Biology for Science Majors I: BIO 1306.500

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Office: Miller Science room 239

Office Hours: Posted under Office Hours in Brightspace
Department: Biology
Class meeting time and place: On-line

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. Co-requisite(s): BIOL 1106 Biology for Science Majors I (lab).

This course meets educator preparation standards for one or more certification programs; a complete listing of all the educator preparation standards this course meets can be found at: https://sfasu.edu/docs/jacksteach/jacksteach-standards-alignment-chart.xlsx

Credit Hour Justification
Below is the expected time commitment that the average student should expect to complete during the semester for this course.

**BIOL 1306 Biology for Science Majors I: On-line (12 modules)**
- 45 hours working through modules (12 modules, 4 hrs/module)
- 48 hours homework/Mastering Biology (3 hrs/week)
- 30 hours reading (300 pages, 5 minutes per page)
- 24 hours quiz studying (12 quizzes)
- 6 hours exams (30 minutes/exam for 12 modules)

153 hours

General Education Core Curriculum
The Texas Higher Education Coordinating Board has identified six core learning objectives: Critical Thinking Skills, Communication Skills, Empirical and Quantitative Skills, Teamwork, Personal Responsibility, and Social Responsibility. SFA is committed to the improvement of its general education core curriculum by regular assessment of student performance on these six objectives.

Program Learning Outcomes
Each course objective and student learning outcome listed below corresponds to the Biology Department PLO 1, to Demonstrate a good knowledge base in biological concepts and be able to integrate knowledge with critical thinking skills to become problem solvers. The knowledge base will include levels of complexity (molecular/cellular through population/communities/ecosystems); biological principles and processes.

Student Learning Outcomes
Upon successful completion of this course, students will:
1. Describe the characteristics of life (CO #1).
2. Explain the methods of inquiry used by scientists (CO #1, 2).
3. Identify the basic requirements of life and the properties of the major molecules needed for life (CO #1).
4. Compare structures, reproduction, and characteristics of viruses, prokaryotic cells, & eukaryotic cells (CO #1, 2).
5. Describe the structure of cell membranes and the movement of molecules across a membrane (CO #1, 2).
6. Identify the substrates, products, and important chemical pathways in metabolism (CO #1).
7. Identify the principles of inheritance and solve classical genetic problems (CO #1).
8. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins (CO #1).
9. Describe the unity and diversity of life and the evidence for evolution through natural selection (CO #1, 2).
Lecture Course Requirements and Grading Policy

Twelve quizzes worth 50 points each will be administered throughout the semester for a total of 600 points for exams. Twelve discussion questions will be asked during the semester. Students must contribute a substantive response to each question to obtain full credit. Six of the twelve questions will be randomly selected for grading for a total of 150 points. Mastering Biology assignments will account for 200 points. Therefore, a total of 1040 points may be possible in this course.

- 12 exams at 50 points each ..................... 600 points
- Participation (discussion groups) ............. 240 points
- Mastering Biology Homework ............... 200 points
- Total ........................................... 1040 points

The total points for Mastering Biology assignments will range from 200-400 points. However, these points will be adjusted to a 200-point scale. (e.g., 300 points out of 400 points will be entered as (300/400 * 200 = 150 points).

Lab will count at 25% of your final course grade, while lecture will comprise 75%. Your total points received from lecture tests, discussion questions and Mastering Biology will be divided by 1040 (total points in lecture), thus providing a final lecture average. A final course grade will be determined using the following formula:

\[(\text{Lecture Average} \times 0.75) = (\text{Lab Average} \times 0.25) = \text{Final Course Average}\]

Percentages are not round-up at the end of the semester (an 89.97 is still a ‘B’). The time to be concerned about points is each day of the semester while you are preparing for the exams. Extra credit is not available to improve your grade.

- A = 100 - 90.0%; B = 89.99 - 80.0%; C = 79.99 - 70.0%; D = 69.99 - 60.0%; F= 59.99% or below

Mastering Biology Homework:
Mastering Biology assignments deadlines are posted in the Course Timeline and are available with the beginning of new exam material.

Attendance Policy
Regular participation is required and will be assessed using quizzes, Mastering Biology and discussion forums. No extensions for deadlines unless a student has an excused absence, as defined by University Policy, Class Attendance 6.7.

Make-Up Work:
Make-ups for missed quizzes will only be allowed in the case of a university approved absence (illness with a doctor's note, a family crisis, or a religious holiday). It is your responsibility to inform me that you missed the exam and why as soon as possible. YOU MUST NOTIFY ME WITHIN 24 HOURS OF A MISSED EXAM TO BE ELIGIBLE FOR A MAKE UP QUIZ. Written documentation must be submitted that thoroughly supports you missing an exam.

Academic Integrity
The Code of Student Conduct and Academic Integrity outlines the prohibited conduct by any student enrolled in a course at SFA. It is the responsibility of all members of all faculty, staff, and students to adhere to and uphold this policy.

Articles IV, VI, and VII of the new Code of Student Conduct and Academic Integrity outline the violations and procedures concerning academic conduct, including cheating, plagiarism, collusion, and misrepresentation. Cheating includes, but is not limited to: (1) Copying from the test paper (or other assignment) of another student, (2) Possession and/or use during a test of materials that are not authorized by the person giving the test, (3) Using, obtaining, or
attempting to obtain by any means the whole or any part of a non-administered test, test key, homework solution, or computer program, or using a test that has been administered in prior classes or semesters without permission of the Faculty member, (4) Substituting for another person, or permitting another person to substitute for one’s self, to take a test, (5) Falsifying research data, laboratory reports, and/or other records or academic work offered for credit, (6) Using any sort of unauthorized resources or technology in completion of educational activities.

Plagiarism is the appropriation of material that is attributable in whole or in part to another source or the use of one’s own previous work in another context without citing that it was used previously, without any indication of the original source, including words, ideas, illustrations, structure, computer code, and other expression or media, and presenting that material as one’s own academic work being offered for credit or in conjunction with a program course or degree requirements.

Collusion is the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on academic dishonesty, including disclosing and/or distributing the contents of an exam.

Misrepresentation is providing false grades or résumés; providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment for the purpose of obtaining an academic or financial benefit for oneself or another individual or to injure another student academically or financially.

**Withheld Grades Semester Grades Policy (5.5)**

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the coursework because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course to compute the grade point average. For additional information, go to [https://www.sfasu.edu/policies/course-grades-5.5.pdf](https://www.sfasu.edu/policies/course-grades-5.5.pdf).

**Students with Disabilities**

To obtain disability-related accommodations, alternate formats, and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services promptly may delay your accommodations. For additional information, go to [http://www.sfasu.edu/disabilityservices/](http://www.sfasu.edu/disabilityservices/).

**Student Wellness and Well-Being**

SFA values students’ overall well-being, mental health and the role it plays in academic and overall student success. Students may experience stressors that can impact both their academic experience and their personal well-being. These may include academic pressure and challenges associated with relationships, emotional well-being, alcohol and other drugs, identities, finances, etc.

If you are experiencing concerns, seeking help, SFA provides a variety of resources to support students’ mental health and wellness. Many of these resources are free, and all of them are confidential.

**On-campus Resources:**

**The Dean of Students Office** (Rusk Building, 3rd floor lobby)

[www.sfasu.edu/deanofstudents](http://www.sfasu.edu/deanofstudents)

936.468.7249

dos@sfasu.edu

**SFA Human Services Counseling Clinic** Human Services, Room 202

[www.sfasu.edu/humanservices/139.asp](http://www.sfasu.edu/humanservices/139.asp)

936.468.1041
The Health and Wellness Hub “The Hub”
Location: corner of E. College and Raguet St.

To support the health and well-being of every Lumberjack, the Health and Wellness Hub offers comprehensive services that treat the whole person – mind, body and spirit. Services include:

- Health Services
- Counseling Services
- Student Outreach and Support
- Food Pantry
- Wellness Coaching
- Alcohol and Other Drug Education

www.sfasu.edu/thehub
936.468.4008
thehub@sfasu.edu

Crisis Resources:

- Burke 24-hour crisis line: 1.800.392.8343
- National Suicide Crisis Prevention: 9-8-8
- Suicide Prevention Lifeline: 1.800.273.TALK (8255)
- johCrisis Text Line: Text HELLO to 741-741
**General Lecture Schedule**

*For specific dates and deadlines please consult the Course Timeline*

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<th>Week</th>
<th>%</th>
<th>TOPIC</th>
<th>Chapter</th>
<th>Pages</th>
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<td>Introduction to the Course</td>
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<td>1</td>
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<td>Evolution, Themes of Biology and Scientific Inquiry</td>
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<td>5</td>
<td>Water and Life</td>
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<td>Carbon and Molecular Diversity</td>
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<td>4</td>
<td>5</td>
<td>Structure and Function of Large Biological Molecules</td>
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<td>5</td>
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<td>A Tour of the Cell</td>
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<td>92-125</td>
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<td>Membrane Structure and Function</td>
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<td>7</td>
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<td>Introduction to Metabolism</td>
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<td>Cellular Respiration and Fermentation</td>
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<td>9</td>
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<td>Photosynthesis</td>
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<td>The Cell Cycle</td>
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<td>11</td>
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<td>Meiosis and Sexual Life Cycles</td>
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<td>Mendel and the Gene Idea</td>
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<td>13</td>
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<td>The Molecular Basis of Inheritance</td>
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<td>14</td>
<td>5</td>
<td>Gene Expression: From Gene to Protein</td>
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<td>10</td>
<td>Decent with Modification</td>
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<td>465-483</td>
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