

**BIO 323**  
**Human Anatomy & Physiology II**  
**Spring 2015; T/R, 9:25 - 10:40am**  
**301 Cox Science & Language**

**Professor:** Dr. Nicholas A. Pullen  
**Office Hours:** M/F (10-11:30); M/R (2pm-4pm);  
W (4pm-5pm); and by appointment  
**Office Location:** 205 Cox Science & Language  
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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 a continued study of human biology from BIO 313. Students will investigate the structure and function of the endocrine, circulatory, immune, respiratory, digestive, urinary, and reproductive systems. The normal functions and integration of these systems will be explored in the context of their dysfunction through pathological case studies. This course takes a notably more cellular approach than BIO 313, and students will gain practice in assessing chemical physiological indicators, and researching the associated primary clinical literature. Concurrent enrollment in BIO 324 required.

*2014-2015 Academic Catalog:* <http://www.williamwoods.edu/catalogs/1415/undergraduate/index.aspx>

**Course Prerequisites:** Prior satisfactory completion of Human Anatomy & Physiology I; enrollment in BIO 324 is co-requisite.

**Required Textbook/Materials:** Silverthorn, D. U. *Human physiology: an integrated approach (6<sup>th</sup> ed.)* Pearson, 2013. Bundled with MasteringA&P.

**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).

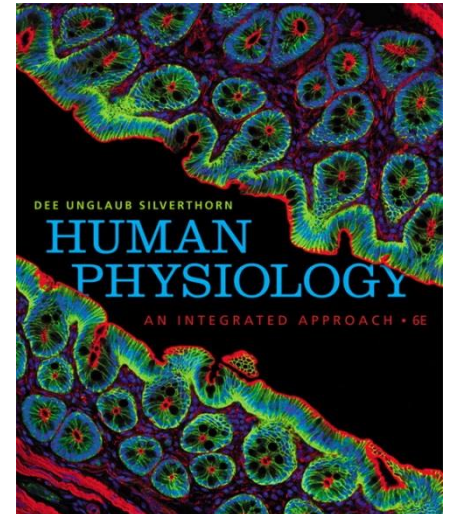
**Course Goals:**

With satisfactory completion of BIO 323, students will:

1. Demonstrate anatomical knowledge of the systems studied.
2. Integrate concepts of cellular physiology with function at higher levels (e.g. tissue and organ).
3. Develop comfort and skill with oral and written scientific communication.
4. Demonstrate effective use of modern scholarly research databases.
5. 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 323 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 323 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 scheduled unit exams, quizzes, the writing of a brief pathology paper, and a final exam.

Information addressing all of the above objectives is presented through assigned text & case readings, literature research, PowerPoint presentations, videos, in-class activities, and seminar-style discussions. Formative assessment of student achievement in all objectives is performed via class discussions, activities and quizzes. Summative assessment is performed with unit exams, a comprehensive final exam, and a small research paper.

*Unit Exams:* Taken during scheduled course meeting times (see syllabus schedule). They will be comprehensive across units where necessary. Exams consist of multiple choice, modeling problems, short and long essays, and may cover assigned reading materials not directly discussed in class meetings. *Make-up exams are offered only in consideration of extraordinary circumstances.* In the case of absence from an exam because of a University-sponsored activity, the student should arrange a time to take the exam beforehand.

*Final Exam:* A final **comprehensive exam will be given Thursday, May 7, starting at 9:25AM.** Make-up final exams cannot be arranged. Absence will result in a score of 0.

*Quizzes:* In most weeks there will be a quiz. Approximately 25%-50% of each quiz will cover assigned reading for that meeting (not yet discussed), and the remainder will cover information from previously discussed topics. The point of these quizzes is to (1) encourage class to keep up-to-date on reading; and (2) assess any gaps that might exist from prior discussions. Quizzes are great “practice” for high-stakes exams, but quiz questions will never be duplicated in an exam. *Make-up quizzes are not offered.*

*Brief Pathology Paper:* Due at the end of the semester, students will individually write a concise paper (*not more than five pages, 12-pt. standard serif font, double-spaced, 1” margins max., not counting references and figures*) on a pathology within one of the systems studied. This paper should contain modern research information only, including a minimum of 8 peer-reviewed references. Excessive history/introduction (greater than 1-page) will result in a 20% point penalty.

#### **Tutoring Information for all Students:**

- **Writing Center:** Kemper 216  
Contact Dr. Greg Smith for questions: [greg.smith@williamwoods.edu](mailto:greg.smith@williamwoods.edu)
- **Math Center:** Science & Language 313  
Contact Professor Raymond Hune for questions: [raymond.hune@williamwoods.edu](mailto:raymond.hune@williamwoods.edu)
- **Smarthinking** on-line tutoring for additional subjects. Additional information will be sent to student WWU email accounts.

**Grading Scale:**

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

<b>Breakdown of Points</b>	
<i>Activity</i>	<i>Total Value</i>
Unit Exams (3)	300
Quizzes (10)	75
Pathology Paper	75
Final Exam	150
<b>Total Available for Semester</b>	<b>600</b>

- Final letter grades are based on the percentage of points achieved.
- Percentages from lecture and lab (BIO324) will be combined into one final grade.
- BIO 323 is weighted as  $\frac{3}{4}$  of the final grade and BIO 324 as  $\frac{1}{4}$ .
- Passing scores must be received in both BIO 323 and BIO 324 to pass the course.

<b>Letter Grade Ranges</b>	
<i>%Points Earned</i>	<i>Letter</i>
<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:** Attendance at every class meeting is expected. Excused absences include official university business and illness with legitimate documentation.

**Class Conduct and Participation Expectations:** Students are expected to work hard, ask questions, and discuss relevant information. Much learning is borne out of open-ended discussions on anatomy & physiology, therefore students are expected to be prepared for group work and impromptu discussion with other class participants. All participants are expected to be respectful of others.

**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](mailto: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](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](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 90h outside time for BIO 323 since it is similar in time structure to a 3-credit course. Estimated time is given by activity in the course schedule table (next page) with a sum estimate of 92.5h outside time for this course.

**Add/Drop Deadlines:**

Last day to add a class - January 16<sup>th</sup>, 4:30 PM.

Last day to drop a class during refund period - February 9<sup>th</sup>, 4:30 PM

Last day to drop a class or withdraw from the university - March 30<sup>th</sup>, 4:30 PM

## Tentative Course Schedule

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

Quiz dates are tentative and may change with the pace of content coverage.

Reading numbers correspond to Silverthorn chapters.

Dates	Topic	Reading (time required)	Assessment
13, 15 Jan	Introductions and review; Membranes	1 & 2 (2.5h); 5 (2.5h)	Quiz (0.5h)
20, 22 Jan	Cardiovascular	14 (3h)	Quiz (0.5h)
27, 29 Jan	Cardiovascular	14	Quiz (0.5h)
3, 5 Feb	Blood Flow & Pressure	15 (3h)	<b>Exam 1 (8h), 5 Feb</b>
10, 12 Feb	Blood	16 (3h)	Quiz (0.5h)
17, 19 Feb	Ventilation	17 (2.5h)	Quiz (0.5h)
24, 26 Feb	Gas Exchange & Transport	18 (3h)	
5 Mar	<b>No Class 3 March; Study!</b>		<b>Exam 2 (8h), 5 Mar</b>
10, 12 Mar	Kidney	19 (3h)	Quiz (0.5h)
17, 19 Mar	Fluids & Electrolytes	20 (3h)	Quiz (0.5h); Topic with at least 4 references (3 h)
24, 26 Mar	<b>SPRING BREAK</b>	-	-
31 Mar, 2 Apr	Digestion; Metabolism	21 (2.5h); 22(2.5h)	Quiz (0.5h)
7, 9 Apr	Metabolism	22	<b>Exam 3 (8h), 9 Apr</b>
14, 16 Apr	Endocrine	7 (3h); 23 (2.5h)	Quiz (0.5h)
21, 23 Apr	Immune	24 (3h)	Quiz (0.5h)
28, 30 Apr	Reproduction; Review	26 (2.5h)	<b>Path. Paper (9h) Due 30 Apr</b>
7 May	<b>Thursday 9:25AM</b>	<b>Comprehensive</b>	<b>FINAL EXAM (10h)</b>