BIOL 330 CELL & MOLECULAR BIOLOGY COURSE SYLLABUS
DR. HUM-MUSSER SPRING 2013

Lecture WG 202: M W F 1-1:50 PM
Lab WG 221: Section 3: Thursday 9-11:50 AM
Lab WG 221: Section 4: Thursday 1-3:50 PM
Lab WG 221: Section 5: Thursday 4-6:50 PM Mr. Keshab Mainali

Course Description: Morphological and functional aspects of the cell. Lecture and lab will emphasize cell structure and how this relates to physiological, biochemical, and molecular processes.

Prerequisites: Bot 200, Micr 200, Zoo 200. 4 Credits.


Contact: SM-Hum-Musser@wiu.edu WG 352 Office Hours: M F 11-12, W 10-12 309 298 3191 I may be in lab (WG 354/276). If you cannot find me and need to meet with me, please make an appointment.

Lecture Course Objectives
Describe the science of biology including cell structure and division.
Describe function of cell organelles, cell physiology, cell metabolism.
Explain what genes are and how they work.
Explain recombinant DNA technology and cell technology.

Methods of Evaluating Student Progress (subject to modification):

**Lecture (420 points):** Unannounced quizzes, participation, assignments/homework

- 4 Exams (100 points each) 400 points

**Lab (~138 points):**

- Lab homework (~ 4 points each) 48 points
- Lab exercises (~ 3 points each) 42 points
- Lab quizzes (~ 4 points each) 48 points

Course grade: Lecture = 75% of grade and Lab = 25% of grade

+/- Grade system:

- A = 93-100%
- B+ = 87-89%
- C+ = 77-79%
- D+ = 67-69%
- F = 0 – 59%
- A- = 90-92%
- B = 83-86%
- C = 73-76%
- D = 63-66%
- B- = 80-82%
- C- = 70-72%
- D- = 60-62%

Multiply your earned lecture percentage by 0.75, multiply your lab percentage by 0.25, and add these scores together for your overall course grade. **You must pass the both the lab and lecture sections separately to pass the course.**

Departmental policy states that attendance and proper completion of the exercises count towards your lab grade. An absence is Excused if solid documentation is provided for: e.g. illness (your own), death in the immediate family (sibling, parent, grandparent, child, spouse), and official university trips, military service obligations). Documentation will be required within 2 weeks of the absence for it to be considered an EXCUSED absence. For illness, you must provide a note from your physician. If you decide not to see your physician when you are ill, your absence will be counted as an Unexcused absence. You cannot make up a missed lab. If you have more than one UNEXCUSED lab session or more than three TOTAL lab absences, this will result in a final grade of “F” for the entire course, regardless of your points in lecture.

Course Requirements:
1. Attendance and punctuality is required. If absent, obtain additional notes from another student/textbook.
2. All cell phones and laptops must be turned off/silenced & out of sight.
3. Reading of the textbook, lecture notes, & supplementary material is required. Course information, notes are on WesternOnline/DesiretoLearn. When available, bring a copy of notes to class. Take notes during lecture and lab, follow along with the slides & textbook. 4. Exams will be multiple choice (require 2HB pencils), fill-in-the-
blanks, short- & long-answer questions, drawing & labeling, and/or short essay. Exams are cumulative covering both lecture and lab material but will focus on material covered since the previous exam. Knowledge of prior terms/concepts will be expected & will not be redefined.

5. Unannounced quizzes will be given. There are no makeup exam/quiz/assignments
6. Keep backup copies of your assignments.
7. All course rules & policies, exam dates, & grading scale apply to all students equally.
8. Course information in available through WesternOnline, or through the students’ WIU e-mail accounts.
9. Academic honesty is required. Cheating or plagiarism will result in 0 points for that exam/quiz/assignment. Students will conduct themselves with personal integrity & honesty. You should be familiar with & abide by the regulations in the WIU Policy manual, this syllabus and the Code of Student Conduct & the Student Rights & Responsibilities, & Student Academic Integrity Policy (http://www.wiu.edu/provost/policies/). You are expected to do your own work, be honest, do not be disruptive, be respectful of others, & actively participate. Breach of policy will be dealt with severely following the direction of the University & the instructor’s discretion.
10. The time to be concerned about your grade is the first 14 weeks of class, not the last 2 weeks.

Learning is a group activity. The behavior of each person in class affects the learning outcomes of others.

Definition of Plagiarism: “Plagiarism is the theft of someone else’s words, work, or ideas. It includes such acts as (1) turning in a friend’s paper & saying it is yours; (2) using another person’s data or ideas without acknowledgement; (3) copying an author’s exact words & putting them in your paper without quotation marks; & (4) using wording that is very similar to that of the original source but passing it off as entirely your own even while acknowledging the source.” V. E. McMillan in Writing Papers in the Biological Sciences (Bedford/St.Martin’s Press, New York, pg 16). This includes information in written or audio information from online websites, textbooks or laboratory manuals, honors & masters theses, all writing assignments, & images.

Academic Accommodations - Notify the instructor for an accommodation requirement. Contact Disability Support Services at 298-2512 for special assistance in emergency evacuations (fire, tornado, etc.).

The syllabus & schedule is subject to change, including additional assignments, quizzes, etc.

Lecture schedule
Jan 14, 16, 18 - Course Intro, Chapters 1, 2 Cell biology & chemistry
Jan 23, 25 - Chapters 2, 3 – Cell chemistry, Macromolecules
Jan 28, 30, Feb 1 - Chapters 4, 5 – Cell organelles, Bioenergetics
Feb 4, 6, 8 - Chapters 6, 7 – Enzymes, Membranes
Feb 11, 13, 15 - Chapters 8 – Transport Across Membranes
Feb 15 - Exam 1 over Chapters 1 – 6
Feb 18, 20, 22 - Chapters 18, 19 - DNA, replication
Feb 25, 27, Mar 1 - Chapters 21, 22 – Transcription, Translation
Mar 4, 6, 8 - Chapter 20 - Recombinant DNA, Genetic engineering
Mar 6 - Exam 2 over Chapters 7, 8, 18-22
Mar 11, 13, 15 - Spring break
Mar 18, 20, 22 - Chapter 19 - Cell cycle, mitosis
Mar 25, 27, 29 - Chapters 20, 21 - Meiosis, cell technology

Laboratory schedule
no lab this week
Lab Ex 1 – Prokaryotes, Eukaryotes
Lab Ex 2 – Metric System, Pipetting
Lab Ex 3 – Protoplasmic Properties
Lab Ex 4 – Spectrophotometry
Lab Ex 5 – Chromatography
Lab Ex 6 – Enzymes Transformation
Lab Ex 7 – Cell Cycle, Cell Division
Lab Ex 8 – Bacterial Transformation
Lab Ex 9 – Bacterial Growth, Great Discv
Lab Ex 10 – DNA Purification
Lab Ex 11 – Agarose Gel Electrophoresis
Lab Ex 12 – Protein Fingerprinting
Lab Ex 13 – Cellular Respiration
Lab Ex 14 – Photosynthesis

Apr 1, 3, 5 - Chapter 24 – Stem cells, Cancer cells
Apr 8, 10, 12 - Chapter 9 – Glycolysis and Fermentation
Apr 15, 17, 19 - Chapter 9 – Glycolysis and Fermentation
Apr 22, 24, 26 - Chapter 10 - Aerobic respiration
Apr 29, May 1, 3 - Chapter 11 - Photosynthesis

5/8 Wednesday 1:00-2:50 AM - Final exam over Chapters 9-11 (1 hour 50 minutes)