BIO 582. Human Histology. 4 Credits
Spring 2017. Lecture and Laboratory
James Madison University

Instructor: Dr. Mark Gabriele
Office: Bioscience Building, 2028-B
Email / Voicemail: gabrieml@jmu.edu / 568-6333; email preferred

Office Hours: T 2:00-3:30
W 9:30-11:00

Section (0001):	Lecture:	TTh	9:30-10:45	Bioscience 2009	Gabriele
Section (1001):	Lab:	Th	2:00-5:00	Bioscience 2033	Gabriele

Required Texts: *Histology: A Text and Atlas*; Ross and Pawlina (7th Edition)
diFiore's Atlas of Histology with Functional Correlations; Eroschenko (12th Edition)

GOALS OF THE COURSE:

Goal 1: To obtain a basic understanding of the morphology of the microscopic anatomy of the human body and correlate it with general function.
Goal 2: To be able to identify cells and tissues, as well as the ability to make observations and decisions to identify studied organ systems.
Goal 3: To relate the functions of those cells, tissues, and organ systems to their structures.
Goal 4: To learn to visualize a three-dimensional representation of the two-dimensional structure seen under the microscope.
Goal 5: To appreciate advantages / disadvantages of various types of microscopy and histological stains.
Goal 6: To become aware of variations from normal histological structure (histopathology).

NATURE OF COURSE CONTENT: Microscopic structure of cells, tissues and major organ systems of the body. Basic anatomical and physiological function is presented to emphasize the histological significance of the examined organ systems. *Prerequisite: BIO 270 or BIO 290, or equivalent.*

METHODS OF EVALUATION: Three exams are scheduled for both lecture and laboratory. All exams are considered to be comprehensive in nature in that we will apply principles throughout the semester. Final letter grades will be assigned on a 10-point numerical basis (*i.e.* 100-90% = A; 89-80% = B; 79-70% = C; 69-60% = D; <60% = F).

Graduate:	Lecture Exam 1	15%	Lab Exam 1	15%
	Lecture Exam 2	15%	Lab Exam 2	15%
	Lecture Exam 3	15%	Lab Exam 3	15%
	Graduate Present.	10%		

*Graduate Specific Course Components:

1. Graduate lecture exams are more rigorous and include additional graduate essay portions.

2. Graduate students will be required to lead techniques classes on microscope alignment, embedding, sectioning, staining, and imaging.

3. Graduate students will prepare and give a formal oral presentation on a common histopathology of one of the normal organ systems covered during the semester.

REQUIREMENTS OF THE COURSE:

HONOR SYSTEM: All students are expected to be familiar with and to abide by the University Honor Code at JMU. A complete description of the University Honor System can be found in the JMU Student Handbook or here: http://www.jmu.edu/honor/code.shtml

INTELLECTUAL PROPERTY: All exams, handouts, and materials for this course, including those posted on Blackboard and faculty and course websites (i.e. MDID), are intellectual property. Therefore, dissemination of any of these items, in whole or in part, through any extracurricular agency including other websites is a violation of the honor code and will be punished as such.

ATTENDANCE: Attendance is absolutely critical to the successful completion of this course. You are expected to attend ALL lecture, laboratory, and small group sessions. Officially excused absences from laboratory must be approved **prior** to the absence. Make-ups for **lecture and laboratory exams** will be given for **officially excused absences** ONLY (official school business, illness with M.D. excuse, death in the family). If you are unable to attend a lecture exam, you must contact me directly **prior** to the scheduled exam time.

ADDING/DROPPING CLASSES:
Policies for adding and dropping courses can be found here: http://www.jmu.edu/syllabus

Requests to withdrawal after the university stated deadlines are strictly at the discretion of the instructor. **In extraordinary circumstances only**, the instructor may choose to use the WP/WF option for students unable to complete the course. WP will be assigned for a course average ≥70%; WF will be assigned for averages <70%.

ACADEMIC HONESTY:
Policies for academic honesty and plagiarism can be found here: http://www.jmu.edu/syllabus

OFFICE OF DISABILITY SERVICES:
Policies for disability accommodations can be found here: http://www.jmu.edu/syllabus

It is the student's responsibility to provide documentation from the Office of Disability Services to the lecture instructor to ensure that appropriate arrangements are made.

INCLEMENT WEATHER POLICIES
Policies for inclement weather can be found here: http://www.jmu.edu/syllabus

RELIGIOUS OBSERVATION ACCOMMODATIONS
Policies for religious observation accommodations can be found here: http://www.jmu.edu/syllabus

BIO 582: Tentative Lecture Schedule

WEEK 1:	Jan 10th	Course overview, Intro to microscopy and histological methods (Chapter 1)
	Jan 12th	Epithelium, glands, and connective tissues (Chapters 4-6, 9)
WEEK 2:	Jan 17th	Finish epithelium, glands, connective tissue. Cartilage (Chapter 7)
	Jan 19th	Cartilage and Bone (Chapter 7 and 8)
WEEK 3:	Jan 24th	Blood I (Chapter 10)
	Jan 26th	Blood II; Hematopoiesis (Chapter 10)
WEEK 4:	Jan 31st	Muscle (Chapter 11)
	Feb 2nd	Nervous Tissue (Chapter 12)
WEEK 5:	Feb 7th	Assessment Day. NO CLASSES
	Feb 9th	**UNIT I EXAM - Tissues**
WEEK 6:	Feb 14th	NO CLASS – Research Conference
	Feb 16th	Intro to organ systems, Integumentary system, (Chapter 15)
WEEK 7:	Feb 21st	Finish Integumentary system, start Vascular system (Chapter 13)
	Feb 23rd	Finish Vascular system (Chapter 13)
WEEK 8:	Feb 28th	Respiratory system (Chapter 19)
	Mar 2nd	Microscopy I: Focus and alignment of a compound microscope; Fluorescence.
WEEK 9:	Mar 7th	SPRING BREAK – NO CLASSES
	Mar 9th	SPRING BREAK – NO CLASSES
WEEK 10:	Mar 14th	Esophagus and Stomach (Chapter 17)
	Mar 16th	Stomach and Small Intestine (Chapter 17)
WEEK 11:	Mar 21st	Small Intestine, Large Intestine, Rectoanal Junction (Chapter 17)
	Mar 23rd	Microscopy II: Capturing, scaling, and labeling digital images. Data acquisition/analyses
WEEK 12:	Mar 28th	Review for Lab Exam
	Mar 30th	**UNIT II EXAM – Integument through Digestive**
WEEK 13:	Apr 4th	Accessory digestive glands; Liver, GB, and Pancreas (Chapter 18)
	Apr 6th	Finish Accessory digestive glands (Chapter 18); Intro Urinary (Chapter 20)
WEEK 14:	Apr 11th	Urinary System I (Chapter 20)
	Apr 13th	Urinary System II (Chapter 20)
WEEK 15:	Apr 18th	Male Reproductive System (Chapter 22)
	Apr 20th	Female Reproductive System (Chapter 23)
WEEK 16:	Apr 25th	Slide Preparation (Embedding, Sectioning, and Mounting Tissue)
	Apr 27th	Course evaluations, Student Presentations, Review for Final
WEEK 17:	May 4th	10:30-12:30am **UNIT III LECTURE EXAM – Cumulative**

BIO 582: Tentative Laboratory Schedule

WEEK 1:	Jan 12th	LAB 1: Epithelium, glands, and connective tissues (Chapters 2 & 3)
WEEK 2:	Jan 19th	LAB 2: Cartilage and Bone (Chapter 4)
WEEK 3:	Jan 26th	LAB 3: Blood (Chapter 5)
WEEK 4:	Feb 2nd	LAB 4: Muscle and Nervous Tissue (Chapter 6 & 7)
WEEK 5:	Feb 9th	**UNIT I LAB EXAM – Tissues**
WEEK 6:	Feb 16th	LAB 5: Integumentary System (Chapter 10)
WEEK 7:	Feb 23rd	LAB 6: Vascular System (Chapter 8)
WEEK 8:	Mar 2nd	LAB 7: Respiratory System (Chapter 15)
WEEK 9:	Mar 9th	SPRING BREAK – NO LAB
WEEK 10:	Mar 16th	LAB 8: GI TRACT I (Chapter 12)
WEEK 11:	Mar 23rd	LAB 9: GI TRACT II (Chapter 13)
WEEK 12:	Mar 30th	**UNIT II LAB EXAM – Integument through Digestive**
WEEK 13:	Apr 6th	Lab 10: Accessory Digestive Glands (Chapter 14)
WEEK 14:	Apr 13th	LAB 11: Urinary System (Chapter 16)
WEEK 15:	Apr 20th	LAB 12: Male Reproductive System (Chapter 18) LAB 13: Female Reproductive System (Chapter 19)
WEEK 16:	Apr 27th	**UNIT III LAB EXAM – Cumulative**