Learning Objectives and Nature of the Course
This course introduces the integration between structure and function of biological organization. You will be asked to use processes of science to apply principles of evolution, genetics, diversity, and ecology to living systems. Observation, experimentation, and investigation are emphasized. Biology 1307 requires a conceptual understanding of the material rather than the simple memorization and regurgitation of facts. This course will challenge you to analyze and apply information, solve problems, and make connections different from the context in which they were learned. These are critical skills in biology.

This course is intended for Biology majors and minors or those for which it is a degree requirement. It is not recommended for non-majors to fulfill a general education requirement for a laboratory course.

Co-requisite Courses
You must be enrolled in a section of 1106 concurrently with the 1306 lecture. Even though there are two course numbers, we consider these to be one course and you will receive the same letter grade for lecture and lab regardless of your point total in either course alone.

Required Texts and Materials

Lecture Course Materials (required):
  - Options for purchasing the Book with Connect Access Card From the ASU Bookstore or online
    - Option 1 eBook with Connect – ISBN: 9781260933437 (If you are in an eTextbook course you already have this)
    - Option 2 Loose leaf Book (You are in an eTextbook course but want a hard copy) – ISBN: 9781260933437
  - NOTE: with Option 2, if you are in a non-eTextbook course and choose to set up your Connect Access through BlackBoard you will be given the option of purchasing a loose leaf copy of the textbook for an additional fee. This will allow you to bring only the chapter or pages from the chapter you need to class with you.
- TopHat Access: Information concerning purchasing this service will be provided during the first week of classes. For this REQUIRED program you will need:
  - TopHat Access ($42 for 1 semester (4 month) access from ASU Bookstore.
- A Digital device with wireless capability (cell phone, tablet, laptop).
If you do not have texting capability on your phone or do not own a tablet or laptop with wireless capability, please contact Dr. Connie Heimann (cheimann@angelo.edu) so that she can assist you. ASU provides wireless service to you for no additional charge.

Lab Course Materials (required):

- Heimann C.P. and D.P. French. 2019. Investigating Biology. FountainHead Press: Southlake TX. ISBN: 978-1-68036-970-0. This book should be available in the bookstore by the first week of classes. Any additional lab materials you will need will be provided to you as a free download from BlackBoard.

- Access to your ASU P: drive OR Flash (USB) drive

NOTE: These are the same books and services as were required for BIO 1307/1107 last fall...so those of you taking both semesters of the course will be able to use the same book and services for both semesters. You may have to extend your subscription for TopHat depending on what you purchased last Fall.

Technology Requirements

To successfully complete this course, students need to Class Preparation Blackboard (Bb) and Connect Plus: Much of your learning about biology must take place outside of the formal class meetings. You should be a frequent visitor to the course Blackboard site (http://blackboard.angelo.edu). Please check Bb regularly. All of the material you need to prepare for class is available from the Bb site: reading assignments for each unit, lecture presentations, homework assignments, in-class activity handouts, helpful handouts (for some concepts), and links to outside review materials (for some concepts). If you are a first time Bb user, your password is your ASU PIN (usually your 6-digit birth date unless you have changed it). You can change your password and update your personal information by adding your email address and a telephone number where you can be reached this semester. Many of the homework assignments are available through Bb and link directly to the online homework system Connect Plus.

TopHat: TopHat is a web based platform that allows you to answer questions in class that are projected on your personal device (cell phone, laptop, or tablet). It allows you to check on how you are learning and helps your instructor identify when the class may be doing great or struggling a bit with a concept. We use TopHat because it lets us see how students are doing with a particular concept or idea--in real time! We use TopHat in class so that you can answer questions and see the results. If the class is doing great, we move on to the next subject for the day. If not, it lets us help you learn what you might be struggling with before we move on to the next activity or topic. We also will use it for quizzes in class.

Please register by the end of the first week of classes. By Friday of the first week of classes, you will have received an email from your instructor with instructions for enrolling in their specific TopHat course. If you did not receive this email, please contact your instructor IMMEDIATELY to request the link to the TopHat website. Otherwise, complete the information to pay with a credit card. It is important that you sign up for your lecture instructors website or you will not be able to participate (and earn points) in class.

Communication

Class Preparation ASU email: Since class announcements will be routinely distributed via email, you will need to regularly check your ASU email account. Please check you ASU email daily. All course correspondence will be through your ASU email only (I will not respond to email from other accounts). Please see the email policy in Bb for more details. ASU provides Internet and email services to you at any of the computer labs on campus. Call 942-2911 to set this up if necessary.
**Lecture:** A typical class meeting will combine mini-lectures, discussions, group activities, multimedia presentations, and other demonstrations and activities to give you an opportunity to learn biological concepts in an active manner as possible. Each segment of the course is structured around one or more conceptual units that can be interpreted or solved by applying selected biological concepts. You can accumulate up to 200 points toward your final semester grade from unannounced group or individual in-class activities (no make-ups) or homework assignments. We will also use Top Hat questions for in-class activities.

**Use of electronics for non-class related activities:** More and more students are bringing their laptops/tablets, etc. to class to take notes. Sadly, some students use these devices for non-class related activities. Viewing movies, videos, checking social media, etc. can be distracting to other students. This will not be tolerated. You will be given one warning and then asked to leave. You will have to make an appointment with Dr. Heimann to be allowed re-entry to class.

As a member of the class you are also invited to:

- Ask questions, no matter how naive they seem to you. I will do my best to offer you a satisfactory answer. The only stupid question is one that isn't asked.
- Ask for help and/or clarification. Don't suffer in silence. I can't help you learn if I don't know you're confused or if my instructions are unclear.
- Use your group members as study partners! Review exam review questions (on Bb) or notes together. Group learning can be powerful and is often beneficial in a course like biology.

**Course Groups:** While taking exams is an individual activity, almost all other activities will require your participation with other class members. We will form groups the first week of class. Many of the lecture exercises will be solved collaboratively.

**COURSE IDEA OBJECTIVES:**

- Gain factual knowledge (terminology, classifications, methods, trends)
- Learn fundamental principles and theories
- Learn to apply course material (to improve thinking, problem solving, and decisions)
- Acquire skills in working with others as a member of a team

To achieve course objectives (see additional objectives on the last page of the syllabus) and help maximize your learning, it is vital that you attend class, come prepared, and study the material every day (more about this under student responsibilities).

**Methods of Assessing Objectives**

We use a total points format for determining course grades. The entire course, both lecture and lab components are worth 1000 points. Student Learning Outcomes will be assessed by exams, tutorials, lecture activities, and laboratory activities. The table below outlines the source of points for each of these components.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Maximum Point Contribution to total Grade</th>
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</thead>
<tbody>
<tr>
<td>In-class Activities and homework</td>
<td>200 points</td>
</tr>
<tr>
<td>Exam 1</td>
<td>100 points</td>
</tr>
<tr>
<td>Exam 2</td>
<td>100 points</td>
</tr>
<tr>
<td>Exam 3</td>
<td>100 points</td>
</tr>
<tr>
<td>Final Exam</td>
<td>200 points</td>
</tr>
<tr>
<td>Laboratory*</td>
<td>300 points</td>
</tr>
<tr>
<td>Total Points Possible**</td>
<td>1000 points</td>
</tr>
</tbody>
</table>
Grading System

Course grades will be dependent upon completing course requirements and meeting the student learning outcomes.

The following grading scale is in use for this course:

- **A** = 90.00-100 points
- **B** = 80.00-89.99 points
- **C** = 70.00-79.99 points
- **D** = 60.00-69.99 points
- **F** = 0-59.99 points (Grades are not rounded up)

**Lecture Activities and Homework:** A maximum of 200 points is allowed from lecture activities and both online and offline homework; however, there will be opportunities to earn 230-40 of these points. Lecture Activities are NOT attendance points, but you must be present to earn them—there are no make-ups***. Note that these activities constitute 20% of your overall grade. Participation is expected. If you do not earn points on a given assignment, you will have an opportunity to earn them on another, but are still responsible for the material covered in the assignment. Many homework assignments are on-line so that you can work on them at your convenience and get immediate feedback on your learning.

All exams, including the final exam are cumulative (i.e. questions on Exam 3 will include material covered on previous exams). Questions typically require interpretation of data and application of concepts rather than rote memory. While emphasis will be placed on material specifically discussed in lectures, exams also include questions covered in other assigned materials, readings and lab. Exam questions will be all objective questions (multiple choice or matching).

**Make-Up Exams:**

- **No make-up** Exams will be given.
- If you miss one of the first four exams, the final exam will be used to determine a substitute grade for the missed exam. For example, if exam scores are 55, 0, 64, and 105. The missed exam score will be adjusted to “make-up” the missed points. To calculate this, your score on the final exam is divided by the number of points available on the final multiplied by 100. For example, 140/200 *100=70%. 70% of 100 (the # of points available on exam 2) is 70 points which would be substituted for your score on exam 2.
- You will only be allowed to “make-up” one exam during the semester by substituting it with a percentage from your final exam. If you miss more than one exam, for any reason, you **will not pass** this course.
- Everyone **MUST** take the final exam. You **WILL NOT** pass this course if you miss the final exam.
- **If you have taken exams 1, 2, 3, & 4, the grade on your final exam (if higher than your lowest test score) will be used to replace your lowest exam score as calculated above.** You may replace only one exam score. If you have missed an exam, you do not have this option.

See the Exam Re-grading Procedure on Blackboard if you believe your score is in error or have found an answer that has been misgraded.

The deadline for requesting any recalculating or re-grading is 5pm 48 hours following the return of the exam. No exceptions. Remember that 1 point change in a grade is at best on 1/4th of a point on your final course average. Remember that the exams are photocopied before being returned to you (I will know if an answer has been changed after it was graded).
**What do you do if you miss a lecture activity, homework assignment, or group exam assessment?**

In the lecture portion of the course, 230-240 points for lecture activities and homework will be offered, although only 200 points will be used in calculating your grade. We use this as a way for students to accumulate points even if they have to miss a class for ANY reason. Use every opportunity early and throughout the semester to complete these activities to be sure that you will have 200 points by the end of the semester. **No last-minute offers of extra-credit are made in this course, so please don’t ask.** It wouldn’t be fair to your classmates that have done all the work to earn their grade. Pay your premiums - use the extra-credit opportunities early in the semester!

All grades will be calculated in the same way, regardless of extenuating circumstances or any reason not related to your actual performance in the course. However much I may sympathize with your personal circumstances, I never consider them to be a basis for grade assignments. The activity and homework points serve as an extremely generous, built-in curve. **I strongly encourage you to take advantage of them when they become available because once assigned they cannot be made up. Therefore you should always attend class and strive to do your best, so that you may earn the grade you want. It is your responsibility to keep up with your point total. Don’t worry I will help you, if you just ask!**

*Laboratory: This portion of the course offers you the opportunity to explore and apply concepts to answer research questions. Success in the laboratory involves teamwork in designing and conducting experiments, performing pre-lab and lab activities and report writing. In addition, you will conduct activities designed to develop and improve critical thinking and problem-solving skills related to the topics discussed in lectures. Even though BIOL 1307 and 1107 are different courses, you only get one grade for the combined points for each course (see table above). Your course grade in 1307 will be the letter grade reported for both courses on your transcript. **You must earn a minimum of 60% of the lab points (180 out of 300) to pass the course!! You WILL NOT pass the class if you fail the lab!!**

**Student Responsibilities**

**Attendance:** You are expected to attend all scheduled class meetings. You are expected to arrive on time and stay for the entire period. Missed lecture activity points CANNOT be made up. Attendance will be checked at each class meeting via the Top Hat system at random. Please inform me well ahead of time if you will need to be absent for any reason including religious holidays. **NOTE: You are NOT automatically dropped if you stop attending class. March 26 is the last day to drop a course.**

**General Policies Related to This Course**

All students are required to follow the policies and procedures presented in these documents:

- Angelo State University Student Handbook
- Angelo State University Catalog

**Academic Integrity**

Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

The College of Science and Engineering adheres to the university’s Statement of Academic Integrity.
Accommodations for Students with Disabilities
ASU is committed to the principle that no qualified individual with a disability shall, on the basis of
disability, be excluded from participation in or be denied the benefits of the services, programs or
activities of the university, or be subjected to discrimination by the university, as provided by the
Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008
(ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus
department charged with the responsibility of reviewing and authorizing requests for reasonable
accommodations based on a disability. It is the student’s responsibility to initiate such a request by
contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room
112, or contacting the department via email at ADA@angelo.edu. For more information about the
application process and requirements, visit the Student Disability Services website. The employee
charged with the responsibility of reviewing and authorizing accommodation requests is:

Dallas Swafford
Director of Student Disability Services
Office of Student Affairs
325-942-2047
dallas.swafford@angelo.edu
Houston Harte University Center, Room 112

Incomplete Grade Policy
It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact
faculty if you have serious illness or a personal misfortune that would keep you from completing course
work. Documentation may be required. See ASU Operating Policy 10.11 Grading Procedures for more
information.

Plagiarism
Plagiarism is a serious topic covered in ASU’s Academic Integrity policy in the Student Handbook.
Plagiarism is the action or practice of taking someone else’s work, idea, etc., and passing it off as one’s
own. Plagiarism is literary theft.

In your discussions and/or your papers, it is unacceptable to copy word-for-word without quotation marks
and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving
appropriate credit to the source both in the body of your paper and the reference list.

Papers are subject to be evaluated for originality. Resources to help you understand this policy better are
available at the ASU Writing Center.

Student Absence for Observance of Religious Holy Days
A student who intends to observe a religious holy day should make that intention known in writing to the
instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for Observance of
Religious Holy Day for more information.

Title IX at Angelo State University
The University prohibits discrimination based on sex, which includes pregnancy, sexual orientation,
gender identity, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing
all forms of gender-based harassment or discrimination including: sexual assault, sex-based
discrimination, sexual exploitation, sexual harassment, public indecency, interpersonal violence (domestic violence and/or dating violence), and stalking. As a faculty member, I am a Responsible Employee meaning that I am obligated by law and ASU policy to report any allegations I am notified of to the Office of Title IX Compliance.

Students are encouraged to report any incidents of sexual misconduct directly to ASU’s Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator at:

Michelle Boone, J.D.
Director of Title IX Compliance/Title IX Coordinator
Mayer Administration Building, Room 210
325-942-2022
michelle.boone@angelo.edu

You may also file a report online 24/7 at www.angelo.edu/incident-form.

If you are wishing to speak to someone about an incident in confidence you may contact the University Health Clinic and Counseling Center at 325-942-2173 or the ASU Crisis Helpline at 325-486-6345.

For more information about Title IX in general you may visit www.angelo.edu/title-ix.

A successful student in Principles of Biology should be able to achieve the following course and state core related learning outcomes:

- describe, explain, and predict natural phenomena using the scientific method = CT1, EQS1, EQS2 – Assessment = In class activities, lecture exams, embedded test questions, lab quizzes, and lab activities/reports
- design an experiment and complete a written description of their design, collaboratively conduct the experiment and analyze data generated to answer some component of a given causal question and defend the reasoning for conclusions drawn in the form of a laboratory report. CS1 – Assessment = In class activities, lab quizzes, and lab activities/reports
- collect and analyze data to evaluate relevant biological/ecological scenarios/problems (i.e. apply information you have learned). EQS1 – Assessment = In class activities, lecture exams, embedded test questions, lab quizzes, and lab activities/reports
- work effectively with others to support and accomplish a shared goal = CS1, TW2 – Assessment = In class activities, lecture exams, embedded test questions, lab practical exams, and lab activities/reports
- connect what she/he is learning to her/his own field (i.e. to make biology relevant to your own academic endeavors). Assessment = In class activities, lecture exams, embedded test questions, lab practical exams, and lab activities/reports

For State, and Accreditation purposes this course will assess your ability to:
- CT1: Gather, analyze, evaluate, and synthesize information relevant to a question or issue
- CS1: Develop, interpret, and express ideas through effective written communication.
- EQS1: Manipulate and analyze numerical data and arrive at an informed conclusion.
- EQS2: Manipulate and analyze observable facts and arrive at an informed conclusion.
- TW2: Work effectively with others to support and accomplish a shared goal.
<table>
<thead>
<tr>
<th>Week/Date</th>
<th>Class Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  January 13-17</td>
<td>What is Science? Chemistry of life. What are the 4 types of biological molecules? Why is water essential to life?</td>
</tr>
<tr>
<td>2  January 21-24</td>
<td>Cell membranes and other cell constituents: What structures support cells? How do substances move across membranes? Details of Organelle structure/function: What do the different organelles in the cell do? [NOTE: Class will not meet MONDAY January 20 due to the MLK holiday]</td>
</tr>
<tr>
<td>3  January 27-31</td>
<td>Introduction to cell communication. How is information transmitted along with a nerve cell? How do cells communicate with each other? How do substances move between cells?</td>
</tr>
<tr>
<td>4  February 3-7</td>
<td>Wrap up and review. Exam 1 Friday for MWF classes, Thursday for TR classes.</td>
</tr>
<tr>
<td>5  February 10-14</td>
<td>Enzymes: What are enzymes? Why are they necessary to living organisms?</td>
</tr>
<tr>
<td>6  February 17-21</td>
<td>Energy Transformations – How Cells Release Energy: Why EXACTLY do we need oxygen? How do cells use energy in food to make ATP?</td>
</tr>
<tr>
<td>7  February 24-28</td>
<td>How do cells harvest energy: What is light? Why is it Necessary to make glucose?</td>
</tr>
<tr>
<td>8  March 2-6</td>
<td>Wrap up and review. Exam 2 Friday for MWF classes, Thursday for TR classes.</td>
</tr>
<tr>
<td>March 9-13</td>
<td>SPRING BREAK</td>
</tr>
<tr>
<td>9  March 16-20</td>
<td>DNA Structure, Gene Function: How do cells use their genetic information? How do cells know what genetic information to use?</td>
</tr>
<tr>
<td>11 March 30-April 3</td>
<td>Sexual Reproduction, Meiosis</td>
</tr>
<tr>
<td>12 April 6-9</td>
<td>How is genetic information passed down from one generation - Mendelian inheritance [NOTE: Class will not meet FRIDAY April 10 due to the spring holiday]</td>
</tr>
<tr>
<td>13 April 13-17</td>
<td>Wrap up and review. Exam 3 Friday for MWF classes, Thursday for TR classes.</td>
</tr>
<tr>
<td>14 April 20-24</td>
<td>Biotechnology</td>
</tr>
<tr>
<td>15 April 27-May 1</td>
<td>Wrap up and review for Final Exam</td>
</tr>
<tr>
<td>16 May 4-6</td>
<td>FINAL EXAMS WEEK: Final Exams will be held in your usual classroom on the following dates: Monday May 4 8:00 am – Section 010 10:30 am – Section 030 Tuesday May 5 8:00 am – Section 040 10:30 am – Section 060 Wednesday May 6 8:00 am – Section 020 Thursday May 7 8:00 am – Section 050 10:30 am – Section 070</td>
</tr>
</tbody>
</table>