

HUMAN BIOLOGY

BIO 100A- Fall 2011 (4 credit hours)

Location: Kettering 303 (lecture) and 305 (lab)

Time: 11-11:50 MWF (lec), 3:00-4:50 M (lab)

Instructor: Dr. Mason Posner
Kettering 320
E-mail: mposner@ashland.edu
Text: (330) 421-9552
Office Hours: By appointment – can be set in class or at <http://tungle.me/masonposner>
Prerequisites: None

Course Description: This course addresses the questions of what it means for cells to be “alive”, and how individual cells are integrated into a complex, self regulating human organism capable of survival in its own right. This includes an examination of the function of cells, the idea of homeostasis (physiological equilibrium) and the mechanisms of disease.

Course Objectives:

- Gain an understanding the of the basic mechanisms of life
- Work with the concept of homeostasis to understand the normal function and dysfunction of the human body
- Gain an appreciation for how science is used to further human understanding of the natural world
- Use numerous scientific techniques in your own experiments
- Learn how to find scientific information and evaluate its quality
- Become more comfortable with online collaborative tools

Grading: Your grade will depend on the following work:

Three 1-hour exams. These will be given during lecture periods and can include any material covered in both lecture and lab. Study guides will be handed out approximately a week before each exam, although it is highly recommended that you start studying before then.

Final exam. This exam will include material from the last portion of the semester and select information from the entire semester.

Responses to readings. You will be given questions about reading assigned during the semester. Some responses will need to be submitted on Angel. Other times you should bring notes on your reading to class for discussion.

6 quizzes covering lecture and lab material. At the beginning of any lab or lecture there may be a short quiz covering material from recent lectures and from the previous weeks labs. These quizzes are useful for review of course material and to make sure you are studying the right content and concepts.

Lab assignments. During lab you will be conducting experiments and observing a variety of materials. Questions about these lab activities need to be answered and handed in before leaving lab that day.

Blog posts and comments.

Participation. Your active participation in both lecture and lab activities will account for 30 points of your grade.

Points summary:

Lecture (3 exams @ 100 points/each)	300
Final exam	100
Responses to readings	50
Blog posts	60
Lab	
Quizzes (6 @ 10 points/each)	60
Lab assignments (10 @ 10pts/each)	100
Participation	30
<hr/> Total	<hr/> 700

Your final grade will be based on the percentage of the total possible points you obtain in class as follows:

90% - 100%	=	A- or better
80% - 89%	=	B- or better
70% - 79%	=	C- or better
0% - 69%	=	In this region you might receive a D or F.

Resources and what to do with them:

Course web page: www.masonposner.com. Contains links to assignments, lecture notes, and web resources. Get in the habit of checking it often.

Course blog: <http://ashlandhumanbio.blogspot.com/>. I will post follow-up information to lectures and student questions on the course blog, and you will be contributing your own posts and comments.

Angel course page: You will submit written assignments through this page and take some online quizzes.

Bryson, B. (2003). A Short History of Nearly Everything. Broadway Books, New York.: The closest thing we will have to a text book in the class. An attempt be a non-scientist to understand and then explain some of humanity's greatest scientific discoveries.

Course You Tube Channel: You can find a link to this page of course related videos on the course web page.

Course Policies

Reading. You **MUST** do all assigned readings and answer any assigned thought questions on time so that you can take part in class discussions. Any lab handouts **MUST** be read before coming to your lab section. Our time in lab is limited, and science is often hard to do by deadline. So come prepared.

Attendance: 30 points of your grade will come from participation in class. While you will not lose points for missing lecture, you suffer the risk of missing important information for exams, and opportunities to gain participation points. You **MUST** attend lab. Missed labs will affect you in several ways: you will lose participation points, you will miss quizzes and you will lose points by not handing in lab assignments. Only with an excused absence can a lab be made up. Excused absences are described below.

Technology Policy: We will be using several online technologies this semester, including online submission of papers. Technology mishaps are not an emergency, but a regular part of using online systems and computers. You are responsible for submitting your work in sufficient time to accommodate potential network outages or computer mishaps. Crashed computers, downed networks and virus attacks are not a valid excuse for late assignments. Save often, back up your work and be prepared (I recommend the free online web service called Dropbox – www.dropbox.com). Papers cannot be submitted by email.

Excused Absences: An absence will only be excused if: 1. You have a letter from university health services or a private physician stating that you were unable to attend class for health reasons. 2. You will be travelling for a University sponsored event. This must be brought to my attention before the absence so that alternate arrangements can be made. **Missed labs and exams can only be made up if you have an excused absence. Exam make-ups will be done as oral exams at my discretion.**

Late Work: Assignments submitted late due to an excused absence (see above) will be accepted on a case-by-case basis. Generally, written assignments will be docked 10% of the awarded points for each day they are late. Answers to thought questions submitted after class discussions will be docked 50% of the awarded points.

Disability Services: Students with documented disabilities who require academic adjustments for this class are requested to contact me to discuss reasonable accommodations. While not required, it is in the best interest of the student to have this conversation early in the semester. In order to receive academic adjustments paperwork from Disability Services must be provided to document this need. Disability Services is located in 105 Amstutz, extension 5953.

Academic Integrity Policy: Any student cheating on or plagiarizing an assignment will receive an “F” on that assignment, will be reported to the registrars office, and may be expelled from the University. Your student handbook defines plagiarism as follows:

“Plagiarism is the intentional or unintentional presentation of someone else's words, ideas or data as one's own work. In the event the faculty member deems the plagiarism is unintentional he/she shall typically require the student to rewrite the assignment. In the event the faculty member believes the plagiarism is willful, the sanctions in this document will apply. If the work of another is used, acknowledgment of the original source must be made through a recognized reference practice, and, if verbatim statements are included, through quotation marks as well. To assure proper crediting, a student will acknowledge the work of others:

1. Whenever one quotes another person's actual words.
2. Whenever one uses another person's idea, opinion or theory, even if it is completely paraphrased in one's own words.
3. Whenever one borrows facts, statistics, or other illustrative materials-unless the information is of such common knowledge so as not to be questioned.”

I will assume that you are knowledgeable of the definitions of plagiarism!

Note: Although it is not technically plagiarism, do not extensively quote material from primary sources in your assignments. Use your own words unless there is absolutely no other way to avoid the original words of the author.

COURSE SCHEDULE

Theme 1 – Cellular and Molecular Biology

Weeks 1-2 Do tanning booths give you cancer?

Weeks 3-4 From cystic fibrosis to HIV

Exam 1: Wednesday, September 21st

Theme 2 – Nutrition, Metabolism and Human Movement

Weeks 5-6 What does it mean to eat heart healthy?

Weeks 7-8 Why do humans walk on two legs?

Exam 2: Wednesday, October 19th

October 24th at 7 pm: Against Indifference Symposium Talk on HIV/AIDS

Theme 3 – The Brain and Sensation

Weeks 9-10 Lobotomies, zoloft and heroin, oh my

Weeks 11-12 How do we sense our environment?

Exam 3: Wednesday, November 16th

Theme 4 - Development

Weeks 13-15 How to make a new human

Final Exam: Tuesday, December 13th, 1:30-3:30 pm

Tentative Lab Schedule

Week 1	Aug 29	Microscopy and diffusion
Week 2	Sep 5	No Lab – Labor Day
Week 3	Sep 12	Bacteria and DNA collection
Week 4	Sep 19	DNA analysis
Week 5	Sep 26	Heart dissections and EKGs
Week 6	Oct 3	Food chemistry/enzyme function
Week 7	Oct 10	Bones
Week 8	Oct 17	Cadaver lab
Week 9	Oct 24	Brain anatomy
Week 10	Oct 31	Nervous system function
Week 11	Nov 7	The senses
Week 12	Nov 14	The senses
Week 13	Nov 21	Zebrafish development
Week 14	Nov 28	Reproductive anatomy
Week 15	Dec 5	TBD