Human Biology Lecture - Bio 120-01

Department of Biology

Mercyhurst University

Fall Term 2014

*Instructor: Summer Ekelund Weaver, Instructor*

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*Office Hours: Tuesday 10am – 2:00 pm*

*M/W/F afternoons*

*Lecture Times: M/W/F @ 10:30am – 11:35am Hirt M205*

*Laboratory Times:**Tuesday @ 2:45pm – 5:45pm Zurn 109*

Core Learning Outcomes and Assessment Strategies

The table below highlights the Student Learning Outcomes associated with every course in *Core Area V - Scientific, Quantitative, and Critical Reasoning.*

|  |  |  |
| --- | --- | --- |
| **Primary Learning Outcome** | **Learning Objective** | **Associated Assessment** |
| **Quantitative and Scientific Reasoning** | Use mathematical concepts to make logically sound decisions, judgments, and/or predictions; effectively use scientific inquiry and reasoning to solve problems and analyze and interpret data*.* | Quantitative conceptual evaluation, issued online to all student enrolled in an relevant course |

All Core Student Learning Outcomes are assessed on a rotating basis of at least once every three years. All assessment documents and information including the scoring rubrics can be found on the Mercyhurst portal and website. Please direct questions to the course professor or to the Core Assessment Coordinator – [coreassessment@mercyhurst.edu](mailto:coreassessment@mercyhurst.edu).

Course Learning Goals and Objectives

|  |  |
| --- | --- |
| **Supporting Learning Outcome** | Critical Thinking |
| **Supporting Learning Outcome** | Research and Information Literacy |

The following course objectives detail how the specific content of this course will support the above Core Outcomes.

* Evaluate reports of scientific research in human biology including primary and secondary sources.
* Analyze and explain scientific data as it relates to human health.
* Form and test hypotheses about the function of the human body.

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PERSONAL COURSE OBJECTIVES

This fall semester course includes a total of 39 lecture sessions and 13 laboratory sessions, beginning August 27 and ending December 5, 2014. The lecture sessions will be held 3 days per week—Monday/Wednesday/Friday — and are 65 minutes in duration, for a total of 42.25 hours of instruction. There are 13 laboratory sessions, held every Tuesday, each of which is 3 hours in length. For the lab sessions we will be meeting in the laboratory and you must bring with you to lab the Human Biology Sylvia Mader Laboratory Manual. Grades are determined by performance on a series of 4 lecture exams, 8 quizzes and 3 lab practicals. Students are responsible for the study of anatomical models, specimens, slides and all experimental models. Additional study time for the lab exams will be required and open lab study sessions will be provided typically over weekends (prior to the lab exam).

The objectives of this course are to lead a student to identify and understand the cells, tissues, and organs of the human body and to correlate their structure with function as well as to discuss and address current health issues.

At the end of this course you should be able to:

* Discuss the general chemistry of a cell and the 4 major macromolecule groups
* Discuss the general function of a cell and its organelles
* Discuss the basics of a variety of molecular movements through a cell
* Discuss the 4 main histological tissues of the human body
* Discuss human nutrition in relation to growth, development, maintenance and disease
* Discuss generally the anatomy, physiology and some disease of the
  + blood and cardiovascular system
  + respiratory system
  + gastrointestinal system
  + skeletal system
  + nervous and sensory systems

SUPPORT THE MERCY MISSION:

This course supports the mission of Mercyhurst University by fostering students to become ‘Reflectively Aware’ by understanding the impact of human research on everyday life.

TEXTS

*Required Texts*

1) Mader, Sylvia, Windelspecht, Michael. *Human Biology,* 12 or 13thedition. McGraw-Hill , 2012 or 2013.

ISBN: 978-0073525488

2) Mader, Sylvia. *Human Biology Laboratory Manual,* 12 or 13thedition. McGraw-Hill , 2012 or 2013.

ISBN: 978-0077596026

ATTENDANCE: LECTURE

Attendance will be taken at the beginning of each lecture, but will not be counted toward the final grade. However if a student is on the borderline of a grade, the attendance of that student will be evaluated for a final grade decision. Therefore, it is in the best interest of the student to attend each lecture.

ATTENDANCE LABORATORY

Attendance will be taken at the beginning of each lab, and will count toward your final grade. Make-up laboratories will not be scheduled due to limited room availability and limited supply of materials. A death in the family or an extreme illness will be the only excuse for missing a lab, and alternative means for a make-up will be considered. Therefore, it is in the best interest of each student to attend each lab and SIGN IN!

LATE WORK POLICIES (Lecture and Lab)

Students who miss class/assignments for extracurricular activities are responsible for obtaining their assignments and setting up the quiz/test make-up time BEFORE attending the event. Students know well in advance the class schedule and their extracurricular schedule. Setup for labs, quizzes and tests are extensive. Failure to make arrangements prior to an activity will result in the student receiving a zero for all missed work. Unexcused absences, without proper documentation will result in zero points for all assignments, labs, quizzes or tests taken or due on that date. Pre- or post-makeup quizzes and exams will not be given for those who make travel plans that conflict with scheduled class meeting times unless pre-arrangements are made and agreed upon by the instructor.

EXTRA CREDIT

No special extra credit assignments or projects will be offered to any student. *“Bonus”* points are offered to every student at different times on quizzes and exams throughout the semester.

BLACKBOARD

The blackboard *“Human Biology”* site will house all PowerPoint lectures, assignments, updates, videos, grades, and announcements! I highly encourage you to set up your blackboard account with correct E-mail address.

LEARNING DIFFERENCES STATEMENT

In keeping with college policy, any student with a disability who needs academic

accommodations must call the Learning Differences Program secretary at 814 - 824 - 3017, to

arrange a confidential appointment with the director of the Learning Differences Program

during the first week of class.

ACADEMIC INTEGRITY

Students are expected to contribute actively to the development of an atmosphere of

academic integrity. Students determined to have committed willful academic dishonesty

automatically receive a failing grade for the course and can be referred to the Vice President

for Academic Affairs. Students found to have collaborated with another student involved in

academic dishonesty are also subject to disciplinary action. Academic dishonesty includes

representing the work of others as one's own, fabrication of data, cheating on examinations,

or any other form of academic misconduct as so deemed by the faculty.

CLASSROOM ETIQUETTE

Please turn off all cell phones, PDAs, iPods, etc., while in class or lab.

Please do not arrive late to class.

Please do not leave during class unless otherwise discussed.

Please do not converse while in lecture, it is extremely disruptive and I will verbalize my disapproval of your disrupt you will be asked to leave the lecture hall if you do not adhere to this policy.

METHOD OF EVALUATION: LECTURE

QUIZZES

20 point quizzes are given most **Fridays (1 Wednesday)** that will cover the information from that **Monday and Wednesday’s lecture material** unless otherwise informed. This implies that you must come to class for any change in schedule! Missed quizzes are not retaken if there is not a written excuse for medical illness, sports, and/or death in the family. There are unforeseen occurrences that I will take into consideration for a make-up quiz, but must be discussed with me and not assumed. If there is no acceptable excuse for a missed quiz, that quiz score will be dropped as the lowest score from the overall quiz total. All make-up quizzes are to be rescheduled with me and are completed if possible that Thursday either before/after lecture!

Bonus! You can drop one quiz!

Each Quiz is worth 20 points

8 Quizzes x 20 Points = 160 points

160 Points

– 20 Points dropped Quiz

140 Total Possible Quiz Points

EXAMS

*1st Exam* 100 Points

*2nd Exam* 100 Points

*3rd Exam* 100 Points

*Final Exam* 100 Points (not cumulative)

400 Points Exams

## + 140 Points Quiz

**540 Points Total**

METHOD OF EVALUATION: LABORATORY

The assignments for the lab section include the “Laboratory Review” which is to be completed and either torn out of the manual or photocopied and turned in either at the conclusion that lab day or turned into me at the beginning of that week’s Friday’s lecture.

The there are 3 scheduled Lab Practicums that will be held during the lab time. These practicums are not cumulative and will be worth 100 points each. I will have open lab study sessions, which will allow for you to study and review the materials and mock experiments we performed in the previous labs. It is highly advised that you attend these open study sessions, there is statistical proof indicating those students who attend the study sessions earn higher scores than those who do not attend.

\*\*\*YOU WILL RECEIVE A SEPARATE GRADE FOR LECTURE AND LAB\*\*\*

PRACTICUMS AND ASSIGNMENTS: LAB

*1st Exam* 100 Points

*2nd Exam* 100 Points

*Final Exam* 100 Points (not cumulative)

*Assignments* 130 Points (approximately)

*Attendance*  + 30 Points (3 pts. per lab)

460 Points Total

### GRADES

### To figure your score \_\_\_\_ Your Total # Points \_\_\_\_\_\_ x 100 = %

Total # Points Possible so Far

100-90 % = A 79-75 % = C+ 69-65 % = D+

89-85 % = B+ 74-70 % = C 59 below = F

84-80 % = B 64-60 % = D

**LECTURE/LABORATORY SCHEDULE:**

# Lecture #

# \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## *Week 1 (August)*

1 Wednesday 27th **Classes begin on campus**

General Overview & Microscopes

Begin Chemistry of Life

## 2 Friday 29th Chemistry of Life

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## *Week 2 (September)*

3 Monday 1st Labor Day – NO CLASSES HELD

Tuesday 2nd LAB 1 week 2

Tues. LAB Lab Safety Lab 1: Scientific Method

Lab 2: Metric Measurement and Microscopy

Take-Home Sci. Method Lab Assignment 20 points

“Laboratory Review” Lab 2: Assignment 10 points

4 Wednesday 3rd Chemistry of Life Continued

**Last Day to Drop/Add Classes**

Thursday 4th  **Mass of the Holy Spirit**

5 Friday 5th Cell Structure and Function

*If you did not turn in the “Laboratory Review” assignment during the lab section, it is DUE that Friday in class or please place in my office mailbox Zurn 109 before 12 noon.*

**QUIZ #1 - covering M/W material from Lecture Week 2**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## *Week 3 (September)*

6 Monday 8th Cell Structure and Function Continued

Tuesday 9th LAB 2 week 3

Tues. LAB Lab 3: Chemical Composition of Cells

“Laboratory Review” Lab 3: Assignment 10 points

7 Wednesday 10th Cell Structure and Function Continued

8 Friday 12th Body Systems

**QUIZ #2 - covering M/W material from Lecture Week 3**

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## *Week 4*

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9 Monday 15th Body Systems Continued

Tuesday 16th LAB 3 week 4

Tues. LAB Lab 4: Cell Structure and Function

“Laboratory Review” Lab 4: Assignment 10 points

10 Wednesday 17th Blood

11 Friday 19th **LECTURE EXAM #1**

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## *Week 5*

12 Monday 22nd Blood Continued

Tuesday 23rd LAB 4 week 5

Tues. LAB Lab 5: Body Tissues

Lab 6: Organization of the Body (part)

“Laboratory Review” Lab 5: Assignment 10 points

“Laboratory Review” Lab 6: Assignment

13 Wednesday 24th Blood Continued

14 Friday 26th Cardiovascular System

## *Week 6 (September - October)*

15 Monday 29th Cardiovascular System Continued

Tuesday 30th LAB 5 week 6

Tues. LAB **LAB Exam 1 (Weeks 2, 3, 4, & 5)**

Study session the weekend prior

16 Wednesday 1st Cardiovascular System Continued

17 Friday 3rd Cardiovascular System Continued

**QUIZ #3 - covering M/W material from Lecture Week 6**

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## *Week 7 (October)*

18 Monday 6th Respiratory System

Tuesday 7th LAB 6 week 7

Tues. LAB Lab 7: Blood and Cardiovascular System

“Laboratory Review” Lab 7: Assignment 10 points

19 Wednesday 8th Respiratory System Continued

**QUIZ #4 - covering material from Lecture #17 & #18**

20 Friday 10th CANCELLED – NO CLASSES

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## *Week 8*

21 Monday 13th Genetics

Tuesday 14th LAB 7 week 8

Tues. LAB Lab 14 & 15: Development/Genetics

“Laboratory Review” Lab 14 & 15: Assignment 10 points

22 Wednesday 15th **LECTURE EXAM #2**

23 Friday 17th Genetics Continued

## *Week 9*

24 Monday 20th Genetics Continued

Tuesday 21st LAB 8 week 9

Tues. LAB Lab 12: Musculoskeletal System

“Laboratory Review” Lab 12: Assignment 10 points

25 Wednesday 22nd Skeletal System

26 Friday 24th Skeletal System Continued

**QUIZ #5 - covering M/W material from Lecture Week 9**

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## *Week 10*

27 Monday 27th Skeletal System Continued

Tuesday 28th LAB 9 week 10 & prep for next week’s lab

Tues. LAB **LAB Exam 2 (weeks 7, 8 & 9)**

Study session the weekend prior

28 Wednesday 29th Digestive System & Nutrition

29 Friday 31st Digestive System & Nutrition Continued

**QUIZ #6 - covering M/W material from Lecture Week 10**

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## *Week 11 (November)*

30 Monday 3rd Digestive System & Nutrition Continued

Tuesday 4th LAB 10 week 11

Tues. LAB Lab 10: Energy Requirements/Ideal Weight

Homework to Prep Prior!

“Laboratory Review” Lab 9: Assignment

31 Wednesday 5th Digestive System & Nutrition Continued

32 Friday 7th **LECTURE EXAM #3**

## *Week 12*

33 Monday 10th Nervous System

Tuesday 11th LAB 11 week 12

Tues. LAB Lab 13: Nervous System and Senses

“Laboratory Review” Lab 13: Assignment 10 points

34 Wednesday 12th Nervous System Continued

35 Friday 14th Nervous System Continued

**QUIZ #7 - covering M/W material from Lecture Week 12**

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## *Week 13*

36 Monday 17th Urinary System

Tuesday 18th LAB 12 week 13

Tues. LAB TBA

37 Wednesday 19th Urinary System Continued

38 Friday 21st  Urinary System Continued

**LAST DAY TO DECLARE PASS/FAIL**

**QUIZ #8 - covering M/W material from Lecture Week 13**

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## *Week 14*

39 Monday 24th THANKSGIVING BREAK – NO CLASSES

40 Wednesday 26th THANKSGIVING BREAK – NO CLASSES

Thursday 27th THANKSGIVING BREAK – NO CLASSES

41 Friday 28th THANKSGIVING BREAK – NO CLASSES

## *Week 15* *(December)*

42 Monday 1st Overflow

Tuesday 2nd LAB 13 week 15

Tues. LAB **FINAL LAB EXAM (weeks 11, 12 & 13)**

Study session the weekend prior

43 Wednesday 3rd Overflow

44 Friday 5th  Overflow

**Last Day to withdraw from classes**

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## *Week 16* *(December - Finals Week)*

Monday 8th **Reading Day**

Wednesday 10th **Human Biology HIRT 205**

**LECTURE FINAL EXAM @ 11:00am – 1:00pm**

Note this date and time, I will NOT change the finals schedule!

**Functional Human Biology Zurn 64 (basement)**

**LECTURE FINAL EXAM @ 8:30am – 10:30am**

Note this date and time, I will NOT change the finals schedule!

**Department of Biology: Laboratory Safety Policy and Rules**

Safety in the laboratory is extremely important. It’s important that you are aware of your environment as well as the safety equipment available to you. These following policies and rules are in place to ensure your safety.

1. You should know the location of personal protective equipment, i.e., gloves, lab coats, goggles etc., as well as safety equipment such as eye wash facilities, and first aid kits, fire extinguishers and fire alarm pull stations. Your instructor will review the location of these items with you. For more detail about emergency responses, please reference the Emergency Response Guide, which is located on the portal under Police and Safety.

2. No running, jumping, or other kinds of horseplay is allowed in the laboratory at any time. Lab is limited to those students enrolled in the course.

3. Eating, drinking and smoking are prohibited in the laboratory areas, unless they are part of a laboratory procedure. In addition, make-up and similar products should not be applied in laboratory areas.

4. It is a good practice to wash your hands before and after lab.

5. Bare feet are prohibited in the laboratory areas. In addition, open-toed sandals are dangerous and are not permitted.

6. Long hair must be kept tightly in place. This is especially important in labs that utilize Bunsen burners.

7. When working in a laboratory involving the use of hazardous materials, all persons must wear either:

* a knee-length laboratory coat over appropriate clothing
* long pants or knee-length skirt and shirt with sleeves (long or short), or
* a knee-length apron over appropriate clothing

8. Books, supplies and personal belongings not needed for class should be placed out of the way. No material should be allowed to obstruct the aisles between tables.

9. Approved personal protective equipment, such as gloves, lab coats, goggles etc., must be worn as indicated by your instructor.

10. No unauthorized experiments are allowed to be performed.

11. Any accident or injury must be reported to the instructor immediately.

12. When working with chemicals, use care when transferring or dispersing. Be sure to return chemicals/reagents to area designated by instructor.

13. Notify your instructor if a spill occurs, so that clean up can be done promptly. If any material is spilled on the skin, wash it off immediately with a large amount of water and notify your instructor.

14. Proper disposal of waste chemicals is essential. Follow directions given by your instructor.

15. Proper clean up and maintaining a well-ordered work space is essential to lab safety. Bench tops should be cleared and wiped clean. Clean all shared equipment.

16. Instrumentation can only be used after instructor approval or according to any instructions given in the lab introduction.

17. Pay special attention to the proper use and cleaning techniques for various pieces of instrumentation. Improper cleaning or use can damage expensive equipment and render it useless. If a piece of equipment is not working as expected, notify your instructor.

18. Proper use, care and maintenance of microscopes are very important. If you will be using microscopes in the lab, your instructor will review the proper procedures with you as well as provide you with a copy of the document “Care and Handling of Microscopes”.

19. Inform your instructor immediately of any broken thermometers. If a mercury thermometer is broken, any spills must be cleaned up by the instructor.

20. Proper use, care and maintenance of models are very important.  If you will be using models in the lab, please do not use pencils or pens as pointers or to trace out the extent of a particular anatomical feature.  Always use a blunt probe.

21. Any special health factors (e.g. a pregnancy, an allergic reaction to a chemical or biological substance) must be reported to the instructor as soon as possible.

22. Always use common sense in the laboratory. If something is unclear, be sure to ask the instructor before proceeding.

**STUDENT RESPONSE**

I have read, understand, and agree to abide by the Mercyhurst University, Department of Biology, Laboratory Safety Policies and Rules. I assume full responsibility for any accident or consequence thereof that results from my failure to comply with these rules. I also assume full responsibility for failure to make known any allergy or medical condition that may be impacted by participating in the lab. I understand that failure to follow these rules may result in dismissal from the lab.

Printed Name

Signature Date

Instructor Signature Date

Student Copy

**Semester, *Year***

***Course Name and Number***

**Department of Biology**

**Mercyhurst University**

**Laboratory Safety Policies and Rules**

**STUDENT RESPONSE**

I have read, understand, and agree to abide by the Mercyhurst University, Department of Biology, Laboratory Safety Policies and Rules. I assume full responsibility for any accident or consequence thereof that results from my failure to comply with these rules. I also assume full responsibility for failure to make known any allergy or medical condition that may be impacted by participating in the lab. I understand that failure to follow these rules may result in dismissal from the lab.

Printed Name

Signature Date

Instructor Signature Date

Department Copy