



**ONLINE**

**BIO101 Contemporary Biological Problems  
(3 credit hours)  
Course Syllabus**

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**Course Description**

An introductory course that stresses the principles of biology and pertinent applications to increase appreciation and to demonstrate that biology is a science relevant to everyday life. The following topics will be covered: cells, genetics, evolution, diversity of life, plant and animal structures and functions, and ecology. There is a lab component to this course.

**Course Learning Outcomes**

By the end of this course, you will be able to:

1. Have an overall understanding of the living world.
2. Have an understanding of biological problems and processes as experienced by all living organisms.
3. Understand the processes and patterns of biological evolution, and the role of evolution in speciation and biodiversity.
4. Will be familiar with different areas of biology, including the chemistry and energetics of life, cell anatomy, cellular reproduction and cell cycle.
5. To understand the basics of heredity and how it affects our wellbeing.
6. Have an understanding of our environment and the ecosystem.
7. To relate the structures of living organisms, and their function.
8. To hypothesize, design, analyze and interpret scientific experiments.
9. To present a technically correct and scientifically sound report.

**Required Textbook(s) and Resources**

Mader, S., & Windelspecht, M. (2020). *Essentials of Biology* (6th ed.). McGraw-Hill Education.

Be sure to also review the weekly **Explore** sections for additional library or web resources. For access to databases, research help, and writing tips, visit the [Tiffin University Library](#).

## Time Commitment

Effective time management is possibly the single most critical element to your academic success. To do well in this online class you should plan your time wisely to maximize your learning through the completion of readings, discussions, and assignments. Because of our accelerated, seven-week term, TU online courses are designed with the expectation that you dedicate a little over **six (6)** hours per credit hour to course activities and preparation **each week**. For example, for successful completion of a three-credit, seven-week online course you should reserve roughly **twenty (20) hours per week**.

To help plan your time and keep on track toward successful course completion, note the distinctive rhythm of assignment due dates:

1. All times assume Eastern Time (GMT-4).
2. Weeks begin at 12:00 a.m. ET on Monday and end at 11:55 p.m. ET on Sunday.
3. Unless otherwise noted, initial assignments or discussion posts are due by **11:55 p.m. ET on Wednesdays**.
4. Additional assignments or follow-up discussion posts are due by **11:55 p.m. ET on Saturdays, and**
5. Major assignments and reflections are typically due by **11:55 p.m. ET on Sundays**.

## Learning Activities

This course is composed of multiple discussion forums utilizing different visualization formats such as PowerPoint, various diagrams, and reflecting on specific scenarios. Discussions are utilized to present newly gained information to peers and promote critical thinking among classmates. Assignments will include written papers, tables comparing and contrasting specific topics such as meiosis and mitosis, chromosomal mutations, and the evolution of plants. Both discussion forums and assignments will have a link to a grading rubric. Lastly, there will be an open book quiz during weeks 2-7 which will assist in recalling and measuring growth in your newly acquired knowledge. The various activities throughout this course will be instrumental to your academic, personal, and professional practice within society.

## Grading

The chart below identifies the individual contributions from each type of activity, per week.

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Total
Discussions	Discussions	Discussions	Discussions	Discussions	Discussions	Discussions	<b>570</b>

Activity 1.1 (0) Activity 1.2 (50)	Activity 2.1 (80)	Activity 3.1 (80)	Activity 4.1 (50)	Activity 5.1 (80)	Activity 6.1 (80) Activity 6.2 (50)	Activity 7.1 (50) Activity 7.2 (50)	
<b>Paper</b> Activity 1.3 (80)		<b>Paper</b> Activity 3.2 (50)	<b>Paper</b> Activity 4.2 (80)	<b>Paper</b> Activity 5.2 (80)			<b>290</b>
	<b>Quiz</b> Activity 2.2 (40)	<b>Quiz</b> Activity 3.3 (20)	<b>Quiz</b> Activity 4.3 (20)	<b>Quiz</b> Activity 5.3 (20)	<b>Quiz</b> Activity 6.3 (20)	<b>Quiz</b> Activity 7.3 (20)	<b>140</b>
<b>130</b>	<b>120</b>	<b>150</b>	<b>150</b>	<b>180</b>	<b>150</b>	<b>120</b>	<b>1000</b>

## Grading Scale

A: 90-100% | B: 80-89% | C: 70-79% | D: 60-69% | F: <60%

## Course Schedule and Weekly Checklist

Topic	Learning Activities (Due by 11:55 p.m. ET on day designated)
Start Here	<input type="checkbox"/> MON: Activity 1.1: Course Anticipation
Week 1: Biology- The Study of Life Intro to The Cell	<input type="checkbox"/> WED: Activity 1.1: Course Anticipation <input type="checkbox"/> WED: Activity 1.2 Discussion: Ecosystem Characteristics <input type="checkbox"/> SAT: Activity 1.2 Discussion: Ecosystem Characteristics <input type="checkbox"/> SUN: Activity 1.3 Paper: Biological Molecules and Investigating Cells
Week 2: Cell Energy	<input type="checkbox"/> WED: Activity 2.1 Discussion: The Role of Energy Within Cells <input type="checkbox"/> SAT: Activity 2.1 Discussion: The Role of Energy Within Cells <input type="checkbox"/> SUN: Activity 2.2 Quiz: Weeks 1 & 2
Week 3: Mitosis & Meiosis Genetics	<input type="checkbox"/> WED: Activity 3.1 Discussion: Are we all related? <input type="checkbox"/> SAT: Activity 3.1 Discussion: Are we all related? <input type="checkbox"/> SUN: Activity 3.2 Paper: Meiosis vs Mitosis Comparison <input type="checkbox"/> SUN: Activity 3.3 Quiz: Week 3

<p>Week 4: Mutations and Genetic Testing Darwin and Evolution</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> WED: Activity 4.1 Discussion: Natural Selection</li> <li><input type="checkbox"/> SAT: Activity 4.1 Discussion: Natural Selection</li> <li><input type="checkbox"/> SUN: Activity 4.2 Paper: Chromosomal Mutations in Humans</li> <li><input type="checkbox"/> SUN: Activity 4.3 Quiz: Week 4</li> </ul>
<p>Week 5: Plant Organization and Reproduction</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> WED: Activity 5.1 Discussion: Plant Organization</li> <li><input type="checkbox"/> SAT: Activity 5.1 Discussion: Plant Organization</li> <li><input type="checkbox"/> SUN: Activity 5.2 Paper: Evolution of Plants</li> <li><input type="checkbox"/> SUN: Activity 5.3 Quiz: Week 5</li> </ul>
<p>Week 6: Evolution of Animals Animal Structure and Function</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> WED: Activity 6.1 Discussion: Create a Cladogram</li> <li><input type="checkbox"/> WED: Activity 6.2 Discussion: Choices 1-4</li> <li><input type="checkbox"/> SAT: Activity 6.1 Discussion: Create a Cladogram</li> <li><input type="checkbox"/> SAT: Activity 6.2 Discussion: Choices 1-4</li> <li><input type="checkbox"/> SUN: Activity 6.3 Quiz: Week 6</li> </ul>
<p>Week 7: Ecology and Populations Communities and Ecosystems Human Impact on the Biosphere</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> WED: Activity 7.1 Discussion: Why is biodiversity so important?</li> <li><input type="checkbox"/> WED: Activity 7.2 Discussion: What if there were 1 trillion more trees?</li> <li><input type="checkbox"/> SAT: Activity 7.1 Discussion: Why is biodiversity so important?</li> <li><input type="checkbox"/> SAT: Activity 7.2 Discussion: What if there were 1 trillion more trees?</li> <li><input type="checkbox"/> SUN: Activity 7.3 Quiz: Week 7</li> </ul>

## Tips for Success

Successful online learning requires a good deal of self-discipline and self-direction. As seekers of the truth, we should be willing to challenge and review one another's academic work in a spirit of respectful comradery and constructiveness. Your course is a place for you to stretch and grow as you benefit from the expertise, knowledge, experience and diverse perspectives of your instructor and peers. Constructive feedback will challenge you to stretch your own thinking, thereby expanding your knowledge, understanding and application.

To get the most out of your learning experience, you should actively engage (participate) in **ALL** course activities. Course elements are arranged chronologically. To complete a week, simply work your way "down the page" through all of the course materials and activities.

**For More Information:**

Be sure to review the [Support, Policies, and Procedures](#) addendum.