**Biology 2 Cellular Basis of Life**

Fall 2016

Quinn McFrederick

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office hrs: Th 3:00-5:00 Entomology 139

And Kerry Mauck

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Your grade will be determined by the following components:

Daily quizzes: 10%

Midterm 1: 17.5%

Midterm 2: 17.5%

Final Exam: 30%

Lab: 25%

**Clicker/quiz policy:** Daily quizzes will be given via clickers. You are responsible for showing up for class with a functioning clicker and being sure that your clicker responses are being recorded. Three quizzes will be dropped, and no make up quizzes will be allowed. Quizzes will be based on assigned readings (see schedule at bottom of syllabus for readings to be done before class) and lectures.

**Course Policies:**

**1. Missed exams:** There will be no written make-up exams. I may give you an oral make-up exam. You must have a physician’s signed letter on letterhead, which includes physician’s phone number and medical license number, in order to be excused from missing a scheduled exam for an illness. You must document a family emergency to be excused for reasons other than illness. If I do not give you an oral exam and you have been excused from an exam, your other exams will be pro-rated. If you are not excused, you will receive a 0 for that exam.

**2. Email:** Please feel free to contact me by email (quinnmc@ucr.edu). Introduce yourself as a student in the course and include Biol 002 in the header.

**3.** **Office hours:** Please come to office hours when you need help. If you cannot make my office hours, please schedule an appointment. Note that there will be no office hours on September 29 and that Office hours on Oct 6 will be help from 1:30-3:30 PM).

**4. Attendance in laboratory and lecture is mandatory.**

**5. Readings.** The syllabus indicates required readings to be done before lecture.

**6. Final exam** will be cumulative.

**7. Exams** We will provide scantrons, please bring a number 2 pencil.

**Materials you will need:**

**1. Text Book:** Biology: Concepts and Connections, 8th edition, 1st 12 chapters only (the first 12 chapters only are available in the bookstore) or, as a free, open access alternative you can use https://www.boundless.com/biology/textbooks/boundless-biology-textbook/. Note that the lecture slides will be based on the figures from Biology: Concepts & Connections and not the Boundless Biology open access textbook. So you may find Biology: Concepts & Connections more useful for studying. Five copies of Biology: Concepts & Connections are on reserve in the Orbach science library.

**2. Lab Manual:** Available on the class ilearn site: Labs begin week of 26 SEPT 2016.

**3. Clickers:** You need to purchase a clicker at the bookstore and then register your clicker (clickers.ucr.edu). Clickers need to be re-registered each quarter. Make sure you always bring your clicker to class.

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| --- | --- | --- | --- |
| date | topic | Campbell Biology | Boundless  Biology |
| F 9/23 | Introduction | 1\* | 1\* |
| M 9/26 | Scientific method | [Reading link](http://nautil.us/issue/16/nothingness/why-we-cant-rule-out-bigfoot) | [Reading link](http://nautil.us/issue/16/nothingness/why-we-cant-rule-out-bigfoot) |
| W 9/28 | Elements, atoms and atomic behavior | 2 | 2 |
| F 9/30 | Chemical bonds |  |  |
| M 10/3 | Molecules of life: carbohydrates | 3 | 3 |
| W 10/5 | Molecules of life: lipids |  |  |
| F 10/7 | Molecules of life: proteins |  |  |
| M 10/10 | Molecules of life: nucleic acids |  |  |
| W 10/12 | A tour of the cell | 4 | 4 |
| F 10/14 | **1st MIDTERM** |  |  |
| M 10/17 | A tour of the cell | [Video](https://archive.org/details/ProteinSynthesis) | [Video](https://archive.org/details/ProteinSynthesis) |
| W 10/19 | Transport into/out of the cell | 5 | 5/6 |
| F 10/21 | ATP drives cellular work/enzymes |  |  |
| M 10/24 | Energy harvesting: respiration | 6 | 7 |
| W 10/26 | Energy harvesting: respiration |  |  |
| F 10/28 | Anaerobic respiration |  |  |
| M 10/31 | photosynthesis | 7 | 8 |
| W 11/2 | photosynthesis |  |  |
| F 11/4 | Cell division | 8 | 10/11 |
| M 11/7 | Cell division |  |  |
| W 11/9 | Meiosis |  |  |
| F 11/11 | **Veteran’s Day, no class** |  |  |
| M 11/14 | **2nd Midterm** |  |  |
| W 11/16 | Genetics | 9 | 12/13 |
| F 11/18 | Genetics |  |  |
| M 11/21 | DNA as the genetic material, structure of DNA | 10 | 14/15 |
| W 11/23 | DNA replication |  |  |
| **F** 11/25 | **Thanksgiving holiday, no class** |  |  |
| M 11/28 | Transcription and the genetic code |  |  |
| W 11/30 | Translation of the genetic code: Protein synthesis |  |  |
| F 12/2 | Genomics | 12 | 17 |
| F 12/9 | **FINAL EXAM 8:00 am -11:00 pm** |  |  |

**\* The assigned reading for the first class can be done after class. For the rest of the classes readings are to be done before class.**