

Hagerstown Community College
Official Course Syllabus
Summer 2017

COURSE: BIO-119-M01/M02

Course Title: **Introductory Biology for Health Professions, 4 credits**

Lecture: STEM – 407 Monday and Wednesday, 1:00-2:15pm

Laboratory: STEM – 402 Monday, 1:00 – 3:45 PM (M01)
Wednesday, 1:00 – 3:45 PM (M02)

Date: January 9 – May 1, 2017

INSTRUCTOR: Dr. Rebecca Beecroft, Assistant Professor of Life Sciences and Biotechnology

rabeecroft@hagerstowncc.edu

Office: STEM 427

Office Phone: (240)500 – 2491

Office Hours: Monday and Wednesday 2:15 PM – 4:15 PM
Tuesday 11:15 PM – 12:15 PM

COURSE DESCRIPTION

This course is an inquiry based introductory level preparatory course designed to provide a firm foundation in the basic principles of Biology (scientific investigation, chemical basis of life, biomolecules, cell theory, metabolism, homeostasis, genetics, ecology and evolution). Application of newly acquired knowledge to current science issues in society and health careers will be woven throughout the course. This course is appropriate for health profession majors who plan to pursue a health profession degree at a four-year institution and/or for those students who do not pass the A&P placement exam required for admission to BIO-103 (A&P I). This course may also be an appropriate general education course for those students pursuing degrees in other fields. Please check with your academic advisor to be certain of transfer to your particular institution. Laboratory fee required. Total of 45 hours of lecture and 45 hours of lab.

TOTAL HOURS OF COURSEWORK:

To earn one academic credit at HCC, students are required to complete a minimum of 37.5 clock hours (45 fifty-minute “academic” hours) of coursework per semester. Those hours of coursework may be completed through a combination of hours within the classroom and hours outside the classroom. Certain courses may require more than the 37.5 minimum hours of coursework per credit. For most classes, students should expect to do at least 3 hours of coursework outside of class for each hour of in-class coursework.

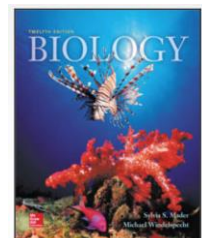
TEXTBOOK

Biology, 12th Ed. by Mader and Windelspecht.

- Loose-leaf copy w/Connect Access Card and E-Text
ISBN#: 9781259541476

OR

- Connect Access Card with E-Text ISBN#: 9781259299810



IMPORTANT INFORMATION ABOUT THE TEXTBOOK:

Both options above are available in the HCC Bookstore. You may also sign up for a no-cost 2-week courtesy access to CONNECT and the E-Text through the McGraw Hill website. If you are unsure about the course and feel that there is the possibility that you will drop the course, please use the courtesy access option. At the end of the two-

week courtesy period, you will have the opportunity to convert your CONNECT account to a permanent account for the remainder of the course. Your online work will not be lost. Please feel free to contact me if you have questions.

LAB

We will be using CONNECT online lab reports and lab documents on Moodle for this course. Lab activities will be conducted in lab using the lab documents posted on Moodle. You do not need to print the lab documents posted on Moodle. Weekly Lab reports are to be completed on CONNECT. If you have one, please bring a laptop or tablet that is compatible with CONNECT to lab every week. There will also be some computers available for use in lab if you do not have a laptop or a tablet. Please do not feel that you need to purchase one for this course. In addition to CONNECT lab reports, we will be using a traditional lab notebook in which you record important data and drawings during the lab activities. You will need to purchase a composition notebook (graph paper style), in which to record answers to lab activity questions, data tables and anatomy drawings. These are available at stores such as Walmart, Staples, Office Max, etc. All lab drawings are to be completed in color and include pertinent labels and keys if needed. More information regarding the lab notebook will be shared during the first lab meeting.

CONNECT labs will be graded electronically and grades will be posted on CONNECT. Lab notebooks will be checked weekly at the end of lab and will receive a final grade for the semester.

STUDENT LEARNING OUTCOMES

1. Exhibit the ability to use core content in the biology curriculum (as evidence by a passing score on the placement exam for anatomy and physiology).
2. Demonstrate transfer of information from diagrams, models and non-human models to the human organism.
3. General Education: Demonstrate the ability to access, process, analyze and synthesize scientific information.
 - a. Relate a basic core of scientific principles to an open-ended framework
 - b. Demonstrate observational and analytic skills in a structured situation.
 - c. Formulate conclusions based on observations and information.
 - d. Use technology to access scientific information, generate and analyze empirical data, and solve problems.

COURSE CONTENT OBJECTIVES

Students will be able to relate/apply/explain/describe:

1. Basic chemistry concepts: Chemical elements, molecules and compounds, water and life, pH
2. Chemistry of organic molecules: Carbohydrates, proteins, lipids, nucleic acids
3. Cell Theory, cell structures and their function
4. Cellular basis of life, prokaryotes and eukaryotes
5. Membrane structure, function and cell transport
6. Metabolism, energy, energy transformations, redox reactions, enzymes and coenzymes,
7. Glucose catabolism, glycolysis, fermentation, citric acid cycle, and electron transport system
8. The cell cycle and cellular reproduction
9. Meiosis and sexual reproduction
10. Mendelian patterns of inheritance
11. Molecular biology of the gene: Genetic code of life and the Central Dogma of Biology
12. Regulation of gene expression, including mutations and the genetic basis of disease
13. The biology of cancer
14. Biotechnology and genomics: cloning, gene therapy, biotechnology products
15. Evolution Theory: History, Darwin, evidence of evolution
16. Population ecology and evolution, natural selection, biodiversity
17. Animal organization and homeostasis

ASSESSMENT and MINIMUM TIME REQUIRED FOR THIS COURSE

Assessment

Lecture	Quizzes (weekly/in-class).....	70 points
	Quizzes (weekly/Moodle/CONNECT).....	60 points
	CONNECT assignments.....	100 points
	Exam # 1.....	100 points
	Exam # 2.....	100 points
	Exam # 3.....	100 points
	Exam # 4.....	100 points
	Cumulative Exam (placement exam).....	100 points
	Attendance.....	20 points
	Laboratory	Assignments/Quizzes.....
Lab Notebook.....		30 points
Lab final exam.....		<u>50 points</u>
Total Points	1000 points	

A = 900-1000 points B = 800-899 points C = 700-799 points D = 600-699 points F = Below 600

Minimum Clock Hours Required for this Course

Component of Course	Hours In Class/Lab	Hours/Item Outside of Class	Total Hours/Semester Outside of Class
Lecture	37.5 hours		
Quizzes		2 hours/lecture	60 hours/semester
Units Exams		10 hours/exam	40 hours/semester
Cumulative exam		7 hours/exam	7 hours/semester
CONNECT		3 hours/week	45 hours/semester
Laboratory	37.5 hours		
Unit laboratory assessment		2.5 hour/lab	30 hours/semester
Laboratory Final		10 hours/lab exam	10 hours/lab exam
Total	75 hours		192 hours

COURSE POLICIES (As developed by the Science Division)

Class Attendance:

Attendance at all classes and laboratories is **required**. Students learn better and achieve better test results with regular attendance. Your instructor assumes you will be in class and lab for every session. Even one absence results in a major gap in the learning process and copying notes or reading the textbook will never fill this gap in the same way class attendance does. Please see the College Catalog for HCC's attendance policy. Attendance will be taken at the beginning of each lecture and lab. ½ point will be awarded for every class and lab that you are on time to, and attend in full, for a total of 20 points. Attendance is worth about 2.0% of your final grade.

If you miss a lecture class:

1. In the event of an absence, it is expected that you will contact your instructor **before** the missed class.
2. Announcements, handouts, and lectures are provided by the instructor only once. If you miss a class, it is your responsibility to obtain notes and handouts from Moodle and a classmate. The science department is not responsible for photocopying notes; photocopying is to be done at the student's expense.

Lab:

1. Students are required to attend their scheduled lab.
2. Lab activities and lab practical quizzes are available on specific dates in keeping with the course schedule. All lab practical quizzes are administered at the beginning of the lab session. The lab quizzes will be timed in order to ensure that there is sufficient time to complete the lab activities for the day. Students are required to attend the lab in which they are enrolled. Lab safety policies dictate the maximum number of students allowed in a lab at one time. Due to the complex nature of lab quizzes and the fact that the lab rooms are in use between lab quizzes, lab quizzes cannot be made up.

Change of Class Status

1. If you decide to drop the course, it is your responsibility to notify your instructor *and* complete the appropriate withdrawal forms in the Office of Admissions.
2. If you stop attending class, yet fail to complete all necessary paperwork to officially remove your name from the roster, you will receive a grade of “F” for the semester. The dates for drop/add/withdraw are clearly defined in the student calendar on the ***Registration Dates and Refund Deadlines*** webpage found at <http://hagerstowncc.edu/admissions/dates-deadlines>
3. If you receive financial aid and must withdraw from class, it is essential that you speak with a Financial Aid representative in order to determine if you will be liable for any financial aid before you withdraw.
4. **Auditing Class:** If you select to audit the class, you must attend class and complete the assignments required by the instructor. (*If the student does not complete all assigned work, the instructor may assign a final grade of W.*)

Services for Students with Disabilities: Students may receive reasonable accommodations if they have a diagnosed disability and present appropriate documentation. Students seeking accommodations are required to contact the Disability Support Services (DSS) office as early as possible. Students may contact a DSS staff member for an appointment at dss@hagerstowncc.edu or at 240-500-2530.