Student Questions" postings regularly.

You are advised to check the D2L web site often, especially during the days just prior to course exams!

LON-CAPA system – <http://loncapa.msu.edu>

LON-CAPA is the "Learning Online Network with Computer-Assisted Personalized Approach". In PSL 539, LON-CAPA will be used to administer:

- Basic Science Pretest -- This pretest is designed to familiarize you with the LON- CAPA interface and to stimulate your personal review of some basic concepts from chemistry, physics, math, and biology -- concepts that will be used but not taught in PSL 539 and your other Fall Semester courses. *Working through the Pretest is recommended, but not required. Your score on the Pretest does not contribute to your PSL 539 grades.*
- Pre-lab Problem Sets -- You are to complete a short, online problem set as part of your preparation for each of the 13 histology lab sessions in PSL 539. The first of these problem sets is for practice and will not contribute to your PSL 539 grade. The remaining 12 problem sets will be graded, and will contribute to your Overall Course Score and grade in PSL 539 (see "Assessment" section of this Protocol). The Pre-lab Problem Set for each histology lab will become available at Noon on the Sunday preceding the lab, and will be due at Noon on the lab date (i.e. on Wednesday).
- Homework Problem Sets -- These online problem sets are designed to help you integrate concepts from lecture, lab, and self-study, and to challenge you to apply those concepts to solve problems that have direct clinical relevance. The first of these homework problem sets is for practice and will not contribute to your PSL 539 grades. The remaining 8 homework problem sets will contribute to your Overall Course Score and grade in PSL 539 (see "Assessment" section of this Protocol). The opening date and due date for each Homework Problem Set are in the list of Course Event Calendar and will be announced on the PSL 539 web site on D2L (in the weekly Announcements).

- Clinical Application Post-Session Problem Set -- This online LON-CAPA problem set is to test your understanding of the content which is discussed and covered in the Immuno-path Clinical Application session. The Clinical Application session is held on Nov. 4, 2017. The opening date and due date for this problem set will be announced on the PSL539 web site on D2L (in the weekly Announcement).

Network access

To access the web-based D2L and LON-CAPA systems, you will need a reliable broadband internet connection and an up-to-date browser. Such access is readily available in the computer labs at your campus. Alternatively, you may use your own computer to access the internet via ports in study areas, dorm rooms, etc. Campus wireless may or may not be fast enough, depending on the circumstances. From off-campus locations, a cable modem, DSL connection, or equivalent will generally provide adequate speed and reliability. If you are having trouble using your own computer to access D2L or LON-CAPA, ask for help from the HIT-ET (Health Information Technology – Educational Technology) staff at your campus. Note, however, that arranging for timely, reliable access to D2L and LON-CAPA is ultimately your responsibility.

Textbooks and Reference Materials

Required

- PSL 539 Course Pack (Study Guide) for Fall Semester, 2017
The Course Pack (which we will call the "Study Guide" will be produced and distributed in two parts. An electronic version of the Study Guide (in pdf format) is also available via a link on the PSL 539 D2L web site. The Study Guide is basically a workbook, developed by the course faculty to facilitate your achievement of the course objectives. Bring the relevant sections of the Study Guide to each lecture and lab session!
- Pawlina, Histology: A Text and Atlas, 7th ed., 2015. Lippincott, Williams & Wilkins [ISBN 10: 1-4511-8742-4 & ISBN 13: 978-1-4511-8742-7].
Note: It is essential that you have your own personal copy of this book! In particular, it is important that you bring your own copy to each histology lab session.
- Rhodes & Bell, Medical Physiology: Principles of Clinical Medicine, 4th ed., 2013. Lippincott, Williams & Wilkins [ISBN: 978-1-6091-3427-3]
- Robbins & Cotran, Pathologic Basis of Disease, 9th ed., 2015. Elsevier Saunders [ISBN: 978-1-4557-2613-4]
- Ferrier, Lippincott's Illustrated Reviews: Biochemistry, 6th ed., 2013. Walters Kluwer/Lippincott, Williams & Wilkins [ISBN: 978-1-4511-7562-2]
- Sadler, Langman's Medical Embryology, 12th ed., 2012. Lippincott, Williams & Wilkins [ISBN: 978-1-4511-1342-6]

All of these textbooks will also be used in other courses in your curriculum, so you are advised to purchase and retain your own personal copies of these books.

i>Clicker Use in Course

i>Clickers will be used in this class. An i>Clicker 2 is required for this class. The mobile application, REEF Polling, will not be allowed.

In this course, i>Clicker input may be used in the following ways: to provide practice with concepts and principles, to stimulate discussion and/or to give mini-quizzes. Questions may be posed at any time during the class hour. No make-up experiences will be provided should you forget your i>Clicker. The i>Clicker will be the only mechanism to record attendance during large group lectures.

- If the i>Clicker is used to take attendance, you will be expected to arrive in class on time and to stay for the duration of the assigned activity.
- If you bring your i>Clicker and it fails during the lecture, please see the course representative immediately after the lecture to inform us of the problem. NO points for attendance will be given unless you notify us at the time of the lecture.

Please refer to additional i>Clicker policy information provided in Section 2 of this syllabus.

Specific Procedures for the PSL 539 Histology Laboratory

Access - Locations of histology teaching labs:

- EL – Room E200 Fee Hall (across the hall from the Gross Anatomy Lab).
- DMC – Room G031.
- MUC – Room 211 of the UC-4 Building.

At all sites, the lab is computer-based; it uses virtual slides static images (digitized microscope slides) as well as images from other designated web sites. Students will team up (in groups of 2-3) to share the laboratory workstations. At each lab session, you will need your lab manual (contained within the course Study Guide), your required histology text (Ross and Pawlina), and your i>Clicker.

Scheduled Labs: Your College will assign you to a specific 2-hour block for histology labs. This lab section assignment will also be posted on the PSL 539 D2L web site. Space and instructional support are limited in the histology lab, so it is essential that you attend only the 2-hour section to which you have been assigned. Also, answers that you submit during lab quizzes will earn course credit only if you are attending the lab session to which you were assigned.

Please consult the University and College Policies section of this Syllabus for information regarding lab sessions that you miss due to illnesses or emergencies. The process for seeking a permanent change in your lab session assignment is also explained there.

After Hours Study: For security reasons, access to the computers in the histology labs may be limited except during scheduled lab sessions. Remember, however, that all laboratory materials, including the virtual microscope static images, are always available on the web via any computer that has broadband internet access. The web addresses for accessing histology lab material are posted on the PSL 539 D2L site.

Preparation for each laboratory session -- Pre-lab problem sets and Individual Readiness Quizzes

To make your time in histology lab productive, it is essential that you prepare beforehand. The PSL 539 Study Guide includes an Introduction to each lab session and a specific assignment for you to work through before coming to lab ("Preparation for Lab"). You should also skim through the detailed directions for the lab session in order to get an idea of what you will be expected to accomplish during the lab session.

To reinforce the importance of preparing for lab, and to allow you to verify your readiness for lab, we will post a Pre-lab Problem Set online prior to each lab session. You will access the Pre-lab Problem Sets via the LON-CAPA system (<http://loncapa.msu.edu>). The problem sets will be available beginning Sunday at Noon, and will be "due" at Noon on the day of your assigned lab session (i.e., Wednesday). Successful completion of the pre-lab problem sets on LON-CAPA will contribute to your Overall Course Score and Course Grade (see "Assessment" section of this Syllabus).

As further reinforcement for advance lab preparation, we will begin each histology lab session with a brief Individual Readiness Quiz (IRQ), to be administered via the i>clicker system. Course credit will be awarded for answering IRQ questions correctly (see "Assessment" section of this Protocol). The IRQ questions should not be difficult for students who have conscientiously completed both the "Preparation before lab" (as specified in the Study Guide) and the Pre-lab Problem Set (on LON-CAPA).

Resources to bring to each laboratory session

- i>clicker – In order to receive Individual Readiness Quiz (IRQ) credit, you must personally attend the lab session to which you are assigned, and you must submit answers using your personal i>clicker, which you have obtained and web-registered in accordance with directions provided by the College. IRQ answers submitted in another way (e.g. written on paper or submitted using another student's i>clicker) will not be accepted. Therefore, it is important that you have fresh batteries in your working i>clicker.
- Study Guide – Your Study Guide provides an essential guide to the structural features you are looking for during lab and to their significance.
- Histology textbook – Both the Study Guide and online lab material will frequently refer to pertinent figures in the required histology textbook (Ross and Pawlina), so bring your histology textbook with you to lab!

Making the most of your time in histology lab

Being well prepared for each histology lab session (as directed above) and staying for the full lab time will allow you to take full advantage of the opportunity that each lab provides to work collaboratively with your classmates. The lab sessions also provide excellent opportunities for face-to-face interactions with faculty about lab material, other course content, or ancillary matters of interest. Furthermore, participating in the interactive review of questions (carried out in the last half hour of each lab session) will provide valuable preparation for the integrative questions on course exams.

Protecting the laboratory work stations

- Do not consume food or drink while seated at a computer station.
- Do not touch the computer monitor screens with anything other than the pointers that are supplied. No finger prints! No pens or pencils!
- During histology lab sessions, do not use the lab computers for activities unrelated to lab work (i.e., no personal e-mail, downloads, or web surfing).

Course-based Academic Support

The value you derive from this course (and those that follow it) will depend on many factors, but most importantly the amount of time and effort you put into it. In undergraduate courses, students often concentrate on just getting through the next exam or individual courses. But medical education is different because it is cumulative. Study for understanding, not just short term memorization. This will allow you to understand concepts and carry them forward with you to the next step in your medical education.

You are strongly urged to:

Consult the course D2L web site frequently to see announcements and to access various study aids (e.g., follow-up to in-lab problem sets, practice exam questions, and answers to frequently asked questions).

- Complete the preparatory work assigned for each lab and lecture session; this includes working through the online modules, problem sets or any other advance study activities.
- Attend every lecture and lab session. Plan to stay to the end of each lab session, in order to take full advantage of the opportunities to work collaboratively with your classmates, to interact with faculty, and to participate in the question reviews at the conclusion of lab.
- Actively annotate your Course Pack as you prepare for each class session, as each class session progresses, and also during your follow-up study.
- Complete the follow-up (supplemental) reading and self-study exercises as directed in the Course Pack and on the D2L web site.
- Use the practice exam questions (posted on D2L prior to each exam) to help guide your review and preparation for exams. Do NOT wait until the day before an exam to look at these practice exam questions. Instead, start using them several days prior to each exam to help guide your review and exam preparation.
- Each member of the teaching team has a well-deserved reputation for being approachable and for helping students achieve success. Avail yourself of the opportunities for help provided by the course faculty -- in person, via e-mail, and at scheduled help sessions or call them to schedule an appointment time.
- The time immediately before or after a course lecture is often too hectic to provide a good

opportunity to get help from course instructors. By contrast, lab sessions (especially at the end when some of the students have already departed) or scheduled office appointments provide an excellent time to ask questions of course faculty.

- Keep in mind that you can contact course faculty by e-mail with your questions. Note: Whenever you pose a question by e-mail, include what you THINK the answer is. This makes it much easier for the instructor to either confirm your understanding and/or offer clarification.
- Attend the course Help Sessions, which are scheduled prior to the course exams.
- Face-to-face contact with faculty at lecture sessions -- In addition to the faculty person giving a lecture, one or more of the course faculty regularly sit in on course lecture sessions at each site. This provides you with an opportunity to pose a quick question or to request a personal meeting with your local campus faculty. E-mail is also a good way to set up a personal meeting with a particular faculty member.
- Study groups - Many students find it beneficial to study with one or more partners, and we strongly encourage this activity. Studying together can be efficient (what one student doesn't understand, another one will), stimulating (personal interaction can help keep you focused and alert), and motivating (commitment to a partner supplements self-discipline). We encourage you to study with suitable partners. We caution you, however, to avoid study groups that turn into "gab fests" or where one or two students do all the talking. Remember, you may THINK you understand a concept when you hear someone else explain it, but you'll KNOW you understand the concept only when YOU can explain it to someone else. So, make sure you get to talk in your study group!
- Caution: Scribe note services are not sanctioned by MSUCOM and are not endorsed by the course faculty. Course faculty assume no responsibility whatsoever for errors in the "scribe notes". It is unwise to expect the "scribes" to substitute for your own attendance in lecture or lab, your own note taking, or your own studying.
- Additional academic support resources can be accessed at:
http://com.msu.edu/Students/Academic_Career_Guidance/index.htm

In summary, the course faculty are here to facilitate your learning. The large number of students in this course (about 300) necessitates a degree of formality. Also, since your schedules are very full, we must adhere rigidly to the lecture, small group and lab times assigned to this course. However, within these constraints, the needs of individual students will be accommodated whenever possible. Please feel free to contact the Course Coordinator with any personal issues you may have involving this course.

Course Topics

Overview:

| <u>Topic</u> | <u>Lecture Sessions</u> | <u>Lab Session</u> |
|---|-------------------------|--------------------|
| Fundamentals: | | |
| Introducing ten major themes | 1-4 | 1 |
| Basic cytology | 5 | 2 |
| Elaboration on Signaling | 6-8 | |
| Developmental dynamics | 9 | |
| Connective tissue: Connective tissue proper | 10-12 | 3 |
| More connective tissue: Cartilage and bone | 13-14 | 4 |
| Elaboration on major theme: Transmembrane transport | 15-17 | |
| More connective tissue: Blood | 18-21 | 5 |
| Eicosanoids and quick review of signaling | 22 | |
| Lymphatic System | 23-24 | 6 |
| Epithelium | 25-26 | 7 |
| Nerve tissue | 27-30 | 8 |
| Cell Injury and cellular accumulations | 31-33 | 9 |
| Inflammation and Tissue Renewal | 34-36 | 10 |
| Skeletal muscle | 37-40 | |
| Cardiac and smooth muscle | 41-42 | 11 |
| Autonomic nervous system | 43-44 | |
| Cardiovascular overview | 45-46 | |
| Hemodynamic disorders | 47-49 | 12 |
| Neoplasia | 50-54 | 13 |

Specific Course Schedule: A listing of Course Activities is posted on the PSL 539 D2L site. *However, the official Course Calendar is the Google Calendar for COM Class of 2021 (googleapps.msu.edu).*

Courses begin and end dates

PSL539 begins on August 28, 2017 and ends on December 12, 2017. See addendum for detailed daily course schedule.

Exams/Assessments

There will be a total of seven exams given in PSL539. Your score on the final exam and your scores on the case study sessions will determine your grade in the course. The assessment schedule is as follows:

| Assessments | Projected Points | Material to be Covered | Relevant lecture sessions | Relevant lab sessions |
|--|------------------|---|---------------------------|-----------------------|
| Unit Exam #1 Monday, 9/11/17 | 33 | Major Themes, Cytology, Signaling, Developmental Dynamics | 1-9 | 1-2 |
| Unit Exam #2 Monday, 9/25/17 | 27 | Connective tissue proper, Cartilage & Bone and Transport | 10-17 | 3-4 |
| Unit Exam #3 Monday, 10/9/17 | 27 | Blood, Eicosanoids signaling and Lymphatic system | 18-24 | 5-6 |
| Unit Exam #4 Monday, 10/23/17 | 24 | Epithelium and Nervous Tissue | 25-30 | 7-8 |
| Unit Exam #5 Monday, 11/6/17 | 24 | Cell Injury, Inflammation and Tissue repair | 31-36 | 9-10 |
| Unit Exam #6 Monday, 11/20/17 | 27 | Muscle and Autonomic nervous system | 37-44 | 11 |
| Unit Exam #7 Tuesday, 12/12/17 | 36 | Cardiovascular Overview, Hemodynamic disorders, and Neoplasia | 45-54 | 12-13 |
| TOTAL | 198 | | | |

Summary: Components of your Overall Course Score

| Component | Description | Maximum Points |
|---|------------------------------|--------------------|
| Labs (best ten): | 20 Lab Points maximum | 20 points maximum |
| Homework problem sets: | 12 Homework Points maximum | 12 points maximum |
| Clinical Application post-session problem set | 2 points maximum | 2 points maximum |
| Exam questions: | 198 questions @ 1 point each | 198 points maximum |
| Total = Overall Course Score | | 232 points maximum |

Assessment

Your Overall Course Score in PSL 539 will be based on four components:

- Pre-lab Preparation— To reinforce the importance of preparing for lab, and to allow you to verify your readiness for lab, we will post a Pre-lab Problem Set online (using the LON-CAPA system) prior to each lab session. In general, the problem sets will be available beginning Sunday at Noon, and will be "due" at Noon on the day of your assigned lab session (Wednesday). The problem set for Lab #1 is for practice and will not contribute to your Overall Course Score. The problem sets for Labs #2 - #13 will be graded and will contribute to your Overall Course Score.

As further reinforcement for lab preparation, we will begin each of the histology lab sessions with a brief Individual Readiness Quiz (IRQ), which will be administered via the i>clicker system. The IRQ for Lab #1 is for practice and will not contribute to your Overall Course Score. The IRQ's for Labs #2 - #13 will be graded and will contribute to your Overall Course Score.

A total of 2 Lab Points will be assigned to each of the twelve graded labs (Labs #2-#13). Specifically, each Pre-lab Problem Set on LON-CAPA is worth 1 point, and each IRQ is worth 1 point. Your best ten Lab Point totals (out of the twelve graded labs) will count toward your Overall Course Score. Achieving the maximum score of 2 on at least ten of the twelve graded labs (Labs #2-#13) would yield 20 Lab Points, which would contribute 20 points toward your Overall Course Score.

- Homework Problem Sets -- These online problem sets are designed to help you integrate concepts from lecture, lab and self-study, and to challenge you to apply those concepts to solve problems that have direct clinical relevance. Additional information about each problem set (including opening and closing dates for each problem set) will be announced on the course D2L web site. The first Homework Problem Set is for practice and will not contribute to your Overall Course Score. The remaining eight Homework Problem Sets will be graded and will contribute to your Overall Course Score. A total of 1.5 Homework Points will be assigned to each of the eight graded problem sets. Achieving the maximum of 1.5 Homework Points on each of the eight graded problem sets would yield a total of 12 Homework Points, which would contribute 12 points toward your Overall Course Score.
- Clinical Application Post Session Problem Set -- This online LON-CAPA problem set tests your understanding of the content that is covered in the Immuno-path Clinical Application Session, Which is held on November 3, 2017. A total of 2.0 points will be assigned to this problem set. Achieving the maximum of 2.0 points on this problem set would contribute 2.0 points toward your Overall Course Score.
- Exams—
There will be seven Unit Exams given during Semester 2. PSL 539 course material appears on all of those exams. Specific questions in Unit Exams #1-7 will be assigned course credit in PSL 539, as indicated in the chart below. Altogether, 201 exam questions will count toward your Overall Course Score in PSL 539. These exam questions will be based on Learning Objectives (listed at the beginning of each lecture and lab session in the Course Pack). Many of the questions will

integrate material from lectures, labs, and the assigned self-study activities. Each of the 201 exam questions that count toward your Overall Course Score in PSL 539 will have the same weight. Each of these questions that you answer correctly will contribute 1 point toward your Overall Course Score (making a maximum of 201 points that can be earned on exam questions in PSL 539).

Course Grades

A student's course grade is determined by the following formula:

$$\frac{(\text{exam 1} + \text{exam 2} + \text{exam 3} + \text{exam 4} + \text{exam 5} + \text{exam 6} + \text{exam 7} + \text{Labs} + \text{Homework problem sets} + \text{Clinical application post session problems})}{(\text{total points possible})} \times 100\% \\ = \text{Final Percent Score}$$

- **P-Pass**—means that credit is granted and that the student achieved a level of performance judged to be satisfactory by the instructor. To obtain a “P” grade for this course, a student must obtain 70% or a total of 162.40 points or more.
- **N-No Grade**—means that no credit is granted and that the student did not achieve a level of performance judged to be satisfactory by the instructor. A student who accumulates less than 162.40 points or an accumulated score below 70% will receive an “N” grade.

* Notes:

- No "rounding up" will be done in calculating your Overall Course Score.
- Your Course Grade depends on the percentage of the maximum score that you earned.

All remediation exams for semester 2017 are scheduled for Friday, January 5, 2018 or Saturday, January 6, 2018.

- Remediation - Since all of the courses in the MSUCOM curriculum are required, any student receiving an “N” grade must remediate the course. (Insert course-specific remediation information here: whether remediation is an exam or experience, requirements for course-based eligibility to remediate and any other specifics.) Please refer to the remediation policy information provided in Section 2 of this syllabus for information on College requirements and eligibility determination.

Student Evaluation of the Course

We want your feedback on how to improve this course.

- Informal Feedback: Feel free to approach the Course Coordinator, Dr. Mei-Hui Tai (taimeihu@msu.edu), or any of the other course faculty with your reactions and suggestions. Or write out your comments and email them to the Course Coordinator or Faculty. From time to time, we may also convene focus groups of students, as an additional way to elicit your opinions and suggestions.
- Formal Evaluation: In addition to the above, we ask every student in the class to complete formal on-line course evaluation upon conclusion of the course. Student course evaluations are highly recommended. Student feedback provides Course Coordinators with valuable information

regarding their performance, the performance of their colleagues, and the quality of the course. The information gained from these evaluations is used to continuously improve future offerings of this course. Students can access the evaluation system at: http://kobiljak.msu.edu/Evaluation/UnitI_II.html. Your participation in this important process is greatly appreciated.

Section 2 – Policies

Academic Honesty and Professionalism

http://com.msu.edu/Students/Professional_Development/Statement_on_Professionalism.htm

Every student is responsible for their behavior and is expected to adhere to all MSU and MSUCOM policies of academic honesty and professionalism. If there is any instance of academic dishonesty or unprofessionalism discovered by a member of the faculty, administration or staff, it is his or her responsibility to take appropriate action.

Such action may include, but is not limited to: giving a failing grade, referring a student for judicial review, directing the student to the Associate Dean of Student Services, and any other actions outlined in the Medical Students' Rights and Responsibilities document.

<http://com.msu.edu/AP/Professionalism/MSRR-Offical-Document-Final.pdf>

Absences from Mandatory Class Sessions and Examinations/Assessments

MSUCOM students are expected to attend all mandatory class sessions (e.g., lectures, laboratories, group activities) and take all examinations/assessments during their originally scheduled times. If this is not possible an excused absence may be requested.

Excused absences will not be given to all who make a request. If a request for an excused absence is denied, the student will receive a zero (0) grade for the mandatory session or examination/assessment in question, which may result in the issuance of an "N" grade in the course.

An excused absence does not relieve the student from responsibilities for missed mandatory class sessions and examinations. It is highly possible that an excused absence will not be granted for a mandatory class session due to scheduling of equipment and faculty. If one of these mandatory sessions is missed, even though an excused absence is granted, and cannot be made up, the student will receive a zero(0) grade for the event and may be required to repeat the course at its next offering.

Personal Emergencies:

To obtain an excused absence, complete the Excused Absence Request form and email it to Academic Programs osteomedap@hc.msu.edu.

A personal emergency is typically defined as the death of an immediate family member, serious illness, automobile accident and/or hospitalization. Situations including, but not limited to: failure to be on time, conflicting appointments and failure to provide proper identification will not be considered a personal emergency, and requests based upon these situations may be denied.

If an examination/assessment or other mandatory experience is missed due to medical reasons, a medical provider's written confirmation may be required before the request is considered.

Advance Notice of Absence Available:

A student must submit his or her excused absence request to Academic Programs osteomedap@hc.msu.edu at least one week in advance of any scheduled mandatory class session or examination/assessment. Requests for excused absences regarding weddings, family celebrations and vacations will be denied.

Conference, Conventions, Meetings, College Sponsored Activities

If a student wishes to attend a conference, convention, meeting, or college sponsored activity which will cause him or her to miss a mandatory class [session(s) and/or examination(s)], he or she must complete and submit an **Excused Absence Request** Form to Academic Programs osteomedap@hc.msu.edu at least two weeks prior to the expected absence period and provide a copy of the conference, convention, meeting or college sponsored activity announcement. Examination dates and mandatory class sessions will not routinely be changed for these activities.

Extended Absences:

MSUCOM will not excuse students for extended absences involving elective travel and medical mission work in another country. Approval of extended absences for unavoidable situations will be considered by Academic Programs osteomedap@hc.msu.edu on a case-by-case basis.

Missed PSL 539 lab quizzes

- If illness, emergency, or other compelling circumstance makes it impossible for you to attend two or more of your assigned lab sessions, you may request an excused absence from your Associate Dean, as directed, above. If an excused absence is granted for two or more lab sessions, your next step is to contact Course Coordinator: Dr. Tai (taimeihu@msu.edu).
- NOTE: In no case will an excused absence be granted for a single, isolated absence from a lab. Such an excuse is unnecessary, since a student can miss one lab quiz without losing any course points.
- No make-ups are offered for lab quizzes (IRQ's). Allowing for illness or emergency is why only ten of your twelve graded Pre-lab scores count toward your Overall Course Score. Appeals for additional consideration for multiple missed quizzes must be accompanied by an excused absence from your Student Affairs Office (as explained above), which is presented to the Course Coordinator -- Dr. Tai (taimeihu@msu.edu).

Permanent changes in PSL 539 lab assignment: The College assigns you to a 2-hour time block for your PSL 539 histology lab time. This lab assignment will also be posted on the PSL 539 D2L website. Space and instructional support is limited in the lab, so it is essential that you attend only the 2 hour block to which you have been assigned by the College. Also, answers that you submit during lab quizzes will earn course credit only if you are attending the lab session to which you are assigned. Any permanent change in your lab time assignment must be based on compelling need and negotiated in advance with the College. If you must seek such a permanent lab reassignment, contact the Course Assistant for your campus (as listed on page 3 of this Syllabus).

Computer-Based Testing

http://com.msu.edu/AP/preclerkship_program/preclerkship_curriculum/preclerkship_curriculum%20.htm

It is the responsibility of each and every student (including students restarting and overload students) to know and be in compliance with the MSUCOM policy regarding computer-based testing. It is possible that adjustments may need to be made to this policy, and students will be notified of those adjustments when necessary.

In addition, each and every student must possess his or her own electronic device that is compatible with the software program SoftTest, and ensure that it is fully functional and operational at the time of every computerized assessment.

If a student has difficulties with respect to their technology prior to an assessment, he or she can send an email to OsteoMedAP@hc.msu.edu (which is monitored during normal business hours) for a response within 24 hours of viewing or call the lead curriculum assistant for more urgent matters.

i>Clicker Policy

http://www.com.msu.edu/Students/Policies_and_Programs/iCLICKER_Policy.htm

You are expected to have your i>Clicker registered prior to the beginning of this class. You are responsible for bringing your i>Clicker to every class with you. Class will proceed as planned, even if you have forgotten to bring your i>Clicker with you. Paper completion of i>Clicker activities will not be accepted as a substitute for the i>Clicker response. Please make sure that your i>Clicker is always in working order.

As a matter of professionalism, please note that under no circumstances should you loan your i>Clicker to another student. Nor should you ever be in the possession of an i>Clicker other than your own.

Answering questions or checking in for attendance on behalf of another student by using his or her i>Clicker is considered to be an act of dishonesty and may result in dismissal from the college.

Graded Problem Sets on LON-CAPA – Expected conduct

(<http://www.loncapa.msu.edu>)

The [Pre-lab Problem Sets](#) and the [Homework Problem Sets](#) on LON-CAPA are open- book exercises. Moreover, you are permitted to work collaboratively with your PSL 539 classmates in preparing answers to these problem sets. However, for each graded problem set, you are expected to log onto your account on the LON-CAPA system independently, and to enter your own answers for grading. Failure to enter your own answers, yourself, or entering another student's answers for him/her will be considered to be cheating, and a breach of professional behavior.

Individual Readiness Quizzes (IRQ's) in Histology Lab – Expected conduct

IRQ's will be administered via the i>clicker system, in accordance with the i>Clicker policy statement (see above).

An IRQ will be administered at the beginning of each lab session. It is your responsibility to be on time. You may be assigned to a specific seat for an IRQ, and you may be asked to change seats during an IRQ. All IRQ's are "closed book". You must not consult notes, books, electronic devices, or other reference material during an IRQ, except as specifically directed by the Lab Instructor. During an IRQ, you must not communicate answers to IRQ questions to another student or attempt to copy answers from another student. Moreover, you are not to reveal the content of an IRQ to a student who is assigned to a subsequent lab section and therefore has not yet taken the IRQ. The expectations regarding professional behavior and academic honesty that apply to examinations are to be applied during IRQ's as well.

The bottom line on professional behavior

Based on many years' experience, we expect that almost all students, through their own, honest efforts, will earn passing grades in PSL 539. However, failing PSL 539 (and then having to remediate) is not the worst thing that could happen to you in this course.

The worst thing would be to attempt to raise your own course score, or a classmate's score, by engaging in some form of cheating. Engaging in dishonest behavior erodes your self-respect, tarnishes the image of your class and your college, jeopardizes your medical career, and demeans the medical profession. Just don't do it!

If you have any questions or concerns about appropriate/inappropriate behavior in this course, please contact either of the Course Coordinator and/or your college's academic or student affairs administrators. Your communication may be anonymous, if you wish.

Achievement, not competition

The sole goal of the faculty is to facilitate your learning of cell biology and physiology. In all respects, the evaluation scheme for the course is set up to recognize and reward your best, honest efforts to achieve the learning objectives. No "curves" are used in grading, so there is no limit to the number of students who can earn high scores. As a result, a poor performance by another student will not benefit you in any way, whatsoever. Therefore, we expect you to cooperate with and encourage your classmates to the greatest extent possible (within the boundaries of professional integrity, of course).

We will be delighted if everyone does well in the course. However, we will not lower standards in order to "inflate" student performance. Easing standards is unfair to all concerned. It would give a false sense of accomplishment to marginal students, who would then be likely to have trouble in future courses and on Board exams. It would diminish the academic reputation of this medical school and erode the standards of the profession. It would also be an abrogation of our responsibility to the public at large, which expects expert medical care from thoroughly competent physicians. Although we will not lower

standards to make things "easier", we will work with you in every other way possible to help you achieve success. Just tell us what you need.

Remediation Policy

Remediation of an "N" grade will be governed by the MSUCOM Policy for Retention, Promotion and Graduation (relevant content found under Remediation section), (<http://www.com.msu.edu/Students/Registrar/MSUCOM%20Remediation%20of%20N%20Grade%20Algorithm.pdf>) and by the remediation section of each course syllabus.

It is the responsibility of each student in the Michigan State University College of Osteopathic Medicine to verify his/her eligibility, with the Office of Student Services, prior to the administration of the remediation examination/experience. Also, it is the student's responsibility to ask the course coordinator about the format and expectations of the remediation experience.

Students deemed eligible for remediation by the registrar will be informed by the registrar's office.

Requests for Special Accommodations

Michigan State University is committed to providing equal opportunity for participation in all programs, services and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities at 517-884-RCPD or on the web at <http://www.rcpd.msu.edu/>. Once your eligibility for an accommodation has been determined, you may be issued a Verified Individualized Services and Accommodation (VISA) form. Please present the VISA to Cheryl Luick, luick@msu.edu A329 East Fee Hall at the start of the term and/or two weeks prior to the assessment event (test, project, labs, etc.). Requests received after this date will be honored whenever possible.

It is the responsibility of the Student with Accommodations to contact the Course Coordinator and the Curriculum Assistant two weeks prior to the beginning of the semester, when the VISA is obtained prior to the start of the semester. When the VISA is obtained after the start of a semester, the student will notify the Course Coordinator and the Curriculum Assistant two weeks prior to the next scheduled evaluation.

Addendum: Course Schedule