

HUMAN FUNCTIONAL ANATOMY
ANTH 3401 (CRN 26639)
SYLLABUS, SPRING 2013

INSTRUCTOR: Shannon C. McFarlin, Ph.D.
Office: 2114 G Street, NW #303
Phone: 202-994-4245
Email: mcfarlin@gwu.edu

TIME: TR, 2:20-3:35 pm
LOCATION: Duques, Room 259

Office Hours: Wednesday 9:30-11:00am, and by appointment

COURSE DESCRIPTION:

This course is designed to give you good grounding in the fundamentals of human and nonhuman primate anatomy. Specifically, we will investigate anatomical structure as it relates to function, picking out key features of our anatomy that distinguish humans and other primates from other organisms. The course will be run from top down in the body: we will start with the skull, brain, special senses, and anatomy of the vocal tract, then move to the digestive system, looking particularly at the dentition, then move to limb action, and finally, reproduction. We will cover the basic anatomy, development and function of these regions and systems, building labs into the schedule where possible. By examining anatomy and function in an evolutionary context, we will explore how the human body works and why it works the way it does. No prior knowledge of anatomy is required.

COURSE PREREQUISITE: ANTH 1001 (formerly ANTH 001)

LEARNING OBJECTIVES: At the end of this course, students should be able to:

- (1) Demonstrate an understanding of anatomical terminology;
- (2) Identify major anatomical structures in the body;
- (3) Demonstrate knowledge and understanding of how major anatomical systems and regions function;
- (4) Understand the scientific method and how it is used to test hypotheses about functional anatomy;
- (5) Discriminate between evidence and the interpretations based on it, and discuss and critically evaluate the strengths and weaknesses of scientific hypotheses based on evidence.

COURSE MECHANICS:

REQUIRED TEXTBOOK AND OTHER READINGS:

There are two required texts for this course:

1. Langdon, JH (2005). *The Human Strategy: An Evolutionary Perspective on Human Anatomy*. New York, Oxford University Press. ISBN 0-19-516735-X
2. Grine FE (2010) *Regional Human Anatomy: A Laboratory Workbook for Use with Models and Prosections*. Boston: McGraw-Hill. ISBN 0073378127 / 9780073378121.

In addition to these texts, relevant articles from scientific journals will be assigned to support certain topics discussed in class. These should also be considered required readings, and will be posted to Blackboard during the week prior to the relevant class meeting. I may also occasionally post links to video footage available on the web. ***It is important that you come to class having completed all required readings and prepared to contribute to class.*** Material from both the lecture and readings may appear on exams.

EVALUATION:

Your final course grade will be based on the following work, and calculated out of a total of 100 possible points.

28 points	Exam 1
28 points	Exam 2
28 points	Exam 3
10 points	Laboratory Workbook
6 points	Participation

- (1) **EXAMS:** There will be three exams in this class, each based on material covered during previous class meetings and in your readings. The format for these exams may include objective (multiple choice and/or matching), fill-in-the-blank, feature identification, short answer and/or longer discussion questions. The second and third exams will not be

explicitly cumulative, although they will rely on foundational knowledge developed throughout the first and second parts of the semester.

(2) **REGIONAL HUMAN ANATOMY WORKBOOK:** Anatomy is learned not only by reading, but also by practice. Therefore, exercises will be assigned in the Grine (2010) workbook on a weekly basis, to help you learn the basic features of anatomy we will be covering in class. You are expected to keep up with these exercises weekly, and come to class prepared to recognize the anatomical terms and structures we will be discussing in more detail. ***We have a lot of ground to cover in class, so it is expected that you will have completed the relevant workbook exercises before coming to class. You will be required to hand in your anatomy workbook three times during the course of the semester, once before each exam, for grading.*** Exercises will then be returned to you prior to the exam, so you have them available to study.

(3) **CLASS PARTICIPATION:** While the format of this course will include weekly lectures, we will also take time to discuss topics or ideas raised in the readings. Such class discussions may occur informally as opportunities arise, and focus on theoretical issues or interpretations of anatomical evidence. ***Everyone is expected to complete the readings in advance, and come prepared to contribute to class discussion.***

POP QUIZZES: Pop quizzes will be administered throughout the course, based on material covered earlier in class. These are designed to give you some practice testing your knowledge as we move through the course. These quizzes are worth one point each, and will contribute towards your Participation grade.

(4) **LAB VISITS:** Although this class is currently designed as a lecture-based course, we will incorporate three laboratory visits to give you practical experience with the information you are learning in class. ***Information covered during the labs may appear on your exams. However, given the mechanics of these labs, make-ups are not possible.*** Thus, it is important that you attend, unless an illness or emergency prevents you from doing so.

BLACKBOARD: Once you are registered for this course, you will automatically have access to the Blackboard site associated with it. Go to <https://blackboard.gwu.edu/> and sign in using your email ID and password. We will use Blackboard to communicate announcements, store important documents and external links to web sites of interest that deal with material covered in the course, and provide a way for you to check your grades as the course progresses.

CLASS POLICIES & OTHER INFORMATION:

ATTENDANCE: Attendance is critical to doing well in this course, as is keeping up with the readings. Material from lectures, labs, and readings will be tested on the exams. Further, knowledge will be cumulative, and we will refer back to previous topics in our weekly lectures and discussions. Classes should not be missed except for reasons beyond your control and for which you can provide documentation, such as illness, family emergencies, or participating in university-sanctioned activities. ***More than one unexcused absence for the semester may result in lowering of your Participation grade by 1 point for every missed class.***

LATE WORK / MISSED EXAMS: Late assignments and make up exams will **only** be granted in very limited circumstances, when there is a valid (i.e., medical, religious) justification. In such cases, you are required to notify me **prior** to the scheduled exam date / due date. Documentation verifying a medical or other emergency will be required. Late workbook assignments will result in lowering of your final workbook grade by 1 point (or one letter grade) for each day the assignment is late.

RELIGIOUS HOLIDAYS: It is completely acceptable for you to miss class meeting(s) due to observance of a religious holiday, without penalty. However, it is your responsibility to look ahead on the calendar, and notify me no later than the **first week of the semester (no later than January 21st)** of your intention to be absent from class on the day(s) of religious observance.

ACADEMIC INTEGRITY: I personally support the GW Code of Academic Integrity, and will address violations of this code accordingly. It states: "Academic dishonesty is defined as cheating of any kind, including misrepresenting one's own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information." It is your responsibility to read and understand this and other stipulations of GW's Code of Academic Integrity, and complete all class work in accordance with this code. For the remainder of the code, see: <http://www.gwu.edu/~ntegrity/code.html>

SUPPORT FOR STUDENTS OUTSIDE OF THE CLASSROOM:

Disability Support Services (DSS). Any student who may need an accommodation based on the potential impact of a disability should contact the Disability Support Services office at 202-994-8250 in the Marvin Center, Suite 242, to establish

eligibility and to coordinate reasonable accommodations. For additional information, please refer to <http://gwired.gwu.edu/dss/>

University Counseling Center (UCC). The Counseling Center (UCC) offers 24/7 assistance and referral to address students' personal, social, career, and study skills problems. Services for students include: crisis and emergency mental health consultations; and confidential assessment, counseling services (individual and small group), and referrals. You can reach the UCC at 202-994-5300. For additional information, please refer to <http://gwired.gwu.edu/counsel/CounselingServices/AcademicSupportServices>

SECURITY: In the case of emergency, if at all possible, the class should shelter in place. If the building that the class is in is affected, follow the evacuation procedures for the building. After the evacuation, seek shelter at a predetermined rendezvous location.

SCHEDULE OF TOPICS AND READINGS

This schedule is subject to change as we move through the course. All schedule changes will be announced in lecture and posted to blackboard. *I recommend that you check blackboard regularly for the most current course syllabus & schedule.*

*READINGS: The following includes assigned readings from the Langdon and Grine textbooks only. Additional required readings will be posted to blackboard on a weekly basis.

WK	DATE	TOPIC	LANGDON, 2005 Chapters	GRINE WORKBOOK Pages Due
1	Jan. 15	Introduction		
	Jan. 17	Approaches to functional morphology	1 & 2	1-9
2	Jan. 22	Bone, Cartilage and Muscle: Development & function	3	10-19
	Jan. 24	Development and Anatomy of the Skull and Face	4	179-86, 190-3, 160-1
3	Jan. 29	Brain: Structure	10	208-9, 216-9, 34-39
	Jan. 31	Brain: Functional and developmental Aspects	11	
4	Feb. 5	LAB: Brains!		
	Feb. 7	Touchy primates	13	22-23
5	Feb. 12	Ear: Anatomy, hearing and balance	12 (p. 169-173)	254-263; **TURN IN**
	Feb. 14	(Continued)		
6	Feb. 19	TEST 1		
	Feb. 21	Vision: Basic anatomy	12 (p. 165-9)	240-253
7	Feb. 26	Vision: A colorful world		
	Feb. 28	Olfaction: What's that smell?	12 (p. 160-3), 15	198-9, 225
8	Mar. 5	Respiration, Vocalization and Swallowing	15	144-9, 162-9, 194-9, 280-3
	Mar. 7	Digestion I: Overview of anatomy and function	12 (p. 164-5), 14	324-334
	Mar. 12 Mar. 14	NO CLASS: SPRING BREAK		
9	Mar. 19	Digestion II: Tooth development and anatomy	5	187-189, 192-193
	Mar. 21	Digestion III: Functional morphology & diet	5, 14	**TURN IN**
10	Mar. 26	LAB: Hard tissues		
	Mar. 28	TEST 2		
11	Apr. 2	Locomotion: Basic anatomy of the way primates move	6	24-33, 40-5
	Apr. 4	Anatomy of the Upper Limb	7	48-51, 54-7, 60-1, 68-75
12	Apr. 9	The Hand		51-3, 58-9, 76-85
	Apr. 11	NO CLASS: Study Upper and Lower Limb!		
13	Apr. 16	LAB: Visit to Medical Anatomy	8, 9	92-109, 116-29
	Apr. 18	Anatomy of Bipedalism: Walking and running		130-5
14	Apr. 23	The Pelvis: Bipedalism and birth	19	356-367; **TURN IN**
	Apr. 25	Reproduction	20, 21	
		TEST 3: TBD (Final Exam Period)		