BIO 314
Human Anatomy & Physiology I Laboratory
Fall 2014; W 1-4pm
201 Cox Science & Language

Professor: Dr. Nicholas A. Pullen
Office Hours: **MTR** (11am-12pm; 3:30-4:30pm); **W** (4-5pm); **R** (2:30-3:30pm); and by appointment
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WWU Mission: An independent voice in higher education, William Woods University distinguishes itself as a student-centered and professions-oriented university committed to the values of ethics, self-liberation, and lifelong education of students in the world community.

Course Description: This course is the laboratory extension of BIO 313. Students will gain practical experience in tissue sample preparation for histological examination. The organ systems examined in BIO 313 will be observed via the dissection of preserved specimens. Students will also gain practice in modern clinical assessments of human organ systems by examining cases of their dysfunction/pathology.
2014-2015 Academic Catalog: http://www.williamwoods.edu/catalogs/1415/undergraduate/index.aspx

Course Prerequisites: Concurrent enrollment in BIO 313.

Text: Same as BIO 313, note that a key for MasteringA&P is required for this lab, and that it is bundled with the BIO 313 text. **Also Recommended (not required):** Marieb, E. N. and Mitchell, S. J. *Human Anatomy & Physiology Manual, 9th ed.* Pearson, 2012.

Technology Use Expectations: Messages via WWU email are official communication; students are responsible for regularly checking their WWU email accounts. Technology issues should be directed to UIT, (ext. 4224; helpdesk@williamwoods.edu).

Special Note Regarding Dissections: As this is an anatomy course, each student is expected to handle, manipulate, and otherwise be in the presence of various preserved specimens, including human cadavers, with utmost maturity. This laboratory course does not offer a non-dissection alternative. Inability to appropriately participate in these key activities will result in failure.

Course Goals:
With satisfactory completion of BIO 314, students will (additional lab-specific objectives *in green*):

1. Demonstrate anatomical knowledge of the systems studied.
2. *Develop independent microscopy skills: both the preparation of tissues and identification of histological characteristics.*
3. *Develop skill accurately dissecting and identifying gross anatomical specimens.*
4. Develop comfort and skill with oral and written scientific communication.
5. Demonstrate effective use of modern scholarly research databases.
6. Develop skill thinking like a scientist: propose experimental techniques to address physiological questions and use A & P knowledge to diagnose pathologies.

Degree/Major Objectives: BIO 313 addresses the following Biology Program objectives:

1. Demonstrate knowledge of cell ultra-structure and basic cellular processes and develop an understanding of the requisites of life.
3. Contributes to an overview of the major organ systems of the human body and the normal and pathological functioning of those organ systems.

6. Demonstrate knowledge of scientific methodologies and usage of current scientific equipment and technologies.

BIO 313 will also touch on these Biology Program Objectives but not address them directly:

2. Converse with the basic tenets of transmission, molecular, developmental and population genetics.
4. Demonstrate knowledge of the diversity and taxonomy of organisms, and the significance of variation in morphology, behavior, and life history.
5. Explain the role that natural selection, genetic drift, and other phenomena have had on the production of biological diversity and the role evolution has in integrating explanations of both the unity and diversity of life.

Assessment Procedures and Course Assignment Details: Grades are earned through the completion of two scheduled practical exams, a final exam, anatomy activities posted via MasteringA&P, in lab activities, and a paper/project presentation.

Information addressing all of the above objectives is presented through assigned text & case readings, literature research, PowerPoint presentations, videos, in-class activities, seminar-style discussions, experimental procedures, and dissections. Formative assessment of student achievement in all objectives is performed via class discussions, and activities. Summative assessment is performed with practical exams and the final exam. *Data pertaining to Biology Program Objective 3 is retained and utilized for B.A. and B.S. degree-wide assessment.*

Practical Exams: Two lab exams will be given consisting of identification, scientific skill assessment, problem solving, short responses, and long essays relevant to preceding lab activities.

Final Exam: A final comprehensive exam will be given during finals week that is similar in structure to other lab exams; scheduled for Wednesday, December 10 starting at 1pm. Absence will result in a score of 0.

MasteringA&P: Before beginning a new system, activities acquainting students with the basic relevant anatomy will be posted. For example, 3-7 days before a lab on the nervous system, an activity will be posted online concerning parts of the Central and Peripheral Nervous Systems and must be completed by the end of that lab for credit.

Other in-Lab Activities: Occasionally students will be asked to perform experiments, collect, and analyze data. A formal response/analysis of such activities will be submitted for a grade.

Presentation: The last normal laboratory period (Wednesday, December 3) will be operated as an official LEAD seminar on various pathologies chosen by student pairs. The topic of this presentation will be the same as the review paper written throughout the semester for BIO 313. Both students must participate in the presentation, which should be 10-minutes followed by 2-minutes for questions/discussion. A detailed rubric will be distributed to guide preparation.

Tutoring Information for all Students:

- **Writing Center**: Kemper 216
  Contact Dr. Greg Smith for questions: greg.smith@williamwoods.edu

- **Math Center:** Science and Language 313
  Contact Professor Raymond Hune for questions: raymond.hune@williamwoods.edu

- **Smarthinking** on-line tutoring for additional subjects. Additional information will be sent to student WWU email accounts.

Grading Scale:

- 200 points are distributed among the course assignments by the following scheme:

Breakdown of Points

Activity	*Total Value*
Practical Exams (2)	60
Final Exam	50
Presentation	40
MasteringA&P and in-Lab Assignments	50
Total Available for Semester	**200**

- Final letter grades are based on the percentage of points achieved.
- Percentages from lecture (BIO 313) and lab will be combined into one final grade.
- BIO 313 is weighted as ¾ of the final grade and BIO 314 as ¼.
- Passing scores must be received in both BIO 313 and BIO 314 to pass the course.

Letter Grade Ranges

%Points Earned	*Letter*
<60%	F
≥60%, <70%	D
≥70%, <80%	C
≥80%, <90%	B
≥90%	A

Policy on Late Work: Work not submitted on time incurs an immediate 20% penalty and accrues an additional 20% penalty every day late (including weekends) until 0.

Attendance Policy: Two unexcused absences from BIO 314 result in a non-negotiable reduction of an entire letter grade for the combined course [BIO 313/314]. More than two laboratory absences will result in a failing grade for the entire course. Make-up work for unexcused lab absences will not be offered. In the event of a foreseen, excusable absence, students should contact the professor in advance regarding missed work and/or material.

Class Conduct and Participation Expectations: All students are expected to participate in all lab activities. Inability to fulfill laboratory requirements will result in reduction of grades at the professor's discretion.
Respect the specimens being examined.

Each student should take advantage of the laboratory environment to teach her/his peers. Learn by doing.

Lab time is reserved 1-4pm, and students should expect to be in lab for that entire period.

Students will be assigned dissection equipment, and they are responsible for thoroughly cleaning and drying the equipment at the end of each lab period. Unnecessary deterioration of assigned equipment, due to poor maintenance, will result in a reduction of 5-points for each abused piece.

ADA Guidelines:

Students who choose to disclose a disability are responsible for notifying the University of their disability on a timely basis. Questions about disability services should be directed to the University's coordinator for disability services. Contact information is (573) 592-1194 or ada@williamwoods.edu. The office is on the first floor of the Academic Building.

Academic Integrity Policy :

William Woods University, founded on the principle of honesty, has long endeavored to maintain an atmosphere of academic integrity. In all academic work, it is important that the ideas and contributions of others be appropriately acknowledged, and that work that is presented as original is, in fact, original. Insuring the honesty and fairness of the intellectual environment at William Woods University is a responsibility that is shared by the entire campus community. Details of the Academic Integrity Policy can be found at the following web address:

http://www.williamwoods.edu/catalogs/1415/undergraduate/policy_detail.aspx?Policies_id=51

Student Outcomes Assessment Policy:

http://www.williamwoods.edu/catalogs/1415/undergraduate/policy_detail.aspx?Policies_id=30

Additional Academic Policies can be found at:

2014-2015 Academic Catalog:

http://www.williamwoods.edu/catalogs/1415/undergraduate/index.aspx

Academic Credit Hour Definition: The University has adopted the following United States Department of Education definition of a credit hour:

A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally-established equivalency that reasonably approximates not less than:

(1) one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time.

Expected Outside Time Commitment: Following the US DOE definition, students should expect to spend a minimum of 30h outside time for BIO 314 since it is similar in time structure to a 1-credit course. This minimum time is built-in to weekly laboratory session (2/3 scheduled hours). However, students should spend additional time studying material when necessary. Feel free to request opening of the lab whenever I am in my office and as long as there are no other scheduled activities in the room; the room must remain locked when not in use.

Add/Drop Deadlines:

Last day to add a class – August 29th, 4:30 PM.
Last day to drop a class during refund period – September 22nd, 4:30 PM
Last day to drop a class or withdraw from the university – October 31st, 4:30 PM

Tentative Laboratory Schedule

Exam dates will not change, unless required by University circumstance(s).

DATE	TOPIC
27 Aug	Intro, safety, equipment, basic terminology, organ systems overview
3 Sep	Cellular Anatomy
10 Sep	Histology
17 Sep	Tissues & Organs
24 Sep	**Lab Practical Exam**
1 Oct	Nervous System I – possible dissections
8 Oct	Nervous System II (Maybe Senses) – possible dissections
15 Oct	Dissection I (These dates indicate possible cadaver trips)
22 Oct	Dissection II
29 Oct	**Lab practical exam**
5 Nov	Skeleton – skeleton construction
12 Nov	Muscle
19 Nov	Cardiovascular & Exercise – possible dissections
26 Nov	**NO LAB – Thanksgiving Holiday**
3 Dec	**Student Presentations – LEAD Event**
10 Dec	**Final Lab practical exam** (1 PM)