

McLennan
C O M M U N I T Y
COLLEGE

WACO, TEXAS

COURSE SYLLABUS
AND
INSTRUCTOR PLAN

BIOLOGY FOR NON-SCIENCE MAJORS 1
BIOL 1408_02

Sholly Gunter

NOTE: This is a 16-week course.

Course Description:

Provides a survey of biological principles with an emphasis on humans, including chemistry of life, cells, structure, function, and reproduction.

Prerequisites and/or Corequisites:

None

Course Notes and Instructor Recommendations:

This is a very laboratory intensive course, requiring near 100% attendance for success. Students must have internet access.

Instructor Information:

Instructor Name: Sholly Gunter

MCC E-mail: sgunter@mclennan.edu

Office Phone Number: 254-299-8170

Office Location: SB 344

Office/Teacher Conference Hours: W 11:00 am – 2:00 pm or by appt, SB344

Other Instruction Information:

Required Text & Materials:

Title: *Biology: The Essentials*

Author: Hoefnagels

Edition: 3rd

Publisher: McGraw - Hill

ISBN: 9780078024252

Title: *Exploring Biology in the Laboratory: Core Concepts*

Author: Pendarvis, Crawley

Edition: 2nd

Publisher: Morton

ISBN: 9781617319006

MCC Bookstore Website: <http://www.mclennan.edu/bookstore/>

Student Support/Resources:

MCC provides a variety of services to support student success in the classroom and in your academic pursuits to include counseling, tutors, technology help desk, advising, financial aid, etc. A listing of these and the many other services available to our students is available at <http://www.mclennan.edu/campus-resource-guide/>

College personnel recognize that food, housing, and transportation are essential for student success. If you are having trouble securing these resources, we encourage you to contact a success coach by calling (254) 299-8226. Students can visit the Completion Center Monday-Friday from 8:00 a.m.-5:00 p.m. to meet with a success coach and receive additional resources and support to help reach academic and personal goals. Paulanne's Pantry (MCC's food pantry) is open 12:00 p.m.-1:00 p.m., Monday-Friday, without an appointment. The Completion Center and pantry are located on the Second Floor of the Student Services Center (SSC).

Minimum Technical Skills:

Students should have basic computer skills, knowledge of word processing software, and a basic understanding of how to use search engines and common web browsers.

Backup Plan for Technology:

In the event MCC's technology systems are down, you will be contacted/notified through your MCC student email address. Please note that all assignments and activities will be due on the date specified in the Instructor Plan, unless otherwise noted by the instructor.

* [Click Here for the Minimum System Requirements to Utilize MCC's D2L|Brightspace](http://www.mclennan.edu/center-for-teaching-and-learning/teaching-commons/requirements) (www.mclennan.edu/center-for-teaching-and-learning/teaching-commons/requirements)

Click on the link above for information on the minimum system requirements needed to reliably access your courses in MCC's D2L|Brightspace learning management system.

Methods of Teaching and Learning:

lecture, exam, group research, group oral and visual presentation, lab exercises, written report

Course Objectives and/or Competencies:

Biology 1408 is an introductory course designed to introduce various topics in the natural sciences. They include the scientific method and characteristics of life, chemical and molecular

concepts, cellular basis of life, respiration and photosynthetic metabolic processes, control mechanisms, cell and organismal reproduction and developmental stages, evolution and ecology. At the end of this course, the student should be able to:

1. Distinguish between prokaryotic, eukaryotic, plant and animal cells, and identify major cell structures.
2. Identify stages of the cell cycle, mitosis (plant and animal), and meiosis.
3. Interpret results from cell physiology experiments involving movement across membranes, enzymes, photosynthesis, and cellular respiration.
4. Apply genetic principles to predict the outcome of genetic crosses and statistically analyze results.
5. Describe karyotyping, pedigrees, and biotechnology and provide an example of the uses of each.
6. Identify parts of a DNA molecule, and describe replication, transcription, and translation.
7. Analyze evidence for evolution and natural selection.
8. Apply scientific reasoning to investigate questions, and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
9. Use critical thinking and scientific problem-solving to make informed decisions in the laboratory.
10. Communicate effectively the results of scientific investigations.

Core Objectives:

Critical Thinking Skills: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.

- Students use inductive and deductive reasoning, explore problems using logical process of inquiry, analysis evaluation and synthesis. Assessed by use class discussions, laboratory exercises, writing assignments, lecture examinations and/ or CAAP test.

Communication Skills: to include effective development, interpretation and expression of ideas through written, oral and visual communication.

- Students assessed through written assignments, case studies, class discussions, and/ or poster board presentations. Student projects, either individually or as small groups, to be presented to instructor and classmates using oral, written, and visual components.

Empirical and Quantitative Skills: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

- Students work on various biological problem solving skills throughout the course. Assessed through lecture examinations, laboratory exercises, and/ or CAAP test.

Teamwork: to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

- Student teamwork assessed through group laboratory exercises, case studies, class discussions, and/ or poster board presentations. Students work together to contribute to small group presentations, which will be presented to instructor and classmates using oral, written, and visual components.

Biology for Non-Science Majors 1

BIOL 1408_04

Course Outline or Schedule:

The course schedule is tentative and may be changed. Any changes will be announced in class and/or on Brightspace.

Date	Chp	Lecture	Lab	Exercise
1/13		Intro		
1/15	1	The Scientific Study of Life	Scientific Measurement	2.3
1/20	Martin Luther King Jr Holiday - No Class			
1/22	2	The Chemistry of Life	pH	3.1,3.2
1/27	2	The Chemistry of Life	Microscopy	4.1,4.2
1/29	3	Cells	Microscopy	4.7, 4.8
2/3			EXAM 1 (book choices due)	
2/5	4	The Energy of Life	Diffusion	5.3
2/10	5	Photosynthesis	Photosynthesis	6.3
2/12	6	How Cells Release Energy	Respiration/Fermentation	6.4
2/17			EXAM 2	
2/19		<i>Group Project Work Day</i>		
2/24	7	DNA Structure and Gene Function	Scientific Method	1.1
2/26	7	DNA Structure and Gene Function	Scientific Method	1.2
3/2	8	DNA Replication, Binary Fission, and Mitosis	Cell Cycle	7.1
3/4	11	DNA Technology	DNA	8.7
3/9	Spring Break - No Class			
3/11				
3/16			EXAM 3	
3/18	9	Sexual Reproduction and Meiosis	Meiosis	7.2, 7.3
3/23	10	Patterns of Inheritance	Phenotypes/Genotypes	8.1
3/25	10	Patterns of Inheritance	Phenotypes/Genotypes	8.6
3/30			EXAM 4	
4/1	12	Forces of Evolutionary Change	Adaptation	10.1
4/6	12	Forces of Evolutionary Change	Sticky Note Evolution	provided
4/8	13	Evidence of Evolution	Your Inner Fish	Movie
4/13	14	Speciation and Extinction	Phylogenetics	10.5, 10.6
4/15		Field Trip		
4/20			EXAM 5	
4/22		<i>Group Project Work Day</i>		
4/27		Group Presentations		
4/29		Make Up Exam / Finals Prep		

FINAL EXAM: 8:00 - 10:00 am Monday, May 4

Course Grading Information:

Grading: Grades will be based on student performance in the following areas:

Participation =	20%
Exams (including final) =	30%
Lab Exercises =	30%
Group Presentation =	20%
 Total =	 100%

A ≥ 90% **B = 80-89.99%** **C = 70-79.99%** **D = 60-69.99%** **F < 60%**

Participation: A portion of your grade is participation. Considerations factoring into your participation grade include:

- | | |
|---------------------------|-----------------------|
| - Attendance | - Class conduct |
| - Lab group participation | - Class participation |

Exams: There will be five exams and one final exam.

- Exam 1 – Chapters 1 – 3
- Exam 2 – Chapters 4 – 6
- Exam 3 – Chapters 7, 8, 11
- Exam 4 – Chapters 9 – 10
- Exam 5 – Chapters 12 – 13
- Final Exam – Comprehensive.

All exams have 50 multiple choice questions. The final exam has 25 questions. You may bring one sheet of notes (front and back) to each exam. **The notes must be HANDWRITTEN.** You are also allowed to talk with your lab group during the exams, if you wish.

Lab Exercises: Laboratory exercises loosely correspond to material covered in lecture and can be found in the lab manual. Exercises will be completed in class. Labs are due when we have completed that topic in the lab book. You are expected to turn in your lab exercises at the end of class, when you have finished them. All exercises will be graded Credit or No Credit (100% 0%). If you attend lab, do the exercise, and answer the questions you will get full credit for the lab. There will be an answer key available for you to check your answers. **You cannot receive full credit on a lab if you are not present for that lab.** You may miss ONE lab for any reason. That lab will be excluded from your grade calculations. No late assignments will be accepted without prior approval.

Group Presentation: Each group will choose a popular science book to read from a list provided. Groups will write a book review and present a summary of the book review to the

class. The book review will be copied and given to the class. Book presentations will be given in Powerpoint. Students will be assigned individual grades based on their contribution and quality of the group work. The written review will be graded by the instructor and the presentations will be graded by both peers and the instructor. **PLAIGARISM WILL RESULT IN A FAILING GRADE!** This includes copy/pasting off the internet, typing exact words, etc. If you do not know what counts as plagiarism, please ask.

Extra Credit: A 2 extra credit point quiz will be given at the beginning of every lecture. The question will be based on material from the assigned readings for that day. This equates to a total of approximately 46 possible extra credit points in the semester (may vary). The extra credit points are added to your exams. To obtain an extra credit points you must:

- Arrive in class on time and take the attendance quiz
- Turn in the attendance quiz when it is collected
- Answer the attendance quiz correctly

No other extra credit opportunities will be given

Late Work, Attendance, and Make Up Work Policies:

You can make up ONE exam. The last day of class is reserved for make up exams. The make-up exam will be comprehensive and will consist of 50 multiple choice questions. You **WILL NOT** be allowed to work in groups, though you will be allowed to bring one sheet of notes. The make-up exam is **much harder** than our normal exams. I highly suggest you do not miss any of our normal exams.

One missed laboratory assignment will be waived. You cannot get credit for labs you don't attend, outside of the waiver.

Student Behavioral Expectations or Conduct Policy:

Students are expected to maintain classroom decorum that includes respect for other students and the instructor, prompt and regular attendance, and an attitude that seeks to take full advantage of the education opportunity.

* [Click Here for the MCC Academic Integrity Statement](http://www.mclennan.edu/academic-integrity)
(www.mclennan.edu/academic-integrity)

The link above will provide you with information about academic integrity, dishonesty, and cheating.

* **[Click Here for the MCC Attendance/Absences Policy](#)**

(www.mclennan.edu/highlander-guide/policies)

Click on the link above for the college policies on attendance and absences. Your instructor may have guidelines specific to this course.

Accommodations/ADA Statement

Any student who is a qualified individual with a disability may request reasonable accommodations to assist with providing equal access to educational opportunities. Students should contact the Accommodations Coordinator as soon as possible to provide documentation and make necessary arrangements. Once that process is completed, appropriate verification will be provided to the student and instructor. Please note that instructors are not required to provide classroom accommodations to students until appropriate verification has been provided by the Accommodations Coordinator. Instructors should not provide accommodations unless approved by the Accommodations Coordinator. For additional information, please visit mclennan.edu/disability.

Students with questions or who require assistance with disabilities involving physical, classroom, or testing accommodations should contact:

disabilities@mclennan.edu

254-299-8122

Room 319, Student Services Center

* **[Click Here for more information about Title IX](#)**

(www.mclennan.edu/titleix)

We care about your safety, and value an environment where students and instructors can successfully teach and learn together. If you or someone you know experiences unwelcomed behavior, we are here to help. Individuals who would like to report an incident of sexual misconduct are encouraged to immediately contact the Title IX Coordinator at titleix@mclennan.edu or by calling Dr. Drew Canham (Vice President for Student Success) at 299-8645. Individuals also may contact the MCC Police Department at 299-8911 or the MCC Student Counseling Center at MCC by calling 299-8210. The MCC Student Counseling Center is a confidential resource for students.

McLennan's Title IX webpage (<http://www.mclennan.edu/titleix/>) contains more information about definitions, reporting, confidentiality, resources, and what to do if you or someone you know is a victim of sexual misconduct, gender-based violence or the crimes of rape, acquaintance rape, sexual assault, sexual harassment, stalking, dating violence or domestic violence.

** You will need to access each link separately through your Web browser (for example: Internet Explorer, Mozilla, Chrome, or Safari) to print each link's information.*