

Updated 07/18/2023



WACO, TEXAS

**COURSE SYLLABUS
AND
INSTRUCTOR PLAN**

GENERAL BIOLOGY I FOR SCIENCE MAJORS

BIOLOGY 1406.003

STEPHANIE RANDELL

NOTE: This is a 16-week Face-to-Face course.

Course Description:

Fundamental principles of living organisms will be studied, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Concepts of cytology, reproduction, genetics, and scientific reasoning are included. Laboratory activities will reinforce the fundamental principles of living organisms, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Study and examination of the concepts of cytology, reproduction, genetics, and scientific reasoning are included. 4 hours credit.

Prerequisites and/or Corequisites:

Recommended prerequisite: MATH 1314. Successful completion of College Algebra or concurrent enrollment in higher-level mathematics is recommended.

Course Notes and Instructor Recommendations:

1. To succeed in this course, the student should have available in their personal schedule, and adhere to, a minimum of **12-16 study hours/week** outside of class to study for this course.
2. Syllabus/Policy Modification: The instructor may modify the syllabus to meet individual class needs. Modifications will be announced at the beginning of class. It is the student's responsibility to keep up with these modifications. It is the student's responsibility to keep informed of class scheduling and policy changes.
3. **This course has mandatory out-of-class study sessions.**

Instructor Information:

Stephanie Randell

MCC E-mail: srandell@mclennan.edu

Office Phone Number: 254-299-8183

Office Location: S209

Office/Teacher Conference Hours: **M/W 2-2:30pm; or by appointment,
or *10 minutes after each class**

***Other Instruction Information:** Professor will check and generally respond to your **emails** within 24 hours, except for Friday afternoon, Saturday, Sunday, and MCC holidays.

As I am physically in class most of the day on M/W. These are the best times to contact me:

Monday/Wednesday: I will check emails the first thing in the morning (before 6:30 am). Then I will start checking regularly between 2:00 – 4:00pm when I am out of class.

Tues/Thursday/Friday is checked regularly 9:00am - 4:00pm.

***On Fridays:** I will stop checking emails at 4:00pm. Therefore, if you need to reach me before Monday, have your emails in my box before that time.

If my response does not come within this stated timeline, please resend your email, as it may not have reached me.

I will not check emails on Saturday, Sunday, or MCC Holidays.

Required Text & Materials:

*This course is an Inclusive Access course. As such, when you pay for your class, these required materials and texts are already included in your payment. **You just need to pick them up at the MCC bookstore.**

The access code for the text is also included and will automatically link to the online labs in Brightspace. You may check the course requirements at this book store link: Under “**Get Your Textbooks:**” <https://www.bkstr.com/mclennancstore/home>

PICK THESE UP FROM THE MCC BOOKSTORE:

Title: Lecture Notes & Lab Exercises (BIOL 1406)

Author: Randell

Publisher: MCC Shop

Title: BIOLOGY (IA Loose leaf PRINT OPTION)

Author: Raven

Edition: 13th

ISBN: 9781265547998

Title: Connect for Biology w/ Proctorio 1406 (0482)

Author: Raven

Edition: 13th

ISBN: 9781265255152

Formats: Adobe Digital Editions

OTHER: Ward Protective Eyewear/Safety

Other required materials: Three separate 1” binders: one for the lecture note outline, one for lab, and one for the loose-leaf textbook; paper for lab and lecture notebooks. Some labs materials from home.

Required technology:

- Students must bring a portable laptop or iPad to class each day to take quizzes and exams.
- Students must have **consistent, strong internet at home and online students require a fully functioning webcam** for exams.
- All students must be able to download **Respondus/Respondus Monitor** for use during quizzes and exams.
- ***Chromebooks and computers with Screencastify** may need adjustments to engage Respondus.

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

Methods of Teaching and Learning:

Lectures and recorded Zoom lectures/videos with detailed notetaking, Socratic method, critical thinking reviews and exercises, assigned readings, videos, animations, labs, group work, novel research design, lab reports, online labs, quizzes, lab exams, and lecture exams. **Required outside of class study sessions led by Supplemental Instructor (SI).** Class participation is required.

Course Objectives and/or Competencies:

Learning Outcomes from ACGM:

Upon successful completion of this course, students will:

- Describe the characteristics of life.
- Explain the methods of inquiry used by scientists.
- Identify the basic requirements of life and the properties of the major molecules needed for life.
- Compare and contrast the structures, reproduction, and characteristics of viruses, prokaryotic cells, and eukaryotic cells.
- Describe the structure of cell membranes and the movement of molecules across a membrane.
- Identify the substrates, products, and important chemical pathways in metabolism.
- Identify the principles of inheritance and solve classical genetic problems.
- Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.
- Describe the unity and diversity of life and the evidence for evolution through natural selection.

Learning Outcomes:

1. The student will describe how the process of science differs from information gathering in other fields of study and be able to scrutinize various real life scenarios to determine whether those examples could be included within the field of science.
2. The student will use the scientific method to conduct labs.
3. The student will list the four classes of organic compounds; explain their chemical structure and characteristics; and describe examples of their functions in living organisms.
4. The students will compare and contrast cell structures and their functions among bacterial, protist, fungal, plant, and animal cells.
5. The student will distinguish between methods of membrane transport and be able to calculate which common molecules would diffuse across cell membranes and the direction those molecules would diffuse in response to various scenarios.

6. The student will thoroughly explain endosymbiosis and the evidence for that theory.
7. The student will use scientific measurement to analyze data and form conclusions.
8. The student will explain the processes of photosynthesis, aerobic respiration, and fermentation, including the reactants, products, steps, goals, and the role and interaction of those processes within an ecosystem.
9. The student will compare and contrast the structure and function of DNA and RNA and explain their roles in protein synthesis.
10. The student will compare and contrast mechanisms in mitosis and meiosis and relate these cellular processes to real-world conditions, health problems, and give suggestions for further study.
11. The student will apply the Central Dogma of Molecular Biology to construct a protein based on a given DNA sequence.
12. The student will analyze various traits and their inheritance patterns, perform sample crosses, and predict genotype and phenotype ratios in resulting offspring.
13. The student will describe classes of mutations and list common mutagens associated with those mutations.
14. The student will discuss the contributions of historical thinkers and scientists to the development of scientific thought, scientific method, and the scientific revolution.
15. The students will explain the history leading to the theory of evolution by natural selection and the principle tenets of natural selection and sexual selection.
16. The student will describe the five major categories of science that provide evidence for evolution and give specific examples of evidence from those categories.
17. The student will describe evolutionary changes observed in hominin species over time, the contributing evolutionary pressures that led to those changes, and the affect those changes have on modern man.

Attendance is required to succeed in this course. In this class, **attendance is taken at the start of lecture and lab.** **If a student is not present during roll-check at the beginning of class, they are marked absent.** If a student arrives within 10 minutes after roll check, they are not marked absent as long as they they notify their professor during that class day of their arrival. Under those circumstances they are marked tardy. Every two tardies count as one absence. Absences cannot be changed after the day they occur. When a student misses 25% of classes (lectures OR labs) they will be dropped from the course.

Before the 60% point of the semester, a student who is absent for 25% or more of a face-to-face or blended course or who misses 25% or more of assigned work for an online course will be withdrawn from the course with a grade of W. A student may also request to be withdrawn with a grade of W before the 60% point of the semester. After the 60% point of the semester, the student may request to be withdrawn if the student is passing, or be assigned the final grade earned at the end of the semester after grades have been updated to reflect missing work.

Tentative Course Outline or Schedule:

Week 4: Cells

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- Week 5:** **Exam 1/ UNIT 2:** Membrane Transport
- Week 6:** Energy/ Biophysics of light, Photosynthesis
- Week 7:** Photosynthesis: Light Reactions/Calvin Cycle
- Week 8:** Cellular Respiration
- Week 9:** **Exam 2/ UNIT 3:** Cell Cycle & Meiosis
- Week 10:** DNA/RNA
- Week 11:** Protein Synthesis /Genetics 1
- Week 12:** Genetics 2
- Week 13:** **Exam 3/ UNIT 4: Comprehensive review available/** Mutations
- Week 14:** History of Scientific Thought/**Thanksgiving Holidays**
- Week 15:** Natural Selection and Evolution
- Week 16:** **Final Exams:**
1406.03 - Dec 4 (Monday) 11:10 am -1:10pm – in class, on your laptop.

Exam Schedule:

- Exam 1:** **Sept. 18**..... Taken in class on your computer.
- Exam 2:** **Oct. 16**..... Taken in class on your computer.
- Exam 3:** **Nov. 15:** Taken in class on your computer.
- Final:** Dec 4 (Monday) 11:10 am – 1:10 pm – Taken in class on your computer.

Course Grading Information:**Evaluation and grading:**

Grade:	90-100	A
	80-89	B
	70-79	C
	60-69	D
	<60	F

Lecture Exams (60% of final grade)

- 3 Lecture exams - 100 points each
- 1 Comprehensive Final - 100 points

Labs - (35% of final grade) - 100 points (ea.)

- Lab report (1-2)
- Lab exams (1-2)

Mastery Quizzes: - (3% of final grade) 100 points each**SI Study Session Attendance and participation – (2% of final grade)**

Each study session attended is worth 10 points/100: (Maximum - 110 points)

Example: Attend 8 = 80/100
 Attend 10 = 100

Plagiarism: ANY copied work - even if cited; uncited work; submitting work other than your own original work; AI assisted work; copying from other students; adding your name to work that is not yours (teamwork, etc.) etc; cheating on exams; will result in a “0”. See “**Some examples of cheating**” under “Student Behavior and Conduct” further down this syllabus.

The Class Participation Grade is subjective and can help a student in borderline cases. Class participation grade comes from the student’s class and online discussions, participation during reviews, attendance, promptness, class preparedness, ability to perform independent and original work, adaptability to adapt to laboratory and scientific protocol, and attitude.

Exam security: : no students will have access to physical copies of exams other than for actual testing purposes. In addition, students should be prepared for exam security on exam day, some things that may be employed (but not limited to): removal of all biology-related materials from testing region, requirement to keep your face in the center of the screen throughout the duration of the exam, restriction of departure from the classroom or computer after the start of an exam or

if online - after the environmental scan, removal of cell phones, tablets, ear buds, and watches with shaded faces, use of only simple pencils for written exams. This includes all exam and Respondus rules and guidelines. These methods are entirely at the discretion of your professor and may change during the semester.

For online students only:

Exam regulations: If a student does not follow the posted exam regulations or does not conduct a satisfactory environment or ID scan before the exam, the score of the exam will be a “0” and the students must take all remaining exams under a Zoom appointment with the professor. Likewise, if a student fails to complete an exam due to poor time-management, the unsubmitted exam will be a “0”.

Late Work and Make Up Work Policies:

Late Work and Missed Exams:

Assignments, Mastery Quizzes, Discussions, Projects, or Labs may not be completed after the due date. Those not completed by the due date will become a “0”.

*No Labs, Assignments, Discussion Boards, Quizzes, or Exams will be reopened, so students must start the assignment or exam before due date to ensure completion.

*Exceptions may be made to due to **documented** COVID-19 disease or non-elective hospitalization. Uncompleted work will be recorded as “0”.

In-person assignments due are “late” after the roll check. Anything after that point is (-20 points). This especially affects required lab materials.

Exams:

Lecture: If students miss a lecture exam, their comprehensive final exam score will take the place of **one missed exam**. Any other missed exams will become a “0” unless there are documented extenuating circumstances, such as emergency hospitalization. Exams may not be taken after the due date unless there is **documentation** for extenuating circumstances, such as non-elective hospitalization.

****See me to schedule an early exam if you must be gone the day of the exam.**

It is the students' responsibility to make ADA testing arrangements with their Professor (if needed) one week before each exam.

Lab Exams: There are **no make-ups for lab exams** unless the students has documented COVID disease, quarantine, or essential emergency hospitalization.

Student Behavioral Expectations or Conduct Policy:

All correspondence and submissions must reflect boundaries and guidelines of science; be professionally and scientifically written and edited; and must be governed by rules of civility – follow the etiquette accepted by polite society. If we go online and have Zoom meetings, students should join with video on, be early, and be fully clothed!

Any student engaging in any activity which interferes with the learning environment or professional decorum of the classroom or professional setting may be asked to leave the classroom, lab, office, Zoom meeting, or professor's presence. If a student is asked to leave, they must schedule an appointment with the instructor before returning to class or further Zoom meetings. If necessary, the student will be referred to the Student Discipline Department. If a student is asked to leave a second time they may be dropped from the course.

All cheating, plagiarism, and other forms of academic dishonesty will result in a grade of "0" and a report of the incident filed with appropriate campus authorities for record keeping and tracking.

Some examples of cheating: Plagiarism: copying of any work, research or scientific work, or not citing re-worded work, using prohibited material for assignments (internet, A.I., etc.); copying or recording of exam questions; sharing exam questions with anyone; having unapproved biology book, papers, or notes present while taking exam; your computer goes offline during an exam; your webcam goes off during exam; your face is not in the center of the monitor throughout the exam; you have something at your desk or on your person which is not acceptable for use during the exam – notes, textbook, cell phone, earbuds, papers, etc; you do not complete a slow, 360° webcam scan of exam room, etc.

[Click Here for the MCC Attendance/Absences Policy](https://www.mclennan.edu/highlander-guide/policies.html)
(<https://www.mclennan.edu/highlander-guide/policies.html>)

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

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ACADEMIC RESOURCES/POLICIES

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. For additional information, please visit www.mclennan.edu/disability.

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

disabilities@mclennan.edu 2542998122 Room
319, Student Services Center

Title IX:

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 acting Title IX Coordinator at titleix@mclennan.edu or by calling, Dr. Claudette Jackson, (Accommodations/Title IX) at (254) 299-8465. MCC employees are mandatory reporters and must report incidents immediately to the Title IX Coordinator. Individuals may also contact the MCC Police Department at (254) 299-8911 or the MCC Student Counseling Center at (254) 299-8210. The MCC Student Counseling Center is a

confidential resource for students. Any student or employee may report sexual harassment anonymously by visiting <http://www.lighthouse-services.com/mclennan/>. Go to McLennan's Title IX webpage at www.mclennan.edu/titleix/. It 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.

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/>

Academic Support and Tutoring is here to help students with all their course-related needs. Specializing in one-on-one tutoring, developing study skills, and effectively writing essays. Academic Support and Tutoring can be found in the Library and main floor of the Learning Commons. This service is available to students in person or through Zoom. You can contact the Academic Support and Tutoring team via Zoom or email (ast@mclennan.edu) by going to our website (<https://www.mclennan.edu/academic-support-and-tutoring/>).

College personnel recognize that food, housing, and transportation are essential for student success. If you are having trouble securing these resources or want to explore strategies for balancing life and school, we encourage you to contact either MCC CREW – Campus Resources Education Web by calling (254) 299-8561 or by emailing crew@mclennan.edu or a Success Coach by calling (254) 299-8226 or emailing SuccessCoach@mclennan.edu. Both are located in the Completion Center located on the second floor of the Student Services Center (SSC) which is open Monday-Friday from 8 a.m.-5 p.m.

Paulanne's Pantry (MCC's food pantry) provides free food by appointment to students, faculty and staff. To schedule an appointment, go to https://mclennan.co1.qualtrics.com/jfe/form/SV_07byXd7eB8iTqJg. Both the Completion Center and Paulanne's Pantry are located on the second floor of the Student Services Center (SSC).

MCC Foundation Emergency Grant Fund:

Unanticipated expenses, such as car repairs, medical bills, housing, or job loss can affect us all. Should an unexpected expense arise, the MCC Foundation has an emergency grant fund that may be able to assist you. Please go to

<https://www.mclennan.edu/foundation/scholarships-and-resources/emergencygrant.html>

to find out more about the emergency grant. The application can be found at

https://www.mclennan.edu/foundation/docs/Emergency_Grant_Application.pdf.

MCC Academic Integrity Statement:

Go to www.mclennan.edu/academic-integrity for information about academic integrity, dishonesty, and cheating. The unauthorized use of artificial intelligence (AI) for classwork can be a violation of the College's General Conduct Policy. Whether AI is authorized in a course and the parameters in which AI can be used in a course will be outlined by each instructor.

Minimum System Requirements to Utilize MCC's D2L|Brightspace:

Go to <https://www.mclennan.edu/center-for-teachingandlearning/FacultyandStaffCommons/requirements.html> for information on the minimum system requirements needed to reliably access your courses in MCC's D2L|Brightspace learning management system.

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 notified via 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.

Email Policy:

McLennan Community College would like to remind you of the policy (<http://www.mclennan.edu/employees/policy-manual/docs/E-XXXI-B.pdf>) regarding college email. All students, faculty, and staff are encouraged to use their McLennan email addresses when conducting college business.

A student's McLennan email address is the preferred email address that college employees should use for official college information or business. Students are

expected to read and, if needed, respond in a timely manner to college emails. For more information about your student email account, go to www.mclennan.edu/studentemail.

Instructional Uses of Email:

Faculty members can determine classroom use of email or electronic communications. Faculty should expect and encourage students to check the college email on a regular basis. Faculty should inform students in the course syllabus if another communication method is to be used and of any special or unusual expectations for electronic communications.

If a faculty member prefers not to communicate by email with their students, it should be reflected in the course syllabus and information should be provided for the preferred form of communication.

Email on Mobile Devices:

The College recommends that you set up your mobile device to receive McLennan emails. If you need assistance with set-up, you may email Helpdesk@mclennan.edu for help.

You can find help on the McLennan website about connecting your McLennan email account to your mobile device:

- [Email Setup for iPhones and iPads](#)
- [Email Setup for Androids](#)

Forwarding Emails:

You may forward emails that come to your McLennan address to alternate email addresses; however, the College will not be held responsible for emails forwarded to an alternate address that may be lost or placed in junk or spam filters.

For more helpful information about technology at MCC, go to [MCC's Tech Support Cheat Sheet](#) or email helpdesk@mclennan.edu.

Disclaimer:

The resources and policies listed above are merely for informational purposes and are subject to change without notice or obligation. The College reserves the right to change policies and other requirements in compliance with State and Federal laws. The provisions of this document do not constitute a contract.