

Introduction

Introduction:

Welcome to Biology 104, the Human Biology Laboratory. It is the goal of this course to have you start to think like a scientist while supplementing the information you are gaining in the lecture part of this course.

By the end of this lab course you will:

1. Have an understanding of the scientific method and the way it is used in a scientific venue and your everyday life.
2. Observe changes in several physiologic parameters and utilize these observations to generate novel questions. Generate experimental designs to answer these novel questions.
3. Run novel experiments and generate, analyze and interpret data.
4. Present data and conclusions in the three modalities most commonly used by scientists.

Laboratory Coordinators

	Dr Jani Lewis	Tom Reho
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Phone:	245-5310	245-5632

Laboratory Sections:

Section	Time	Day	ULI	E-mail
01	8:30-10:20 AM	Tue	Maia Mazzaferro	mfm10
02	10:30-12:20 AM	Tue	Will Shultz	wcs4
03	12:30-2:20 PM	Tue	Matthew Blauvelt	mr30
04	8:30-10:20 AM	Wed	Lauren Ellis	lne1
05	10:30-12:20 AM	Wed	Chelsea Bork	cab38
06	12:30-2:20 PM	Wed	Rachael Natoli	rln5
07	8:30 – 10:20	Thur	Hannah Weyrauch	hkw4
08	10:30-12:20 AM	Thur	Aimee Clayton	adc11
09	12:30-2:20 PM	Thur	Chris Lepore	cal23

**Laboratory instructors may be contacted by e-mail. Each instructor is required to hold office hours for two hour per week. The time and location of these office hours will be determined by individual instructors.

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Laboratory Operations and Grading:

There is no book required for the Human Biology Laboratory. All material needed can be found on your laboratory sections Canvas page. Each sections Canvas page is broken down into weekly modules with information, materials for that week's lab and links to quizzes if applicable. There are certain items that your instructor will print out and hand out in lab but for the most part you are responsible for either printing a copy of each week's laboratory exercise and bringing that to class or bringing your laptop to fill out your lab exercise electronically.

This laboratory uses a mixture of group learning activities and individual performance. Your evaluation will be a combination of group performance, peer evaluation and your own personal performance. The following criteria are used in calculating your final point total and assigning your ultimate laboratory letter grade.

<u>Performance Categories</u>	<u>Points Available</u>
Quizzes	15 points
Capstone Quiz	5 points
Lab Submissions	20 points
Partial Lab Reports	10 points
Graphing/Homework Exercises	5 points
Peer Review	5 points
Participation	5 points
Experimental Poster	15 points
Final Presentation	20 points

There will be five quizzes that will be taken on line, starting January 30th. On line quizzes will open 24 hours prior to the beginning of your lab period and close 5 minutes before your lab begins. On line quizzes will be of a set length of time and once you answer a question you will not be able to go backwards. Quiz questions will be derived from the general methodologies and background information from that week's exercise and may contain results/information from the previous week's lab. **Quizzes are individual efforts, if students are caught cheating they may receive a zero for that quiz, be brought up on academic dishonesty charges or both.** The lowest quiz score will be dropped when calculating your final point total for this category. A capstone quiz will be given the 12th week of lab and will be taken in class. The capstone quiz is worth 5 points and may not be dropped

You will be responsible completing and handing in the questions associated with your labs the week after they have been completed. Instructors will then grade and return these submissions to you. Lab submissions are both individual and group efforts. Your instructor will inform you which type of submission will be due.

There will be an additional 50 points worth of assignments that will be completed outside of your designated laboratory period. Each of these assignments builds upon the

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activities carried out during lab. These outside assignments are a mixture of group and individual work.

Since much of the time you will be working in groups, part of your lab grade will be dependent on peer review. We will conduct peer review three times during the semester, the week of February 23rd, the week of March 29th and the week of May 3rd. Calculation of peer review percentage points for each instance of peer review uses the following rubric: Each member of the group will have 90 points to distribute to the other members of the group. A person may distribute from 0 to 90 points to any one person, but may not distribute the same number of points to any of the members of the group. An individual's peer review percentage is calculated from the total number of points given to that person divided by the total number of points an individual may distribute to the members of his or her group.

For Example: In a group of 4 people each person may distribute 90 points
An individual receives 87 points from his/her group members
Calculate $87/90$ to get percentage

To get your individual final peer review total you simply average each instance of peer review percentage. This average is then used to calculate your peer review points.

Peer review counts for 5 points toward your final grade.

Your instructors will also assign points to you based on your participation during the semester and this evaluation will be worth 5 points toward your final grade. This evaluation will depend on how you work within the context of the laboratory, how prepared you are for class and your participation during class periods.

After spring break the lab switches gear and you become responsible for implementing and running original experiments utilizing the methodologies learned in the first half of the semester. You will be responsible for generating a proper scientific poster explaining one of your experiments. These Posters are worth 15 points and will be due 11th week of lab. The final week of class you will be giving a formal presentation on a set of experiments you have designed yourself. This presentation is worth 20 points and should be 5 – 10 minutes in length.

The ultimate decision on final grades will be the sole responsibility of the course coordinator. At the end of the semester, the course coordinator will sum up the points awarded by the instructors and assign letter grades.

As previously noted there are eight different performance categories that when totaled give a student's final point total. Several performance categories consist of more than one assignment. It should be noted that within a performance category the assignments may be weighted equally or not. For example, quizzes will be weighted equally but the Partial Lab Report section weighs those assignments in an unequal manner.

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For example: Student A. has a quiz average of 75.78%
 $.7578 \times 15 \text{ points} = 11.367$
 Round the number 11.367 to 11.37
 This is the total number of quiz points you would receive.

Once all categories have been assigned a point total, the eight performance categories are added together to arrive at a student's final point total.

For Example:	<u>Category</u>	<u>Points awarded</u>
	Quiz	11.37
	Lab Submissions	14.55
	Partial Lab Reports	9.85
	Capstone Quiz	4.75
	Graphing/Homework Exercises	3.75
	Peer Review	5
	Participation	4.5
	Experimental Poster	9.58
	<u>Final Presentation</u>	<u>16.6</u>
	Total	79.95

Since scores and points are rounded up prior to the final total, no alteration of point totals happen at this final stage. A point total of 79.95 is still a C+.

Grades will be assigned according to the following scale:

A	94-100 points	C+	77-79 points
A-	90-93 points	C	74-76 points
B+	87-89 points	C-	70-73 points
B	84-86 points	D	60-69 points
B-	80-83 points	E	0-59 points

Laboratory Rules:

1. Human Biology laboratory is an active learning environment that you must be present to complete. **If you have more than two unexcused lab absences, you will fail the lab.**
2. You are expected to attend the lab period you are registered for. Due to past abuses, you are not allowed to switch lab sections unless you are involved in a school sponsored activity that is credit bearing and need to miss a lab for that credit bearing activity. In such cases you will be allowed to switch labs for that week. You should know your schedule well in advance of the week missed and need to notify your instructor as soon as possible. Students will not be allowed to switch labs more than two times under this accommodation. Due to the nature of the laboratory experience there are no makeup labs.
3. If you miss lab you will receive no points for either participation or the submission of any lab exercises resulting from the lab. You may still take any on line quiz for that week if you take the quiz during the designated time period.

A student will not be penalized for attendance at a religious ceremony. The student will need to supply documentation of attendance to this ceremony. Students are still required to hand in all work due the week of the missed lab. Although a student will not be penalized a student will receive no grade for any lab submissions resulting from a missed lab due to a religious ceremony. Students are still responsible for any partial lab reports resulting from a missed lab and it is their responsibility to obtain any data required to complete the assignment.
4. You are expected to be on time. If you are late to lab you will lose participation points for that particular lab exercise. **If you are more than 30 minutes late to lab it will be considered a missed lab** and you will receive a zero for participation points. A student who is more than 30 minutes late may remain in lab to gather data and utilize that data in the completion of his or her lab submission.
5. Quizzes that are given on line will appear in the Canvas module for that week's lab. Each quiz will open 24 hours prior to the start of your lab period and close 5 minutes before your designated lab period. There are no makeup quizzes and failure to complete a quiz during the designated time frame will result in a quiz score of zero. **Quizzes are individual efforts, students caught cheating may receive a zero for that quiz, be brought up on academic dishonesty charges or both.**
6. Unless noted, all assignments are due at the beginning of your laboratory period.
7. Place coats on the hooks to the left of the door as you enter the lab, unused books should be placed out of the way.

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8. The laboratory is an academic setting where many different exercises are going on simultaneously. It is therefore important for students to work in an environment free of distractions. For this reason, you are required to turn your cell phones off when you enter the laboratory. Students and staff are not allowed to either talk on cell phones or text while the laboratory is going on. Students found to be either talking or texting while in lab will be given a warning for the first offense during the semester. A second offense during the semester (not necessarily during the same week) will warrant the student being asked to leave the laboratory and receive a zero for participation for that particular lab and will not be allowed to submit a lab submission for that particular lab period. A third offense during the semester will warrant the student being asked to leave the laboratory again, receiving a zero for participation and zero for lab submissions and will also have the matter forwarded to the Dean of Students. If for some reason you need to be able to be contacted during a lab for emergency purposes inform your lab instructor so he or she is aware of the situation.
9. Students who require modifications due to a College recognized disability must bring their letter outlining approved accommodations to the Laboratory Coordinator no later than the beginning of the second week of lab
10. There is absolutely **NO EATING OR DRINKING** in the laboratory at any time, unless it is part of the actual laboratory experience and in those instances only the food/drink provided by the laboratory shall be consumed.

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2020 Laboratory Schedule for Biology 104: Human Biology Laboratory Sections 01, 02, 03

<u>Lab Date</u>	<u>Lab Exercise</u>	<u>Assessment Exercise</u>
January 28	Introduction/Tools lab	none
February 4	Hypothesis Testing	Graph Due
February 11	Skin Temperature Recovery	Quiz T, Test Homework
February 18	Heart Rate, Blood Pressure and Sympathetic Stimulation	Quiz, Lab Submission Graph Due
February 25 [#]	Monitoring the Neural Reflex	Quiz, Lab Submission
March 3	Grip Strength and Muscle Fatigue	Quiz, Lab Submission Writing Assignment 1
March 10	Dive Response	Quiz, Lab Submission
March 17	SPRING BREAK	
March 24	Independent Experiment I	Lab Submission
March 31 ^{##}	Independent Experiment I	Writing Assignment 2
April 7	Poster session/Epidemiology	Poster
April 14	Independent Experiment II	Capstone Quiz
April 21	Independent Experiment II	none
April 28 ^{##}	Final Presentation	

^{##} Weeks in which we will conduct peer review

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Most scientists do not work alone, but in collaboration with others interested in solving the same questions and problems. Think about trying to find a friend lost in the woods.

It is a much better strategy to enlist the help of others instead of going it alone, as the greater the number of sets of eyes, the better the chance of finding your lost friend. The scientific community does this as well, through the publication of scholarly papers, publication of posters and scientific meetings. Through exposing scientists with differing backgrounds to the same data, novel ideas may emerge that result in significant advances in theory and practice.

This is the basis for having you work in groups this semester. It is important that you respect the ideas and thoughts of those around you as you inquire into the problems set before you. It will be important for you to be able to reach those in your group as the semester progresses. Please use the lines below to record the members of your group and their contact information.

Group Number _____

Name

e-mail

phone

1.

2.

3.