

BIOH480 (honors): Teaching Anatomy and Physiology I Syllabus Fall 2016

Instructor: Laurie Minns, PhD

- Office: BioResearch Building Rm 106
- Phone: 406-243-6013
- Office Hours: Mondays 9:10-10:45am and by appointment
- Email: Laurie.Minns@mso.umt.edu

**** Pre-requisite: Grade of B- or higher in BIOH365, consent of instructor**

Course Meeting Times:

- Fridays 12noon-12:50pm
- Mondays 12 noon-12:50pm: rotation check off
- Assigned lab (arrive 10 minutes early)
- Assigned open labs (stay the entire 2 hours or 2 blocks of 1 hour, TBD at the beginning of the semester)
- TA only open labs (optional for content mastery, see lab schedule)

Course Structure

- 1) Lecture, discussion and preparation of laboratory materials for BIOH365.
- 2) Weekly mandatory meetings to discussing teaching strategies effective for undergraduate BIOH365 cadaver labs
- 3) Supervised teaching of laboratory activities in one BIOH365 laboratory per week
- 4) Supervised teaching during weekly open labs for BIOH365 students.

Required materials:

Principles of Anatomy and Physiology 14th edition by Gerard J. Tortora, Bryan H. Derrickson - John Wiley & Sons (2014) – ISBN 978- 1-118-34500-9 plus the Wiley Plus online package (available at the University of Montana Bookstore).

Atlas of Anatomy by Anne M. Gilroy, Brian R. MacPherson, Lawrence M. Ross - Thieme (2008) –ISBN-978-1-60404-062-1 or the 2nd edition of the Gilroy atlas or the electronic edition (available from www.thieme.com)

Course Objectives:

Upon successful completion of this two-course sequence, you will have mastered the conceptual and practical information regarding the anatomy and physiology of the human organism by assisting in teaching the human anatomy and physiology labs (BIOH365). More specifically, upon the successful completion of this course you should be able to:

- 1) Demonstrate understanding of chemical and biological principles and knowledge that serve as the foundation for understanding human anatomy and physiology.
- 2) Understand and analyze cellular processes governing development, growth and normal function of the human body.
- 3) Understand the processes involved with maintaining homeostasis and anticipate what may occur when homeostatic balance mechanisms are lost.
- 4) Demonstrate practical knowledge of human gross and microscopic anatomy using human cadavers and prepared histological slides.
- 5) Identify structures in the body and analyze their relationship with other structures.
- 6) Describe development, regeneration and normal function of body systems

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- 7) Understand the cellular and physiological mechanisms that drive tissue formation and function.
- 8) Employ the scientific process for understanding principles of anatomy and physiology.
- 9) Analyze A&P observations and data and determine the potential physiological consequences.
- 10) Become familiar with current teaching practices and ways to address the various learning styles of students in the human anatomy and physiology laboratory.

Topics covered (Learning Goals):

During this two-semester course, students enrolled in BIOH480 will gain mastery of human anatomy and physiology as it pertains to health professionals attributed to the increase in preparation of course materials and conveying this information to students enrolled in BIOH365.

The two-semester sequence is divided as follows:

BIOH 480	BIOH 481
Body Plan & Organization	Endocrine System
Homeostasis	Cardiovascular System
Chemistry & Cell Biology Review	Lymphatic System & Immunity
Histology	Respiratory System
Integumentary System	Digestive System
Skeletal System & Articulations	Metabolism
Muscular System	Urinary System
Nervous System	Fluid/Electrolytes & Acid/Base Balance
Special Senses	Reproductive System

Important Lab Meeting dates are below: topics may change

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Fall 2016 Rotation breakdown

		Lab Meeting Presentation Date	UGTA	BIOH365 Lab Date
Lab 1: Anatomical terms, Gross and Surface Anatomy, Cellular anatomy and Physiology				
Rotation 1:	Torso Model/Cadaver: quadrants, regions, membranes and organs in each; planes	26-Aug		Aug 30-Sep1
Rotation 2:	TA: Anatomical Regions and planes; movements/pin the regions on the skeleton	26-Aug		Aug 30-Sep1
Rotation 3:	Cell: Parts of a cell and their respective functions	26-Aug		Aug 30-Sep1
Lab 2: Tissues and the Integumentary System				
Rotation 1:	Tissue Histology/Dichotomous Key	2-Sep		Sep 6-8
Rotation 2:	Integumentary System Histology	2-Sep		Sep 6-8
Rotation 3:	Burns/Accessory structures of skin	2-Sep		Sep 6-8
Lab 3: Bone Histology and Axial Skeleton				
Rotation 1:	Bone Model and Bone Histology	9-Sep		Sep 13-15
Rotation 2:	<u>Vertebrae ID, Rib articulations, Sacrum, sternum</u>	9-Sep		Sep 13-15
Rotation 3:	<u>Skulls (in-tact, exploded and fetal)-</u>	9-Sep		Sep 13-15
Lab 4: Appendicular Skeleton				
Rotation 1:	Upper extremity Bone boxes	16-Sep		Sep 20-22
Rotation 2:	Lower Extremity Bone boxes/ Pelvis ID	16-Sep		Sep 20-22
Rotation 3:	<u>Skeleton, with an emphasis on siding using palpable landmarks</u>	16-Sep		Sep 20-22
Lab 5: Articulations and Movement				
Rotation 1:	<u>cadavers and knee model -</u>	23-Sep		Sep 27-29
Rotation 2:	<u>Hip model and skeleton (shoulder vs hip)</u>	23-Sep		Sep 27-29
Rotation 3:	TMJ and Gomphoses	23-Sep		Sep 27-29
Lab 6: Muscle Microanatomy/ Muscles of the Lower Extremity				
Rotation 1:	<u>male cadaver</u>	30-Sep		Oct 4-6
Rotation 2:	<u>female cadaver</u>	30-Sep		Oct 4-6
Rotation 3:	Lower Extremity Models/skeleton attachment sites	30-Sep		Oct 4-6
lab practical 1: on labs 1-6 (Oct. 11-13)				
Lab 7: Muscles of Upper extremity, anterior thorax and superficial posterior thorax				
Rotation 1:	<u>male cadaver</u>	14-Oct		Oct 18-20
Rotation 2:	<u>Female cadaver</u>	14-Oct		Oct 18-20
Rotation 3:	UE models/skeleton/attachment sites	14-Oct		Oct 18-20
Lab 8: Muscles of the face, neck and deep back				
Rotation 1:	<u>male cadaver</u>	21-Oct		Oct 25-27
Rotation 2:	<u>female cadaver</u>	21-Oct		Oct 25-27
Rotation 3:	Models	21-Oct		Oct 25-27
Lab 9: Nervous System: Brain (CSF model with the lab lecture; histology during lab lecture)				
Rotation 1:	<u>Sheep Brains and correlation to human basic brain model</u>	28-Oct		Nov. 1-3
Rotation 2:	Models	28-Oct		Nov. 1-3
Rotation 3:	<u>cranial nerves and cadaver brains, dura mater</u>	28-Oct		Nov. 1-3
Nov. 8-9: No Regular labs due to Election Day on Nov. 8th; Honors lab will probably meet (check with Heather Labbe)				
Lab 10: Spinal Cord, spinal nerves and the PNS and ANS				
Rotation 1:	<u>Cadavers: brachial plexus and Spinal cord male</u>	9 Nov (note- Wednesday)		Nov. 15-17
Rotation 2:	<u>Cadavers: brachial plexus and Spinal cord female</u>	9 Nov (note- Wednesday)		Nov. 15-17
Rotation 3:	Upper and Lower Extremity Nerves- muscles models	9 Nov (note- Wednesday)		Nov. 15-17
November 21 2-4pm open lab will meet; Nov. 22- open labs 8am-4pm Please plan to attend your regular lab on Tuesday. If you normally TA on a Wednesday, please plan to attend a Tuesday or the Monday open lab.				
Lab 11: Special Senses/ Peripheral nerves				
Rotation 1:	Eye Model and Special senses histology	18-Nov		Nov. 29-Dec. 1
Rotation 2:	hearing and ear models	18-Nov		Nov. 29-Dec. 1
Rotation 3:	<u>Eye dissection</u>	18-Nov		Nov. 29-Dec. 1
LAB PRACTICAL 2 Dec. 6-8				
	Laboratory Practical Exam II			

MINIMUM requirements for BIOH480 Undergraduate Teaching Assistants

- 1) Present the content from prepared rotation lesson plans during the mandatory Friday 12pm-12:50pm meeting to fellow UGTAs and Instructors. The sign up sheet for these labs will be posted in the first course meeting or earlier.
- 2) Prepare and present two rotation lesson plans and BIOH365 student study sheets and to the fellow TAs and Lab instructors at the Friday 12 noon-12:50pm meeting according to the sign up sheet posted in the lab.
- 3) Assist in teaching one lab per week. Assignments for these labs are made by Dr. Minns. Missing a lab without notifying Dr. Minns and your lab instructor will result in the automatic drop of one letter grade. Missing more than one assigned lab without contacting your lab instructor will lead to course failure.
- 4) Assist during one open lab period per week (2 hours) and one extra open lab prior to laboratory practical exams.
- 5) Participate in the TA check-off meeting on Mondays 12pm-12:50. Be fully prepared for scheduled BIOH365 laboratories by being familiar with cadaver prosections, histology slides, laboratory equipment operation, and laboratory teaching rotations.
- 6) Assist in preparing and grading the laboratory quizzes and practical examinations through the online Moodle question forums.
- 7) Demonstrate professionalism in your behavior. UGTAs must consistently exhibit an understanding of the confidentiality of conversations regarding student performance and student grades.
- 8) Demonstrate a high degree of initiative and independence.
- 9) Include Dr. Minns in all email correspondence between yourself and students (you may use cc or bcc); if you do not know how to respond to student inquiries, please email Dr. Minns for advice.

BEHAVIOR EXPECTATIONS

- 1) Above all, be professional and ethical in all your dealings with colleagues and the students.
- 2) At **NO** time are you to discuss the grades or performance of a student enrolled in BIOH365/370 with anyone other than the laboratory instructor, any UGTA teaching within the same laboratory section, or Dr. Minns.
- 3) Minimize the amount of body contact/touching between you and the students while instructing or supervising open laboratories.
- 4) Arrive at the laboratory (HS101) five or ten minutes early (unless you are constrained by you academic or work schedule).
- 5) Immediately address the needs of the laboratory instructor. For example what needs to be done so the quiz or practical examination can begin on time.
- 6) Proctor the quiz or practical examination. Proctoring requires vigilance and observation of student's activities and needs during examinations.
- 7) Put other personal or academic issues aside when it is time for you to interact with the students.
- 8) Do not bring food or drinks into the laboratory.
- 9) Be prepared
- 10) Review all information for the assigned lab.
- 11) Determine what specific objectives your laboratory instructor would like you to address
- 12) Design your teaching preparation and instruction around these objectives.
- 13) Prepare one question for your peers from the lab learning objectives and answer one question from your peers each week on Moodle by Monday at midnight of each week.
- 14) Review any tutorials provided for the assigned lab.
- 15) Review all information linked to the TA Moodle site.
- 16) Review completed "terms to know" for each schedules lab.

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- 17) If you are unable to attend a lab meeting, contact the laboratory instructor at least one day prior to the scheduled lab to determine your teaching objective(s).
- 18) Be attentive as the laboratory instructor is providing answers to quiz questions so you can correctly grade the quizzes.
- 19) Assist with the supervision of **at least one open lab per week, and one 'extra' open lab during the pre-practical open lab week**. If your schedule prohibits you from meeting this obligation during the week, please correspond with Dr. Minns so that alternative arrangements can be made.
- 20) If your academic or work schedule precludes you from assisting with scheduled open laboratories, it is expected that you will arrange another time that does coincide with your schedule (which may include weekends).
- 21) A minimum of **two** UGTAs must be in attendance for any of these additional open laboratories (no matter the day or the time).
- 22) Any of these additional open lab sessions must be scheduled at least five days in advance so the day(s) and time(s) can be placed on the Moodle page.
- 23) Be a good team member.
- 24) If another UGTA requests help in reviewing a concept, do so without criticism.
- 25) If another UGTA becomes ill or has some other scheduled conflict, be willing to "cover" their teaching responsibility.
- 26) If such an event does occur, **IT IS THE RESPONSIBILITY OF THE UGTA, NOT** the laboratory instructor or Dr. Minns, to facilitate this "switch".
- 27) If you check out the key to HS 101, leave contact information for others who may want to gain access to the room. Return the key within three days of the date you have checked it out. **UNDER NO CIRCUMSTANCES** should this key ever be in the hands of someone other than a BIOH 365 UGTA, a BIOH365 laboratory instructor, an official course tutor, or Dr. Minns. The key should **ALWAYS** be returned to the drawer by Monday morning.
- 28) Participate **EQUALLY** in the lab or prep room cleanup responsibilities assigned to your dissection team.
- 29) Be willing to admit when you do not know and answer, or have provided incorrect information.
- 30) Clean up after yourself and your dissection team.

Evaluation Methods

Students will be evaluated each week on their ability to effectively teach their assigned lesson plan to their peers, laboratory instructors and Dr. Minns. Students will not be allowed to teach the material in the BIOH365 laboratory rotation until they exhibit mastery of the rotation material.

- ❖ The following factors will be considered during the rotation presentation evaluation (worth 40% of the total grade):
 - ❖ Effective use of proper anatomical, physiological and medical terminology.
 - ❖ The rotation presentation must be accurate and completely follow the established lesson plan.
 - ❖ The student must effectively engage peers and instructors in their teaching.
 - ❖ The student must effectively address peer and instructor questions to show mastery of the material.
 - ❖ The student must be able to complete the rotation information within the allotted time period.
- ❖ Students will be evaluated by Laboratory Instructors as they teach the actual rotation in BIOH365 laboratories. The following factors will be evaluated by laboratory instructors (worth 20% of total grade):

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- ❖ Effective use of proper anatomical, physiological and medical terminology.
- ❖ The rotation presentation must be accurate and completely follow the established lesson plan.
- ❖ The student must effectively engage peers and instructors in their teaching.
- ❖ The student must effectively address peer and instructor questions to show mastery of the material.
- ❖ The student must be able to complete the rotation information within the allotted time period.
- ❖ If the student does not know the answer to a question posed by a BIOH365 student, they are expected to find the appropriate answer by consulting with course materials and laboratory instructors/Dr. Minns.
- ❖ Students are required to be present and actively engage students during open labs (worth 20% of total grade)
- ❖ Monitor and respond to lab quiz questions on the Moodle page (worth 20% of total grade).
 - ❖ Students will automatically fail the class if they:
 - ❖ Discuss student performance or grades of a student enrolled in BIOH365 with anyone other the laboratory instructor, other UGTAs teaching within the same laboratory section, an official course tutor, or, Dr. Minns
 - ❖ Provides access to the UGTA Moodle site to anyone who is not a laboratory instructor, tutor, or a fellow UGTA
- ❖ A deduction of one letter grade will automatically occur as a result of:
 - ❖ One unexcused absence from a scheduled lab class or lab meeting.
 - ❖ Failure to submit your assigned lesson plan on time.
 - ❖ More than ONE incident in which you have not taken the initiative to contact the laboratory instructor at least one day prior to a scheduled lab to determine your teaching responsibilities.
 - ❖ More than ONE week during which you did not provide Dr. Minns one quiz or practical examination questions related to your teaching objectives PRIOR to the scheduled lab via email.

Course Policies

Dr. Minns and the Laboratory Instructors follow academic policies as stated in the 2016-2017 Course catalogue. Students are responsible for being familiar with these policies.

<http://www.umt.edu/catalog/>

These policies include but are not limited to:

- Student Conduct (http://life.umt.edu/vpsa/student_conduct.php)
- Class attendance
- Credit/No Credit Grading
- No more than 18 CR credits may be counted toward graduation. Courses taken to satisfy General Education Requirements must be taken for traditional letter grade. Courses required for the student's major or minor must be taken for traditional letter grade, except at the discretion of the department concerned.
- A CR is given for work deserving credit (A through D-) and an NCR for work of failing quality (F). CR and NCR grades do not affect grade point averages. The grades of CR and NCR are not defined in terms of their relationship to traditional grades for graduate course work.
- Election of the credit/no credit option must be indicated at registration time or within the first 15 class days on CyberBear. After the fifteenth day, but prior to the end of the 30th day of instruction, an undergraduate student may change a credit/no credit enrollment to an enrollment under the A-F grade system or the reverse by means of a drop/add form

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- The University cautions students that many graduate and professional schools and some employers do not recognize non traditional grades (i.e., those other than A through F) or may discriminate against students who use the credit/no credit option for many courses. Moreover, students are cautioned that some degree programs may have different requirements regarding CR/NCR credits, as stipulated in the catalog.
 - Audit
 - Incomplete Grading Policy
- Plagiarism

- Plagiarism is the representing of another's work as one's own. It is a particularly intolerable offense in the academic community and is strictly forbidden. Students who plagiarize may fail the course and may be remanded to Academic Court for possible suspension or expulsion. (See Student Conduct Code section of this catalog.)
- Students must always be very careful to acknowledge any kind of borrowing that is included in their work. This means not only borrowed wording but also ideas. Acknowledgment of whatever is not one's own original work is the proper and honest use of sources. Failure to acknowledge whatever is not one's own original work is plagiarism.

Students with Disabilities:

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommason Center 154 or 406.243.2243. I will work with you and Disability Services to provide an appropriate modification.

Cell Phones and other electronic devices

The use of cell phones and other electronic devices (including cameras, video recorders) is STRICTLY prohibited during all class times, including examinations.

Disruptive behavior

Students who are being disruptive in lecture by talking, texting or playing computer games will be asked to leave the classroom. Such behaviors impact the learning of other students in the classroom and will not be tolerated. Re-admittance to class is at the discretion of the instructor.

Respect for the Cadavers:

These donated cadavers are gifts and must be treated with the dignity and respect they deserve. It is inappropriate to make disrespectful comments within and outside of the laboratory. You will observe professional conduct while in the lab and outside the lab. Naming of the cadavers, unnecessary horseplay, posing of the cadavers, etc WILL NOT BE TOLERATED. These cadavers are the result of gifts from fellow Montanans and their families who believed strongly in the benefit of health science education.

<http://www.montana.edu/wwwami/bodydonate.html>

Rules for Cadaver Use in the Anatomy and Physiology Labs:

- 1) The cadavers used in this lab were obtained from the Montana Body Donation Program at Montana State University. Cadavers are donated to MSU according to state regulations. Persons donating their body receive no financial compensation; this is truly their ultimate gift. Hence it is imperative that proper respect be paid to the cadaver at all times.

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- 2) Only students enrolled BIOH 365, BIOH 112 and teaching staff are allowed into the cadaver lab at any time. No minor children or other family members are to be brought to the open lab times. If you see someone in the lab who you believe is unauthorized, notify laboratory personnel and/or ask him/her to leave the lab.
- 3) Body parts, tissue, etc must not be removed from the lab.
- 4) No cameras, camera phones or electronics with photo or video capability are allowed in the lab. Photography is prohibited.
- 5) Please be careful, the cadaver dissections will be used and material reviewed in other lab sections by other students. Keep the dissections moist and well covered when not working on that portion of the cadaver. Keep doors to lab closed and locked to keep security intact; students should police the lab.

Laboratory Safety in the Anatomy and Physiology Labs

- 1) In case of an emergency, dial extension 4000 to report serious injuries. Phones are located throughout the Health Sciences Building. The Health Sciences main office is in room 104.
- 6) First Aid supplies are available in the supply room for HS 101 (the anatomy lab), HS 104 (the main office) and HS 403.
- 7) You are required to wear disposable gloves (nitrile or neoprene, latex gloves are not acceptable) at all times while working with the cadaver prosections. Cadavers are embalmed with a fluid containing propylene glycol, ethyl alcohol, phenol and formaldehyde. Physical contact of your skin and clothing should be avoided.
- 8) Wear old clothes and a long-sleeved lab coat while working with the cadaver. Lab coats should not be worn outside the lab.
- 9) No open-toes shoes or sandals are allowed in the lab. Wear shoes that cover your entire foot.
- 10) Contact lens wearers should be aware that chemical fumes can pass into gas permeable and soft lenses. These fumes irritate the cornea. Protective glasses (prescription or safety glasses) are recommended to protect against chemical splashes. Know the location of the eyewash station before you begin.
- 11) If you are pregnant, or believe you may be pregnant, you may NOT participate in the laboratories until you provide Dr. Minns with written documentation from your obstetrician that verifies an understanding of the chemicals to which you and your fetus are being exposed while in the presence of the cadavers.
- 12) No foods, drinks, gum or the application of makeup are allowed in the lab.
- 13) Respirators can be purchased for use in the lab, if desired.
- 14) Wash hands prior to leaving the lab.

SKILL	CHARACTERISTICS
1. Commitment to learning	Demonstrates a positive attitude (motivation) toward learning; identifies and locates appropriate resources; identifies need for further information; prioritizes information needs; welcomes and/or seeks new learning opportunities.
2. Interpersonal skills	Maintain a professional demeanor in all interactions; is non-judgmental about students' lifestyles; communicates with others in a respectful manner; assumes responsibility for own actions; respects cultural and personal differences of others; demonstrates acceptance of limited knowledge and experience; motivates others to achieve; approaches others in a professional

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	manner to discuss differences in opinion.
3. Communication skills	Uses correct grammar, accurate spelling and expression; writes legibly; listens actively; communicates with others in a confident manner; recognizes impact of non-verbal communication and modifies accordingly, maintains open and constructive communication.
4. Effective use of time and resources	Focuses on tasks at hand; recognizes own resource limitations; uses existing resources effectively; uses unscheduled time efficiently; completes assignments in a timely fashion; sets up own schedule; coordinates schedule with others; demonstrates flexibility; plans ahead; sets priorities and recognizes when needed; performs multiple tasks simultaneously.
5. Use of constructive feedback	Demonstrates active listening skills; actively seeks feedback and help; demonstrates a positive attitude toward feedback; critiques own performance; maintain two-way information; assesses own performance accurately; develops plan of action in response to feedback; reconciles differences with sensitivity.
6. Problem solving	Recognizes problems; states problems clearly; describes known solutions to problem; analyzes and subdivides large questions into components; accepts that there may be more than one answer to a problem.
7. Professionalism	Abides by U of M Student Conduct Code; projects professional image; demonstrates accountability for personal and professional decisions; maintains confidentiality in all interactions.
8. Responsibility	Demonstrates dependability; demonstrates punctuality; follows through on commitments; accepts responsibility for action and outcomes; provides safe environment for students; recognizes own limits; offers and accepts help; completes projects without prompting.
9. Critical thinking	Raises relevant questions; considers all available information; articulates and formulates new ideas; seeks alternative ideas; exhibits openness to contradictory ideas.
10. Stress management	Maintains professional demeanor in all situations; accepts constructive feedback; recognizes own stressors or problems; maintains balance between professional and personal life; demonstrates effective affective responses in all situations.

The information in the above table will be considered if you should ask me to write a letter of recommendation for you.

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Learning outcomes

BIOH365 Laboratory Dates	Topic	Learning Outcomes	Assigned Reading (Check the Lab Objectives on the Moodle page for specific Gilroy figures)
8/30-Sep. 1	Lab1: Lab Orientation – Protocols and Procedures Introduction to Anatomical Terms, Gross and Surface Anatomy Cellular anatomy and physiology	<u>HAPS Modules A,B, C:</u> Describe the scope of studies in anatomy and physiology and be able to use and understand descriptive anatomical and directional terminology. Identify cellular structures and explain their respective functions.	Tortora: Chapter 1, Chapter 3, 9 (movements) <u>You must bring your own Nitrile gloves to the lab (not latex).</u> (you can purchase these in the bookstore or at a local pharmacy).
Sep. 6-8	Lab 2: Histology – Tissue Form and Function The Integumentary System and Membranes	<u>HAPS Module D:</u> Describe the basic tissues of the body, their location and explain their function. <u>HAPS Module E:</u> Identify and describe the major gross and microscopic anatomical component of the integumentary system and describe the functions of this system.	Gilroy Atlas Tortora, Chapters 4, 5
Sep. 13-15	Lab 3: Bone – Histology Classification and types of osseous tissue The Axial Skeleton	<u>HAPS Modules E, F</u> Identify and describe the major gross and microscopic anatomical components of the	Gilroy Atlas Tortora Chapters 6& 7

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	and its landmarks Fetal Skeletons	skeletal system and explain their functional roles in osteogenesis, repair and body movement.	
Sept. 20-22	Lab 4: Appendicular Skeleton and its landmarks	<u>HAPS Mod G, H</u> Identify and describe the major gross and microscopic anatomical components of the muscular system and explain their functional roles in body movement, maintenance of posture and heat production.	Gilroy Atlas Tortora Chapter 8
Sept. 27-29	Lab 5: Articulations and Movement	Identify and describe the major gross and microscopic anatomical components of the muscular system and explain their functional roles in body movement, maintenance of posture and heat production.	Gilroy Atlas Tortora Chapter 9 (*You must be able to ID and characterize all joints from the Tortora text)
10/4-10/6	Lab 6: Muscles 1 Histology and Microanatomy Identification (ID) and Origin, Insertion, and Action (OIA) and innervation of the muscles of gluteal compartment and lower extremity	Identify and describe the major gross and microscopic anatomical components of the nervous system and explain their functional roles in communication, control and integration.	Gilroy Atlas Tortora Chapter 10, 11 (*You must be able to ID, define the origin, insertion, action and innervation of all muscles from Lab 6 Objectives and assigned readings; please use the tables in Tortora to help with your OIAs)
10/11-13	**Lab Practical #1**	Covers Labs 1-6	Bring Gloves; Missed Lab Practicals CANNOT be made up.
10/18-20	Lab 10: 7: Muscles 2 ID and OIA and innervation of the muscles the upper limb, anterior thorax	<u>HAPS Mod G, H</u> Identify and describe the major gross and microscopic anatomical	Gilroy Atlas Tortora Chapter 11 (*You must be able to ID, define

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10/25-27	<p>and extrinsic back muscles</p> <p>Lab 8: Muscles 3</p> <p>ID, OIA and innervation of the muscles of the head, neck, face and intrinsic muscles of the back</p>	<p>components of the muscular system and explain their functional roles in body movement, maintenance of posture and heat production.</p> <p>Identify and describe the major gross and microscopic anatomical components of the nervous system and explain their functional roles in communication, control and integration.</p>	<p>the origin, insertion, action and innervation of all muscles from Lab 7 Objectives and assigned readings; please use the tables in Tortora to help with your OIAs)</p> <p style="text-align: center;">Gilroy Atlas</p> <p style="text-align: center;">Tortora Chapter 11</p> <p>(*You must be able to ID, define the origin, insertion, action and innervation of all muscles from Lab 8 Objectives and assigned readings; please use the tables in Tortora to help with your OIAs)</p>
11/1-3	<p>Lab 9: Nervous Tissue Histology</p> <p>Brain Anatomy and Physiology</p> <p>Cranial Nerves – Identification and function</p>		<p style="text-align: center;">Gilroy Atlas</p> <p style="text-align: center;">Tortora Chapter 14</p>
11/15-17	<p>Lab 10:</p> <p>Spinal Cord: ANS organization and PNS branching, Brachial Plexus</p>	<p><u>HAPS Mod G, H</u></p> <p>Identify and describe the major gross and microscopic anatomical components of the muscular system and explain their functional roles in body movement, maintenance of posture and heat production.</p>	<p style="text-align: center;">Gilroy Atlas</p> <p style="text-align: center;">Tortora Chapter 14</p> <p style="text-align: center;">Chapter 16</p> <p style="text-align: center;">Chapter 13</p>

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		Identify and describe the major gross and microscopic anatomical components of the nervous system and explain their functional roles in communication, control and integration.	
11/22-24		<u>No official labs due to Thanksgiving Holiday; extra Open labs will meet on 11/21</u>	
11/29-12/1	Lab 11: Special Senses/	<u>HAPS Module I</u> Identify and describe the major gross and microscopic anatomical components of the eye and ear and explain their function roles in vision, hearing and equilibrium.	Gilroy Atlas Tortora Chapter 17
12/6-8	**Lab Practical #2**	Covers Labs 7-11	Bring Gloves; Missed Lab Practicals CANNOT be made up.