IFM MICROSCOPIC ANATOMY  
COURSE INFORMATION & POLICIES  
2015-16 

I. OBJECTIVES: 
The IFM Microscopic Anatomy course is taught by the Department of Neurobiology & Anatomy. The objectives of the course are to: 

1. Teach the structure of cells, tissues & organs at the microscopic level, with an emphasis on clinical relevance. 
2. Demonstrate the principle that structure reflects function. 
3. Conceptually connect the molecular events discussed in Biochemistry and Physiology to the macroscopic structures studied in Gross Anatomy. 
4. Provide students with the necessary background for Pathology. 
5. Prepare students for Board Exams. 
6. Foster the development of professionalism among students. 

II. FACULTY: 
Since almost all the instructors involved in teaching Microscopic Anatomy have offices right here in the Queen Lane building, we do not have official office hours. Feel free to drop by our offices any time you have a question. If we cannot see you immediately we will be happy to make an appointment. E-mails are also always welcome. 

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Departmental Office: 272 Queen Lane,  
Phone: (215) 991-8401  
Departmental Fax: (215) 843-9082
III. REQUIRED BOOKS:


THE TEXT AND ATLAS SHOULD BE BROUGHT TO EVERY LAB to help you identify and locate the structures you are studying that day.

NOTE: If you choose to use books other than these, you do so at your own risk. In the event of any discrepancies between books, the information presented in these two books will be considered correct.


This book is used in all of our lab sessions, but it is now out of print and unavailable from the publisher. Each lab group has one copy of the book in their group locker. We recommend studying and discussing the micrographs together as part of your lab exercise. Additional copies are on reserve in the library. An electronic version of the text is available through the course website.

IV. RECOMMENDED OPTIONAL READING:

During the first two modules of the course there are recommended optional readings from this book, which is on reserve in the library:

V. ADDITIONAL REFERENCE BOOKS:

Consult these in the library if you need additional information on a particular topic.


VI. COURSE WEBSITE:
You can access the course website by going to:  
http://webcampus.drexelmed.edu/IFM
and clicking on “Courses” in the left column and then on “Course Web Site” under Microanatomy in the main page. Parts of this website are password protected. Alternatively, you can gain access directly to the course website by going to:  
http://neurobio.drexelmed.edu/education/ifm/microanatomy

The course website contains items such as the course schedule and all other information found in this syllabus, plus the complete lab manual, fully annotated practice questions for the written exams, a Microscopic Anatomy vocabulary list with definitions, the virtual microscope with digitized glass slides for each lab, a link for electron micrograph images, photos of the faculty, and much more. Photos of the student lab groups will also be posted after the course begins.

VII. OTHER STUDY RESOURCES:
The following resources are available in the lab:

1. **A VIDEOEDISK** (laserdisk) called Histology: A Photographic Atlas, which contains thousands of light microscope images. There are several videodisk players and monitors equipped with this disk in every lab cubicle. At each of these stations there is a 3-ring binder with lists of images that can be called up on the monitor by entering an image number using a remote control device. In addition, each lab group receives one copy of a manual that describes these images in more detail, and includes practice practical questions. VIEWING AS MANY DIFFERENT EXAMPLES OF A TISSUE OR ORGAN AS POSSIBLE IS AN EXCELLENT WAY TO LEARN ITS STRUCTURE AND TO STUDY FOR PRACTICAL EXAMS. THE VIDEODISK PROVIDES YOU WITH THIS OPPORTUNITY.

2. **A COMPUTER INDEX FOR THE VIDEODISK.** Each cubicle has a computer connected to one of the videodisk set-ups. The index program is loaded on this computer. It allows students to view RANDOMLY MIXED IMAGES from several study units, which is useful in studying for practicals. Lab instructors will demonstrate the use of this program during the first two or three lab sessions of the course.

The following resource is available in the library:

3. A videodisk set-up. This is especially helpful if you need to access a videodisk player while other classes are scheduled in Lab B.

VIII. LECTURE NOTES:
The lecture notes for each module will be posted online on the IFM website:  
http://webcampus.drexelmed.edu/ifm/IFM2015/default.aspx. Click on “Modules” in the left column, then click on the name of a module, scroll down to the lecture of interest, and click on the page icon next to the lecture title.

While Microscopic Anatomy handouts will sometimes include some key diagrams, they generally do not include micrographs. Since the course is very visual in nature, you will find that utilizing the REQUIRED TEXT & ATLAS will be important for finding representative graphics related to the structures being studied.
The handouts and the lectures DO NOT contain all that you need to know about the lecture topic. The text, the atlas & the lab guide contain additional information. You are expected to read and learn this material, and IT WILL BE INCLUDED ON EXAMS.

IX. LAB:

Lab Guide: All laboratory guides are available online through the website (Virtual Microscope link) or the ipad vMicroscope App. For the first several laboratory sessions it is only expected that you will preview the material before lab so that you are prepared to do the lab assignment in class. Beginning with the ‘Integument’ lab, you will be expected to complete the assignments PRIOR to laboratory, as the lab session will include activities that are meant to be a review of this material.

Attendance: Attendance at labs is not mandatory. What this means is simply that failure to attend labs will not result in a student receiving a professionalism citation from the course director. HOWEVER, most labs include activities worth between 1-3 points. Students who do not attend lab lose these points. Moreover, the activities in lab will provide a useful review of the material you are responsible for, and an opportunity to benefit from the expertise of faculty instructors. You are strongly urged to attend lab regularly with your lab group.

Peer evaluation: At about the mid-point of the course you will be required to complete an online peer evaluation of your lab partners and yourself. You will be asked to evaluate criteria including “meets group’s expectation of attendance, is consistently well prepared, does his/her fair share (of lab work), respects others, gives and accepts feedback”, and others. You should keep these criteria in mind as you progress through the course.

If you cannot attend a lab session you are expected to notify your lab partners to that effect as soon as possible. Failure to do this often results in poor peer evaluations, and can lead to a professionalism citation if the behavior is repeated in other courses.

Lab access: The laboratory should normally be open 24 hours a day, 7 days a week. If it is not, go to the security desk in the main lobby, show your student ID & ask them to unlock the lab. The only exception to this rule is that the lab will close at noon the day before a practical exam to allow the faculty to set up the exam for the following morning.

Lab equipment: Laboratory equipment (videodisk players and monitors, videodisks, microscopes, computers, etc.) may not be removed from the lab at any time, especially not in the days immediately preceding an exam. Failure to follow this rule will be considered an Honor Court violation.

X. LAB REVIEW EXERCISES:

All laboratory sessions, excluding the first lab, will include team exercises that will be completed by each lab group and be worth between 1-3 points. These may be open or closed book, and may include things like Scavenger Hunts, Mystery Slide identifications, and quiz questions based on one or more light micrographs, electron micrographs, or diagrams. When we begin studying organ systems, these may also include clinical application exercises using pathological slides/images. These lab exercises may not be made up in case of absence. However, you will be able to drop
the equivalent of one session from your grade, which will allow you to miss one lab without affecting your course grade.

The following are descriptions of the various activities that may take place during a lab review session:

1. Scavenger Hunt: A scavenger hunt is a lab exercise in which each lab group is assigned 2-4 structures to locate on glass slides from their slide boxes. Students should confer with other members of their lab group. They may use outside resources including textbooks, atlases, lecture notes, lab guide, and videodisk images. The only resource that MAY NOT be used is the DUCOM virtual microscope, since these images should be very similar or identical to the glass slides that the group will be using in the scavenger hunt. When your group agrees that the correct structure has been located, you show it to a lab instructor. Identifying the majority of structures correctly earns each member of the group one point towards their course grade.

2. Scavenger Hunt Review: A short faculty led, interactive review of all the assigned scavenger hunt structures.

3. Mystery Slides/Mystery Images: For this lab exercise, a group may be assigned an unlabeled virtual slide or other LM/EM image(s) and be asked questions about the slide/images (usually 4-5 questions). Students work with their lab groups to answer the questions. In some cases groups will be asked to save screenshots from a virtual slide to a presentation as part of their answer. These are CLOSED-BOOK exercises in which group members collaborate, but may not consult any resources other than their lab partners. Answering the majority of questions correctly earns each member of the group one point towards their course grade.

4. Clinical Application Exercise: For this lab exercise, students are given a clinical pathology case scenario, and use their knowledge of normal histological structure to answer questions about the pathological images provided. These are CLOSED-BOOK exercises in which group members collaborate, but may not consult any resources other than their lab partners. Answering the majority of questions correctly earns each member of the group one point towards their course grade.

XI. HISTOHHELP

Periodically, Histohelp sessions will be scheduled in the lab (Laboratory B, Cubicle A). These sessions are similar to office hours in that they are optional to attend, and provide an opportunity to meet with a faculty member to ask questions about recently covered topics, including lecture and laboratory content. Since they are held in the lab, slides, videodisks and other resources can be accessed and reviewed with faculty present for assistance. Dates and times for Histohelp sessions will be posted on the Microanatomy Webpage, and are subject to change.

XII. EXAMS:

There will be 5 exams during the course, most of which include content from two or more modules. Exams will be delivered electronically using ExamSoft unless otherwise notified. Each examination will include a ‘written’ part, and a ‘practical’ part (defined below, with an even distribution of each type of question).

All material, whether presented in lecture or in lab, can be tested on an exam. Material from your required reading, even material that was not specifically discussed in lecture or lab, can be tested on the exams.
Written questions will be MULTIPLE CHOICE OR MATCHING FORMAT. They may include DIAGRAMS.

Practical questions will be MULTIPLE CHOICE or SHORT ANSWER/FILL-IN-THE-BLANK format. Images for ‘Practical’ type questions can derive from LIGHT MICROGRAPHS OR ELECTRON MICROGRAPHS and can also include DIAGRAMS. There will be electron micrographs on all practical exams. This is especially true of the first practical, which includes the cell biology portion of the course. Practical questions often have two parts. The first may be a straightforward identification, whereas the second part may ask something about the function, location, etc. of that structure. In these cases, each part of the question will be worth ½ point.

The course website includes a PRACTICE PRACTICAL FOR THE FIRST EXAM, so that you will have some idea of the types of questions asked on practicals. There are no practice practicals for subsequent exams.

Exams can include a small amount of RELATED MATERIAL FROM A PREVIOUS EXAM. For example when one organ closely resembles another one that was studied earlier in the course, we can use either organ on the practical and expect you to be able to distinguish between them.

The images used in practical exams will include some you have seen in lecture or lab, and some you have never seen before. The object of your studies should be to learn how to recognize the various cells, tissues and organs, not to memorize individual slides and micrographs.

The course website contains SLIDE REVIEWS that are particularly useful for preparing for the practical questions on an exam. It is VERY HIGHLY RECOMMENDED that you watch these reviews at least once before taking the exam. Some students also find them useful as previews of what they should be learning during each module.

If you need additional help in preparing for the practical exam questions, you should plan on attending scheduled HISTOHELP sessions. You can also schedule an appointment with any faculty member for an EXTRA HELP SESSION IN THE LAB. If you need help with lecture material, please contact the faculty member who gave the relevant lecture(s).

See the course schedule for the date and time of all exams, and for information about what material is covered in each. Do not email the course director to ask for this information.

See the IFM website http://webcampus.drexelmed.edu/IFM for the official Year 1 exam policies.

Exams will be scored by the Division of Medical Education, & your grade will be posted on the IFM evaluation website (http://webcampus.drexelmed.edu/evaluations/) in a secure form accessible only by you. Fill-in-the-blank questions require faculty to manually check responses, thus exam scores may be delayed until manual grading is complete. Scores will usually be posted within two-days of the exam.

Exam Review: Exam reviews will be scheduled after each module exam, coordinated with other courses. Challenges to any exam question should be sent by e-mail to the
course director (haviva.goldman@drexelmed.edu) within three school days after any scheduled exam review.

The Microscopic Anatomy faculty also presents lectures and a lab covering the histology of the eye and ear as part of the Neuroscience course. Exam questions related to these topics count toward your Neuroscience grade rather than your Microscopic Anatomy grade.

XIII. MISSING AN EXAM & MAKING UP EXAMS: THE HONOR CODE

Students who cannot take an examination as scheduled must notify the Associate Dean for Student Affairs, Dr. Amy Fuchs, prior to the test. If the Dean is satisfied that the absence is unavoidable, the student will be allowed to take a make-up examination. If the Dean does not excuse the absence, or the student fails to contact the Dean prior to the exam, a grade of zero may be given.

It is our practice in Microscopic Anatomy to use the same exams for make-ups as for the original exam. We expect compliance with the Honor Code. Students who have been excused from an exam and have not yet taken the make-up should not discuss the exam with those who have already taken it.

Students who are excused from an exam will be informed of the make-up date and time via an email from Cynthia Books, Program Coordinator for Year 1 IFM.

XIV. GRADING:

Your grade in Microscopic Anatomy is determined by your performance on lab review exercises and exams (written and practical). The grade is calculated by adding up the total number of course points and bonus points that you earned and dividing by the total number of course points. The approximate percentage of your grade represented by each of the various course elements is:

- Fundamentals/Abnormal Amniocentesis module exam (written & practical): ~27%
- Muscle Weakness/Weight Loss module exam (written & practical): ~20%
- Chest Pain module exam (written & practical): ~10%
- Suspicious Lump/Shortness of Breath/Failure to Thrive module exam (written & Practical): ~20%
- Abdominal Pain module exam (written & practical): ~13%
- Lab Review Exercises: ~10%

The percentages listed above are approximate since the course grade is calculated based on the actual total number of questions asked in the course, and this number may vary somewhat from what is currently anticipated. For each written exam you can expect 3-4 questions per lecture hour and 6-7 questions per lab guide topic.

The total number of points available in the course will be approximately 350-400. This includes the Lab Review Exercises (~35 points). As stated previously, you will be able to drop the equivalent of one review session from your grade, which will allow you to miss one lab without affecting your course grade.
**BONUS POINTS:** Bonus points are ones that will be added to your point total if you get them correct, but you will not lose any points if you get them wrong. They are not included when we calculate the total number of possible points in the course. Most exams will include one or more bonus points.

PLEASE remember: Lab Review Exercises and module exam questions are **REGULAR COURSE POINTS.** If you get one of these wrong, you lose a point from the possible course point total.

**Grade cut-offs:** Decisions about the cut-off points for final grades are made after the course has ended. However, the following guidelines will apply:
- Final averages below 65% are likely to result in a grade of Unsatisfactory (U)
- Averages between 65-70% are likely to receive a Marginal Unsatisfactory.
- An average of 70% or above will definitely be a satisfactory (passing) grade.

**XV. REMEDIATION:** Students who receive a grade of Unsatisfactory (U) or Marginal Unsatisfactory (MU) in Microscopic Anatomy are referred to the Preclinical Promotions Committee for review of their academic record. If the student has few or no deficiencies in other courses, the deficiencies in Microscopic Anatomy can usually be remediated as follows:
- Students who receive a U must take and pass an approved summer course in Microscopic Anatomy or repeat our course the following year. A remedial summer course is offered online by our department, and residential summer courses are usually available at one or more other medical schools.
- Students who receive an MU must take and pass a written remediation exam. The exam must be successfully completed no later than two weeks before first year classes begin in August. A student who fails the remediation exam late in the summer, when remediation courses are no longer available, cannot progress into the second year of medical school. Students who need remediation should consult with the course director as soon as possible after the end of the course.

**XVI. EXEMPTION FROM THE COURSE:** Exemption from the course can be granted to students who, within the past 5 years, have earned an average of “B” or better in:
- a Microscopic Anatomy course at an accredited medical school, OR
- a graduate level Microscopic Anatomy course taken while enrolled as a post-baccalaureate student at an accredited college or university

Requests for exemption must be made by e-mailing the course director at haviva.goldman@drexelmed.edu by the end of the second week of classes (Friday, August 21). Some supporting materials such as a course schedule, syllabus, lab manual, or copies of exams may be required to help evaluate the content of the course you took. You may wish to bring these items with you when you arrive on campus for the start of school. Until a decision is made on the exemption request, students must continue to take all exams. If the request is approved, students will have a grade of "Exempt" recorded on their transcripts.