

McLennan
C O M M U N I T Y
COLLEGE

WACO, TEXAS

COURSE SYLLABUS
AND
INSTRUCTOR PLAN GENERAL BIOLOGY I FOR SCIENCE
MAJORS

BIOLOGY 1406.08

STEPHANIE RANDELL

NOTE: This is a 16-week course.

COVID 19 Notice:

McLennan Community College is committed to providing you with every resource you need to reach your academic goals including your safety. We will continue to monitor the evolving situation with COVID 19 and adjust our safety guidelines to make sure we offer a safe environment for you and our faculty. Please make sure to consult your faculty and the MCC website on any changes to these guidelines.

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. The **online portions of the class demand daily attending**. Make sure you do the daily assignments and keep track of due dates.

Instructor Name: Stephanie Randell

MCC E-mail: srandell@mclennan.com

Office Phone Number: 254-299-8183

Office Location: S209

Office/Teacher Conference Hours: **Zoom meetings by appointment**

***Other Instruction Information:** **Professor will check and** generally respond to your **emails** within 24 hours, except for Friday afternoon, Saturday and Sunday. As I am physically in class most of the day, these are the best times to contact me: **Monday through Thursday:** I'll check emails the first thing in the morning. Then I'm in my face-to-face classes until 2:30 on MW and noon Tu/TH. I'll check frequently M/W from 3-4:00pm; Tu/Th noon-4:00pm.

***On Fridays:**, I will stop checking emails at 2:00pm. 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 and Sunday.**

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Required Text & Materials:

*This course is an Inclusive Access course. As such, **when you pay for your class, these required material and texts are already included in your payment**. The access code for the text is also included and will automatically your Brightspace to the online labs when you log into McGraw Hill Connect.

You may check the course requirements at this book store link: Under **“Get Your Textbooks”**
<https://www.bkstr.com/mcleannaccstore/home>

Title: BIOLOGY
Connect for Biology w/Proctorio 1406 (0482)
Author: Raven, Johnson, Mason, Losos, Duncan
Edition: 12th
ISBN: 9781264438587
Publisher: MCGRAW HILL CREATE (CUSTOM PUBLISHING)
Formats: Adobe Digital Editions

Title: **Lecture Notes and Lab Exercises**
Author: Stephanie Randell
Edition: 6th
Publisher: MCC Shop
ISBN: BIOL1406RANDELL

Title: BIOLOGY
Author: Raven, Johnson, Mason, Losos, Duncan
Edition: 12th
ISBN: 9781264115488
Publisher: MCGRAW HILL CREATE (CUSTOM PUBLISHING)
Formats: Loose-Leaf

Other required materials: Safety glasses (preferably not goggles) , 3 inch binders: one for the lecture notes and outline; one for lab; one for the loose-leaf textbook, paper for lab and lecture notebooks.

Required technology:

Students must use a device with **consistent, strong internet and a fully functioning webcam** for exams and be able to download **Respondus/Respondus Monitor** for use during 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:

Recorded Zoom lectures and notetaking, Socratic method, critical thinking reviews and exercises, Zoom reviews, assigned readings, videos, animations, online labs, WebQuests, quizzes, lab exams, Discussions Boards, and lecture exams. 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.

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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.

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Tentative Course Outline or Schedule:

- Week 1:** **UNIT 1:** Introduction, Science and Scientific Writing, Basic Chemistry
- Week 2:** Organic Compounds
- Week 3:** Cells
- Week 4:** Mastery and Review; **Exam 1 - online**
- Week 5:** **UNIT 2:**Diffusion, Osmosis
- Week 6:** Membrane Transport 3, Energy
- Week 7:** Biophysics of light, Photosynthesis: Light Reactions
- Week 8:** Photosynthesis: Calvin Cycle
- Week 9:** Cellular Respiration
- Week 10:** Mastery and Review; **Exam 2 - online**
- Week 11:** **UNIT 3:** Cell Cycle and Meiosis
- Week 12:** Molecules of Heredity; Protein Synthesis
- Week 13:** Genetics
- Week 14:** **Exam 3 – in class**
UNIT 4: **Comprehensive review available**
Mutations and a Movie!
- Week 15:** History of Science; Natural Selection and Evolution
Lab Final Exam (online)
- Week 16:** **Final Exam:** Dec 7th (Tuesday) 12:40pm – 2:40**in class.**

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Exam Schedule:

Exam 1: Sept. 16-17.....Taken on your computer during this window.

Exam 2: Oct. 28-29.....Taken on your computer during this window.

Exam 3: Nov. 23: 11:10am.....Taken in class on your computer.

Final: **Final Exam:** Dec 7th (Tuesday) 12:40pm – 2:40in class.
Taken in class on your computer.

Course Grading Information:

Evaluation and grading:

Grade: 90-100 A

80-89 B

Lecture Exams (60% of final grade)

70-79 C

60-69 D

3 Lecture exams - 100 points each

<60 F

1 Comprehensive Final - 100 points

Labs - (25% of final grade) - 100 points (ea.)

Lab report (1-2)

Lab exams (1-2)

Online labs

Discussion Boards and Assignments - (15% of final grade) 100 points (ea.)

Discussion Boards: 3 - 6 total

***** Grades will not be finalized until all reports from proctoring agencies have been received and reviewed. This means your grade could change up to a week after an exam! Until that time, posted exam and final grades are tentative.***

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”.

Plagiarism: Copied work, uncited work, etc, will result in a “0”.

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

Zoom 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, limitation of departure from the computer after the start of an exam, removal of cell phones, tablets, and watches with shaded faces, use of only simple pencils for exam. This includes all exam and Respondus regulations and guidelines. These methods are entirely at the discretion of your professor and may change during the semester

Late Work, Attendance, and Make Up Work Policies:

*No Labs, Assignments, Discussion Boards, 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 hospitalization. Uncompleted work will be recorded as “0”.

Attendance will be taken as completion of weekly work. If assignments are not submitted by the due dates, an absence will be recorded.

Exams: If students miss a lecture exam, their comprehensive final exam score will take the place of **one missed exam**.

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 etiquette accepted by polite society. If we have to schedule **Zoom meetings, students should join with video on 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.

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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: copying or recording of exam questions, sharing exam questions with anyone, having unapproved biology book 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, 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>)

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

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 or want to explore strategies for balancing life and school, we encourage you to contact a Success Coach by calling (254) 299-8226 or emailing SuccessCoach@mclennan.edu. Students may visit the Completion Center Monday-Friday from 8 a.m.-5 p.m. to schedule a meeting with a Success Coach and receive additional resources and support to help reach academic and personal goals. Paulanne's Pantry (MCC's food pantry) provides free food by appointment to students, faculty and staff based on household size. Text (254) 870-7573 to schedule a pantry appointment. The Completion Center and 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.

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.

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

Go to <https://www.mclennan.edu/center-for-teaching-and-learning/Faculty%20and%20Staff%20Commons/requirements.html> for information on the minimum system requirements needed to reliably access your courses in MCC's D2L|Brightspace learning management system.

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.

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.

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.

MCC Academic Integrity Statement:

Go to www.mclennan.edu/academic-integrity for information about academic integrity, dishonesty, and cheating.

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

254-299-8122

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 Title IX Coordinator at titleix@mclennan.edu or by calling Dr. Drew Canham (Chief of Staff for Diversity, Equity & Inclusion/Title IX) at (254) 299-8645. Individuals also may contact the MCC Police Department at 299-8911 or the MCC Student Counseling Center at MCC 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.

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.