**BI 112: CELL BIOLOGY FOR HEALTH OCCUPATIONS– WINTER, 2021**

**INSTRUCTOR:** Rachel Jacobs
**E-MAIL*:** jacobsr@linnbenton.edu

**LECTURE:** Weekly Zoom recordings on Moodle
**ZOOM OFFICE HOURS**: Tuesdays 11:00am-12:20pm
Wednesday 11:00am-12:20pm

*Please feel free to contact me via e-mail at any time,
I will respond to your e-mail within 24 hours.

**COURSE DESCRIPTION**

Cell Biology for Health Occupations introduces the Health Occupations student to the generalized human cell, including its structure, function, basic genetics, and reproduction. The chemical and physical processes that affect the cell and its components will be examined throughout the course. This course covers the basic principles and vocabulary needed to prepare students for the study of human organ systems that occurs in Human Anatomy and Physiology: BI 231, BI 232, and BI 233.

After successful completion of BI 112, students should be able to:

1. Describe homeostasis, and the importance and function of homeostatic mechanisms in the body
2. Relate the chemical basis of cell function to life processes
3. Express how changes in the genome can affect the phenotype or traits within a population
4. Describe the patterns of inheritance
5. Describe selected key cell processes
6. Distinguish between the groups of biomolecules

**REQUIRED MATERIAL** Biology Department - BI 112: Cell Biology for Health Occupations Study Packet
Note: The textbook will be offered as links to free online resources accessible via Moodle

**GRADING**

Your grade will be determined by your performance in several categories. The contribution of each category towards the final grade is shown below:

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| Lecture Exams (4 @ 40 pts each)…..... | = 160 | A = 90 - 100% |
| Forum Assignments (4 @ 2 pts each)…. | = 8 | B = 80 - 89% |
| Writing Prompts (3 @ 4 pts each)…….. | = 12 | C = 70 - 79% |
| Homework..... | = 50 | D = 60 - 69% |
| Comprehensive Final Exam..... | = 100 | F = 59.9% or below |
| Total Points Possible…….. | 330 | |

The above distribution of points is *approximate* and as with the course schedule, subject to minor changes. Your point standing in the class, which will be figured on a percentage basis, will determine your grade. Your grades will be available to you on Moodle during the term.

**ASSIGNMENTS**

Course assignments and exams give you a chance to review and to be challenged by the material you have learned. They help you evaluate how you are doing in the course. **All forum posts, writing prompts and assignments are due by *5pm* Friday, *late work will not be accepted for any reason***. The keys are posted promptly after 5pm so work will not be accepted after 5 pm ***exactly***. You are given a full week to complete the assignments and you are always welcome to submit work earlier during the week. You may submit assignments by sending a picture/scanned document/digital version to my e-mail address. I will always send a confirmation that your assignment was received and that I was able to view/open your work. *If you do not receive confirmation, then I did not receive the assignment and it is your responsibility to resubmit.*

**EXAMS**

Exams will consist entirely of multiple-choice questions. Some questions will test your memory of structures and functions while others will require an application of your knowledge to unique situations and problems All exams must be completed on Moodle during the specified scheduled day and time frame. If you are unable to complete the assessment at that time (conflicting work schedule for example), you must contact me **BEFORE** the exam is given. I will consider situations on a case-by-case basis, *but make-ups and retakes will not be given, and no exams are dropped in this course*. ALL exams are closed book, closed note and you are expected to complete them independently. Once you open an exam on Moodle, the timer starts automatically, you may not preview exams. Make sure you have good internet connectivity and access, do not attempt to complete the exams on a phone (there are formatting issues with Moodle exams when using smart phones). All exams will be on Tuesdays except for the final exam which is on a Monday.

**LECTURE**

The lecture is a very important part of this course. Watching the recorded posted lectures is *essential* for achieving a good grade. I encourage you to use your course schedule to identify the topics that we will focus on during the posted lecture and review the appropriate material in the online textbook chapters (if applicable to the topic) and course Study Packet before watching the lecture.

**STUDY SUGGESTIONS**

There are many study strategies that can help you be successful in this class. These include the following:

- **Rewrite class notes** in your own words each day so you can gauge your understanding and ask questions on material you do not understand.
- **Keep up** with the information presented in class by **reviewing** a little each day.
- **Read the online textbook** chapters when there are areas that we have covered in class that are unclear to you.
- **Turn assigned work in on time**.
- **Use the live instructor office hours** for clarification on assignments and on general course content. If you are struggling, please reach out to me!

Keeping up with your reading and the class material pays off in the long run because you will not have to "cram" for exams. More importantly, studying regularly helps you learn better. You will find that every topic is connected to those that precede and follow it. If you study and understand each topic as you go, you will have a firmer foundation for learning what comes next. Additional instructional services, are available for all students at the Learning Center. Please visit the LBCC webpage for more information about services available through this campus resource.

**MOODLE**

Moodle will be used extensively and is essential for success in this course. Lecture materials and recordings will be posted by 8am on Monday each week. Supplemental materials, reading links and assignment details will be posted after 5 pm the Friday before they are needed/due. Keys for submitted work will be posted after 5pm the week they are due so you can check your work. It is the responsibility of the student to establish their access to the Moodle site and update their e-mail address on the site to ensure they receive any correspondence from me or other students. You are encouraged to check your e-mail and Moodle *daily*, Monday-Friday. This class cannot be completed with a smart phone, you will need access to a tablet or computer.

**STUDENT BEHAVIOR**

Although collaboration is important in learning, ultimately each student is responsible for demonstrating individual ability. **Cheating** on exams and copying homework/activities will result in a zero for that activity and may result in further disciplinary action. Copying exam questions, taking pictures of exams or other forms of documentation are strictly prohibited at all times & any student engaging in such activities may face further disciplinary consequences. **Plagiarism** is also cheating and includes turning in someone else's work as if it were your own, using sources (another person's ideas, words, or facts) without giving credit to them, not listing sources at the end of a paper or copying a paper off the Internet, etc. Further details about LBCC's policy on cheating may be found in the Administrative Rule: 7030-02, Academic Integrity. The basis for determining behavior and expectations in this class is outlined in the LBCC Student Handbook.

**ACCOMODATIONS AND EMERGENCY PLANNING**

LBCC is committed to inclusiveness and equal access to higher education. If you have approved accommodations through the Center for Accessibility Resources (CFAR) and would like to use your accommodations in this class, please talk to me as soon as possible to discuss your needs. If you believe you may need accommodations, but are not yet registered with CFAR, please go to http://linnbenton.edu/cfar for steps on how to apply for services or call 541-917-4789.

**LEARNING ENVIRONMENT**

I value the learning experience of every student in my class. I ask that we do not tolerate any disrespectful behavior towards anyone else online or in person. If you have a problem or witness anything concerning, please let me know. Maintaining a respectful and peaceful class atmosphere is an important component to facilitating your success as students. The LBCC community is enriched by diversity. Everyone has the right to think, learn, and work together in an environment of respect, tolerance, and goodwill. I actively support this right regardless of race, creed, color, personal opinion, gender, sexual orientation, or any of the countless other ways in which we are diverse.

**BI 112 – CELL BIOLOGY FOR HEALTH OCCUPATIONS**
**Tentative Lecture & Exam Schedule, Winter 2022**

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|---|---|
| **Week 1**<br>1/3/21 - 1/9/21 | Lecture Topics:<br>• Introduction & Organizing Principles<br>• Homeostasis<br>• Matter, Elements & Periodic Table |
| **Week 2**<br>1/10/21 – 1/16/21 | Lecture Topics:<br>• Chemical Bonds<br>• Chemical Notation and Equations<br>• Chemical Reactions |
| **Week 3**<br>1/17/21 – 1/23/21<br>**MLK Observed, College Closed 1/18/21** | ***Lecture Exam #1 (50 minutes) – Complete Tuesday, 1/19/21 on Moodle. Open between 7am and 7pm.***<br>Lecture Topics:<br>• Types of Energy<br>• Enzymes<br>• Properties of Water |
| **Week 4**<br>1/24/21 – 1/30/21 | Lecture Topics:<br>• Solutions & Solutes<br>• pH & Buffers<br>• Biological Molecules – Carbohydrates & Lipids |
| **Week 5**<br>1/31/21 – 2/6/21 | ***Lecture Exam #2 (50 minutes) – Complete Tuesday, 2/2/21 on Moodle. Open between 7am and 7pm.***<br>Lecture Topics:<br>• Biological Molecules – Proteins & Nucleic Acids<br>• Cell Theory |
| **Week 6**<br>2/7/21 – 2/13/21 | Lecture Topics:<br>• Cell Membranes<br>• Cell Organelles<br>• Membrane Permeability |
| **Week 7**<br>2/14/21 – 2/20/21<br>**Presidents Day, College Closed 2/15/21** | ***Lecture Exam #3 (50 minutes) – Complete Tuesday, 2/16/21 on Moodle. Open between 7am and 7pm.***<br>Lecture Topics:<br>• Osmosis<br>• Membrane Transport<br>• Membrane Potential |
| **Week 8**<br>2/21/21 – 2/27/21 | Lecture Topics:<br>• DNA & Information Storage<br>• *DNA Replication*<br>• *Protein Synthesis* |
| **Week 9**<br>2/28/21 – 3/6/21 | ***Lecture Exam #4 (50 minutes) – Complete Tuesday, 3/2/21 on Moodle. Open between 7am and 7pm.***<br>Lecture Topics:<br>• The Cell Cycle<br>• Meiosis & Gametogenesis<br>• Genetics & Patterns of Inheritance |
| **Week 10**<br>3/7/21-3/13/21 | Lecture Topics:<br>• Genetic Mutations<br>• Sex Linked Inheritance |

**Week 11: Final Exam is Monday, March 15th, allow for 1 hour and 50 minutes to complete the exam. Open on Moodle from 7am to 7pm.**