**BIOL 1306**
**Biology for Science Majors I Lecture**
**Fall 2026**

LAMAR INSTITUTE OF TECHNOLOGY

**Credit:** 3 semester credit hours (3 hours lecture)

**Prerequisite/Co-requisite:**
TSI Complete
Biology 1106 Corequisite

**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.

**Course Objectives**
Upon completion of this course, the student will be able to:

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

**Core Objectives**

1. **Critical Thinking Skills:** To include creative thinking, innovation, inquiry, analysis, evaluation and synthesis of information
2. **Communication Skills:** To include effective development, interpretation, and expression of ideas through written, oral, and visual communication

3. **Empirical & Quantitative Skills:** To include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
4. **Teamwork:** To include the ability to connect choices, actions, and consequences to ethical decision-making

**INSTRUCTOR CONTACT INFORMATION**

Instructor:
Email:
Office Phone:
Office Location:
Office Hours: See Starfish for available office hours -
Click Here for Starfish

**TEXTBOOK AND MATERIALS:**

- REQUIRED = Textbook **-** OpenStax Biology 2e **–** https://openstax.org/details/books/biology-2e?Book%20details
- Your textbook for this class is available for free online and a print copy, can be purchased online, or obtained through Eagle Learning Essentials. Click Here for Eagle Learning Essentials

**ATTENDANCE POLICY**

1. You must log into Blackboard and access this course a minimum of 3 times per week.
2. Late assignments will be accepted with a deduction as a late penalty. Students will receive a zero for assignments not completed.
3. If you wish to drop this course, you must drop it administratively. If you do not drop, you will receive an F for the course

**Drop Policy**

If you wish to drop a course, you are responsible for initiating and completing the drop process by the specified drop date as listed on the Academic Calendar. If you stop coming to class and fail to drop the course, you will earn an "F" in the course.

**Tentative Weekly Schedule *Instructor reserves the right to modify as needed***

| Week: | To Do: | Due Date: |
|---|---|---|
| Week 1<br>**Aug 24th - 28th**<br><br>Introduction<br>Study of Life<br>Chemistry of Life | Discussion Board: Netiquette for Online Learners<br>Discussion Board: Introduction<br>Syllabus Quiz/Syllabus Acknowledgement | 1. 08.28.26 |
| | Video Quiz: Characteristics of Life (Chap 1) [7minutes 57 seconds]<br>VQ: Levels of Organization in the Body (Chap1) [2m 45 s]<br>VQ: Elements of the Body (Chap 2) [1m52s] | 2. 08.30.26 |

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| Total Video Time:<br>13 minutes | Look over instructions for Individual Project: Biology Careers Due 10.02.26<br>Join a group for Group Project: Genetic Disorders Due 11.20.26 | |
| Week 2<br>**Aug 31st - Sep 4th**<br>Biological Molecules<br>Total Video Time:<br>13 minutes | VQ: The 5 Most Important Molecules in Your Body (Chap 2) [7m 55s]<br>VQ: Biological Molecules (Chap 3) [4m23s]<br>Discussion Board: Chemistry of Life<br>Get started on Individual Project: Biology Careers Due 10.02.26<br>Work on Group Project: Genetic Disorders Due 11.20.26 | 1. 09.06.26 |
| Week 3<br>Holiday Sep 7th<br>Sep 8th – 11th<br>Cell Structure & Function<br>Total Video Time:<br>13 minutes | VQ: Prokaryotes vs. Eukaryotes (Chapter 4) [4m 42s]<br>VQ: Cell Structure (Chapter 4) [7m 22s]<br>Discussion Board: Cell Structure and Function<br>Work on Individual Project: Biology Careers Due 10.02.26<br>Work on Group Project: Genetic Disorders Due 11.20.26 | 09.13.26 |
| Week 4<br>**Sep 14th - 18th**<br>Structure & Function of Plasma Membranes<br>Total Video Time:<br>15 minutes | VQ: Cell Membrane Structure & Function (Chap 5) [2m 9s]<br>VQ: Membranes & Transport (Chap 5) [11m 45s]<br>Discussion Board: Plasma Membrane Structure and Function<br>**Quiz 1**: Chapters 1 – 5 *Opens 09.18.26* and *closes 09.20.26*<br>Work on Individual Project: Biology Careers Due 10.02.26<br>Work on Group Project: Genetic Disorders Due 11.20.26 | 1. 09.18.26 |
| Week 5<br>**Sep 21st - 25th**<br>Metabolism<br>Total Video Time:<br>8 minutes | VQ: Metabolism & ATP (Chap 6) [4m22s]<br>VQ: Enzymes & How they Work (Chap 6) [3m 9s]<br>**DUE** SOON Individual Project: Biology Careers ***Due 10.02.26***<br>Work on Group Project: Genetic Disorders Due 11.20.26 | 2. 09.27.26 |
| Week 6<br>**Sep 28th - Oct 2nd**<br>Cell Respiration<br>Total Video Time:<br>15 minutes | VQ: Cell Respiration (Chap 7) [14m 14s]<br>Discussion Board 5: Metabolism<br>**DUE 10.02.26** Individual Project: Biology Careers<br>Work on Group Project: Genetic Disorders Due 11.20.26 | 3. 10.04.26 |

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| Week 7<br>**Oct 5th - 9th**<br>Photosynthesis<br>Total Video Time:<br>13 minutes | Discussion Board: Photosynthesis & Cell Respiration<br>VQ: Photosynthesis (Chap 8) [12m27s]<br>Work on Group Project: Genetic Disorders Due 11.20.26 | 10.11.26 |
| Week 8<br>**Oct 12th - 16th**<br>Midterm Exam | **Midterm Exam** *Opens 10.14.26 and Closes 10.16.26 (Chapters 1 - 8)*<br>Work on Group Project: Genetic Disorders Due 11.20.26 | Midterm due 10.16.26 |
| Week 9<br>**Oct 19th - 23rd**<br>Cell Communication<br>Cell Reproduction<br>Total Video Time:<br>24 minutes | Discussion Board: Cell Reproduction and Cancer<br>VQ: Cell Communication (Chap 9) [8m59s]<br>VQ: Cell Reproduction-Mitosis (Chap 10) [10m48s]<br>VQ: How do Cancer cells behave differently than Normal ones? (Chap 10) [3m 51s]<br>Work on Group Project: Genetic Disorders Due 11.20.26 | 10.25.26 |
| Week 10<br>**Oct 26th - 30th**<br>Meiosis & Sexual Reproduction<br>Total Video Time:<br>12 minutes | VQ: Meiosis (Chap 11) [11m43s]<br>Discussion Board: Biology Poster Project Gallery Walk<br>Group Project: Genetic Disorders Due 11.20.26 | 11.01.26 |
| Week 11<br>**Nov 2nd - 6th**<br>Mendel & Heredity<br>Modern Inheritance<br>Total Video Time:<br>24 minutes | VQ: Mendel & Heredity (Chapter 12) [16m4s]<br>VQ: Non-Mendelian Inheritance (Chapter 13) [7m 12s]<br>**DUE SOON:** Group Project: Genetic Disorders *Due 11.20.26*<br>**Quiz 2:** Chapter 9 – 13 *Opens 11.06.26 and closes 11.08.26* | 11.06.26 |
| Week 12<br>**Nov 9th - 13th**<br>DNA Structure & Function<br>DNA Replication<br>Total Video Time:<br>12 minutes | Discussion: DNA & Heredity<br>VQ: DNA Structure (Chap 14) [3m 52s]<br>VQ: DNA-Book of You (Chap 14) [4m28s]<br>VQ: DNA Replication (Chap 14) [3m 28s]<br>**DUE SOON:** Group Project: Genetic Disorders *Due 11.20.26* | 11.15.26 |
| Week 13<br>**Nov 16th - 20th**<br>Genes & Proteins | VQ: DNA to Protein (Chapter 15) [2m 42s]<br>VQ: Protein Synthesis (Chapter 15) [4m55s]<br>**DUE Now:** Group Project: Genetic Disorders *Due 11.20.26* | 11.18.26 |

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| Total Video Time:<br>8 minutes | | |
| Week 14<br>Nov 23rd - 24th<br><br>Thanksgiving Holiday Nov 25th - 27th<br><br>Thanksgiving Break | ⭕ Work on missing assignments<br>⭕ Sleep, rest, relax<br>⭕ Enjoy time with family and friends<br>⭕ Netflix, etc.<br>⭕ Exercise<br>⭕ Read a good book<br>⭕ Do something nice for someone | |
| Week 15<br>**Nov 30th - Dec 4th**<br><br>Gene Expression<br>Biotechnology & Genomics<br><br>Total Video Time:<br>30 minutes | 🟢 VQ: Epigenetics (Chapter 16) [9m 29s]<br><br>🟢 VQ: Molecular Biology (Chapter 17) [14m32s]<br><br>🟢 VQ: CRISPR (Chapter 17) [5m 29s]<br><br>🟢 Discussion: Biotechnology and Genomics | 12.04.26 |
| Week 16<br>**Dec 7th - 9th**<br><br>**Final Exam** | ⏰ **FINAL EXAM** Opens 12.06.26 and Closes 12.08.26 (Chapters 1 – 17)<br><br>🎉 Congratulations!! You made it!! Celebrate | ⏰ Final is *due 12.08.26 by 11:59 pm*<br><br>**Final Grades must be submitted to Banner by 12.11.26 at noon** |

**Student Expected Time Requirement**

For every hour in class (or unit of credit), students should expect to spend at least two to three hours per week studying and completing assignments. For a 3-credit-hour class, students should prepare to allocate approximately six to nine hours per week outside of class in a 16- week session OR approximately twelve to eighteen hours in an 8-week session. Online/Hybrid students should expect to spend at least as much time on this course as in the traditional, face-to-face class.

**Course Evaluation**

Final grades will be calculated according to the following criteria:

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|---|---|---|
| 2. | Discussion | 10% |
| 3. | Quizzes | 20% |
| 4. | Midterm & Final Exam | 30% |
| 5. | Individual & Group Project | 20% |
| 6. | Assignments (Video Quizzes, etc.) | 20% |
| | | **100** |

**GRADING SCALE**

90-100 = A
80-89 = B
70-79 = C
60-69 = D
0 – 59 = F

## Academic Dishonesty

Students found to be committing academic dishonesty (cheating, plagiarism, or collusion) may receive disciplinary action. Students must familiarize themselves with the institution's Academic Dishonesty Policy, available in the Student Catalog & Handbook at http://catalog.lit.edu/content.php?catoid=3&navoid=80#academic-dishonesty.

**AI STATEMENT**

Lamar Institute of Technology (LIT) recognizes that recent advances in Artificial Intelligence (AI), such as ChatGPT, have changed the landscape of many career disciplines and will impact many students in and out of the classroom. To prepare students for their selected careers, LIT desires to guide students in the ethical use of these technologies and incorporate AI into classroom instruction and assignments appropriately. Instructors determine appropriate use of these technologies. Students are reminded that all submitted work must be their own, original work, unless otherwise specified. Students should contact their instructor with any questions about acceptable use of AI/ChatGPT in their courses.

## Technical Requirements (for courses using Blackboard)

The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be online at https://lit.edu/online-learning/online-learning-minimum-computer-requirements. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

Quizzes and Exams in this course are administered through Blackboard. Exams will be administered with Respondus **LockDown Browser + Respondus Monitor (webcam)**
Requirements to take exams include:

- A reliable computer, desktop or laptop (phones, chromebooks, tablets, and iPads are not allowed).
- Windows: 10, 8, 7
- Mac: OS X 10.10 or higher
- Adobe Flash Player (bundled with the LockDown Browser installation)
- Web camera (internal or external) & microphone
- A reliable internet service provider. A broadband internet connection.
- A room to take the exam where you are alone (other individuals in the room are not allowed)

Watch these overview videos to understand the tools your will be using to take the exam.
Respondus LockDown Browser: https://www.youtube.com/watch?v=XuX8WoeAycs#action=share
Respondus Monitor: https://www.youtube.com/watch?v=hv2L8Q2NpO4 - action=share

Respondus **LockDown Browser + Respondus Monitor (webcam)**
Download Instructions:

- Select the quiz in the course
- Under Quiz Requirements, you will see "To take this quiz you must use the Respondus LockDown Browser"
- Below this, you will see: "You can use the button below if you have not already downloaded LockDown Browser". Click the button to go to the download page and then follow the instructions
- Use the link to download Respondus LockDown Browser to your computer; follow the installation instructions
- Return to the Quiz page in Brightspace (it may still be open in another tab) and select the quiz
- Select "Launch LockDown Browser"
- The quiz will now start

Note: You only need to install LockDown Browser once on a computer or device. It will start automatically from then on when a quiz requires it.

**Guidelines while taking the online quiz:**

- Ensure you're in a location where you won't be interrupted.
- Turn off all other devices (e.g., tablets, phones, second computers) and place them outside of your reach.
- Before starting the test, know how much time is available and ensure you've allotted enough time to complete it.
- Clear your desk or workspace of all external materials not permitted - books, papers, other devices.
- Remain at your computer for the duration of the test.
- If your computer, Wi-Fi, or location differs from what you used previously with the "Webcam Check" and "System & Network Check" in LockDown Browser, run the checks again before the exam.
- To produce a good webcam video, do the following:
    - Avoid wearing baseball caps or hats with brims.
    - Ensure your computer or device is on a firm surface (a desk or table). Do NOT place the computer on your lap, a bed, or any other surface where the device (or you) is likely to move.
    - If using a built-in webcam, avoid readjusting the screen tilt after the webcam setup is complete.
    - Take the exam in a well-lit room, but avoid backlighting (such as sitting with your back to a window)
- Remember that LockDown Browser will prevent you from accessing other websites or applications; you will be unable to exit the test until you complete and submit all questions.

**The following violations during testing will result in a grade of zero or reduction in points:**

- Using technology or electronic devices including, but not limited to, iPads, phones, smart glasses, earbuds, smartwatches.
- Leaving the testing environment or face missing from frame or obscured.
- Noises that might indicate external help.
- Any other questionable activities indicating cheating.

### Disabilities Statement

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also log in to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. Students are responsible for monitoring these emails and Starfish information and taking the recommended actions. Starfish is used to help you be a successful student at LIT.
https://lit.edu/student-success/starfish

### Student Code of Conduct

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. You can access the *LIT Catalog and Student Handbook* at www.lit.edu. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

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## Course Requirements

- A Midterm and final are required, with two attempts per assessment and the use of Respondus LockDown Browser. The final score will be an ***average of attempts***.
- Five quizzes will be given using Respondus LockDown Browser, with two attempts per assessment. The final score will be an ***average of attempts***.
- Students will complete video quizzes and discussion boards for each unit.
- Students will complete an individual project and a group project. Points will be deducted for completing the group project without partners.
- Late assignments will be accepted with a late-submission deduction. Students will receive a zero for incomplete assignments.