

CORE CURRICULUM COMPONENT APPLICATION  
Texarkana College

**Part I: Course Information**

Course Type

- Existing/Restructured  
 New Course

Course Prefix & Number: **BIOL 1308**

Texas Common Course Number (TCCN): **1308**

Course Title: **Biology for Non Science Majors I**

Course Catalog Description

**Biology for Non-Science Majors I (4,3,3).** The process and method of science applied to understanding biological concepts at the molecular, cellular, organismal and community levels. Survey of major groups of organisms with respect to their diversity in organization, processes, interactions, and adaptations including human impact upon the environment. The scientific method and social applications of scientific information to related human issues are stressed throughout the course.

Course Prerequisites:

Available Online?

- Yes  
 No

**Part II: THECB Course Objectives**

Upon successful completion of this course, students will:

1. Distinguish between prokaryotic, eukaryotic, plant and animal cells, and identify major cell structures.
2. Identify stages of the cell cycle, mitosis (plant and animal), and meiosis.
3. Interpret results from cell physiology experiments involving movement across membranes, enzymes, photosynthesis, and cellular respiration.
4. Apply genetic principles to predict the outcome of genetic crosses and statistically analyze results.
5. Describe karyotyping, pedigrees, and biotechnology and provide an example of the uses of each.
6. Identify parts of a DNA molecule, and describe replication, transcription, and translation.
7. Analyze evidence for evolution and natural selection.
8. Apply scientific reasoning to investigate questions, and utilize scientific tools such as

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microscopes and laboratory equipment to collect and analyze data.

9. Use critical thinking and scientific problem-solving to make informed decisions in the laboratory.

10. Communicate effectively the results of scientific investigations.

11. Distinguish between prokaryotic, eukaryotic, plant and animal cells, and identify major cell structures.

12. Identify stages of the cell cycle, mitosis (plant and animal), and meiosis.

13. Interpret results from cell physiology experiments involving movement across membranes, enzymes, photosynthesis, and cellular respiration.

14. Apply genetic principles to predict the outcome of genetic crosses and statistically analyze results.

14. Identify the importance of karyotypes, pedigrees, and biotechnology.

16. Identify parts of a DNA molecule, and describe replication, transcription, and translation.

17. Analyze evidence for evolution and natural selection.

[See Attached Syllabus](#)

**Part III: THECB Skill Objectives**

**1. Critical Thinking Skills:** to include creative thinking, innovation, inquiry, and 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 and Quantitative Skills:** to include applications of scientific and mathematical concepts.

**4. Teamwork:** to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

**Part IV: Course Student Learning Outcomes (SLO)**

Upon successful completion of this course, students will:

1. Distinguish between prokaryotic, eukaryotic, plant and animal cells, and identify major cell structures.

2. Identify stages of the cell cycle, mitosis (plant and animal), and meiosis.

3. Interpret results from cell physiology experiments involving movement across membranes, enzymes, photosynthesis, and cellular respiration.

4. Apply genetic principles to predict the outcome of genetic crosses and statistically analyze results.

5. Describe karyotyping, pedigrees, and biotechnology and provide an example of the uses of each.

6. Identify parts of a DNA molecule, and describe replication, transcription, and translation.

7. Analyze evidence for evolution and natural selection.

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<p>8. Apply scientific reasoning to investigate questions, and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.</p> <p>9. Use critical thinking and scientific problem-solving to make informed decisions in the laboratory.</p> <p>10. Communicate effectively the results of scientific investigations.</p> <p>11. Distinguish between prokaryotic, eukaryotic, plant and animal cells, and identify major cell structures.</p> <p>12. Identify stages of the cell cycle, mitosis (plant and animal), and meiosis.</p> <p>13. Interpret results from cell physiology experiments involving movement across membranes, enzymes, photosynthesis, and cellular respiration.</p> <p>14. Apply genetic principles to predict the outcome of genetic crosses and statistically analyze results.</p> <p>14. Identify the importance of karyotypes, pedigrees, and biotechnology.</p> <p>16. Identify parts of a DNA molecule, and describe replication, transcription, and translation.</p> <p>17. Analyze evidence for evolution and natural selection.</p> <p><a href="#">See Attached Syllabus.</a></p>
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<b>Skill Objective:</b>	<b>Critical Thinking Skills:</b> to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
<b>THECB Course Objective</b>	(SLO #1)Distinguish between prokaryotic, eukaryotic, plant and animal cells, and identify major cell structures.
<b>Course Student Learning Outcome</b>	SLO #1)Distinguish between prokaryotic, eukaryotic, plant and animal cells, and identify major cell structures.
<b>General Learning Activities</b>	Lab 4—Students study cell components by microscopic observation and compare plant and animal cells drawing each type of cell. Students are required to determine cell size of onion cells by calculation. Students work in groups of four and submit a written lab report. <a href="#">(See Attached Activity)</a>
<b>Assessment</b> <i>Must Include Assignment &amp; Rubric</i>	Report and attached <a href="#">rubric</a>

<b>Skill Objective:</b>	<b>Communication Skills:</b> to include effective written, oral, and visual communication
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<b>Assessment</b> <i>Must Include Assignment &amp; Rubric</i>	Report and attached <a href="#">rubric</a>

<b>Skill Objective:</b>	<b>Empirical and Quantitative Skills:</b> to include applications of scientific and mathematical concepts.
<b>THECB Course Objective</b>	SLO #1)Distinguish between prokaryotic, eukaryotic, plant and animal cells, and identify major cell structures.
<b>Course Student Learning Outcome</b>	SLO #1)Distinguish between prokaryotic, eukaryotic, plant and animal cells, and identify major cell structures.
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<b>Skill Objective:</b>	<b>Teamwork:</b> to include the ability to consider different
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