U401-101: General Biology

Course Format: Online

Course Author/s: Daphne Pham, Ph.D.

Course credits: 3

Prerequisites: College Algebra or concurrent enrollment; placement into Freshman English or higher.

Course Description: This course focuses on biochemistry, cell biology, genetics, and molecular biology. Explores the nature of living things and current developments in biology. Designed specifically for non-science majors.

Required Course Materials

- Starr, Evers, Star (2021). Biology Today and Tomorrow Without Physiology. Cengage: Boston MA. ISBN-13: 9780357428023 Including access to MindTap Online Homework Platform

Optional Course Materials

- Starr, Evers, Star (2021). Biology Today and Tomorrow Without Physiology. Cengage: Boston MA. ISBN-13: 9780357127551 (physical version of text. An e-text version of the text is included with MindTap.)

Hardware Requirements

- You will need a webcam, speakers, and a microphone.

Course Learning Objectives

- **Communication, Literacy** - reading for understanding and writing for effective communication
  - Learning Outcome: Students will be able to read and understand basic scientific discussions based on biological concepts as they apply to modern life.
- **Reasoned Judgment, Scientific thinking** - understanding and applying the scientific method.
  - Learning Outcome: Students will be able to understand and apply basic concepts in biology.
- **Social and Personal Responsibility, Individual accountability** - understanding what a responsible choice is and that one's present education and life-long learning is a personal responsibility
  - Learning Outcome: Students will identify and analyze contemporary issues relevant to biology including disease and bioethics.

Course Overview

Module #	Module Topic	Evaluated Activities
1	Introduction & Syllabus	There are no graded activities for this module. Please look through the Course Introduction and Course Planning modules, as well as purchase & register for Starr Biology Today and Tomorrow (under Starr Biology module).
2	Invitation to Biology Chap. 1	The graded activities for this module are in **MindTap**: **Learn-It exercises** (*The Scientific Method*, *Lifeforms*, and *Scientific Data*), and **Apply-It homework** as well as **quiz.**

3	Cell Structure Chap. 3	The graded activities for this module are in **MindTap**: **Learn-It exercises** (*Features of a Cell, Prokaryotic & Eukaryotic Cells,* and *The Fluid Mosaic Model*), and **Apply-It homework** as well as **quiz.**
4	DNA Structure & Function Chap. 7	The graded activities for this module are in **MindTap**: **Learn-It exercises** (*Chromosome Structure*, *Complementary DNA Sequences*, and *Semiconservative Model of DNA Replication*), and **Apply-It homework** as well as **quiz.**
5	Gene Expression & Control Chap. 8	The graded activities for this module are in **MindTap**: **Learn-It exercises** (*Codons, Anticodons, and Amino Acids; Transcription;* and *Epigenetics*), and **Apply-It homework** as well as **quiz.**
6	How Cells Reproduce Chap. 9	The graded activities for this module are in **MindTap**: **Learn-It exercises** (*Phases of the Cell Cycle*, *Mitosis and Meiosis*, and *Genetic Variation*), and **Apply-It homework** as well as **quiz.**
7	Patterns of Inheritance Chap. 10	The graded activities for this module are in **MindTap**: **Learn-It exercises** (*Alleles, Monohybrid and Dihybrid Crosses* and *Pedigrees*), and **Apply-It homework** as well as **quiz.**
8	Biotechnology Chap. 11	The graded activities for this module are in **MindTap**: **Learn-It exercises** (*Gene Therapy,* and *DNA cloning*), and **Apply-It homework** as well as **quiz.**
9	Energy & Metabolism Chap. 4	The graded activities for this module are in **MindTap**: **Learn-It exercises** (*Enzymes, Exergonic & Endergonic Reactions* and *The ATP/ADP Cycle*), and **Apply-It homework** as well as **quiz.**
10	Releasing Chemical Energy Chap. 6	The graded activities for this module are in **MindTap**: **Learn-It exercises** (*Aerobic Respiration & Fermentation, Cellular Respiration,* and *Energy Release*), and **Apply-It homework** as well as **quiz.**
11	Photosynthesis Chap. 5	The graded activities for this module are in **MindTap**: **Learn-It exercises** (*Parts of a Chloroplast, Pigments & Photons* and *Photosynthesis*), and **Apply-It homework** as well as **quiz.**
12	Evidence of Evolution Chap. 12	The graded activities for this module are in **MindTap**: **Learn-It exercises** (*Biological Diversity & Change*, *Darwin Fitness*, and *Steps of Natural Selection*), and **Apply-It homework** as well as **quiz.**
13	Process of Evolution Chap. 13	The graded activities for this module are in **MindTap**: **Learn-It exercises** (*Microevolution*, *Sources of Genetic Variation*, and *Speciation*), and **Apply-It homework** as well as **quiz.**
14	Prokaryotes, Protists, and Viruses Chap. 14	The graded activities for this module are in **MindTap**: **Learn-It exercises** (*Viruses*, *Archaea & Bacteria*, and *The First Cell*), and **Apply-It homework** as well as **quiz.**
15	Animal Evolution Chap. 16	The graded activities for this module are in **MindTap**: **Learn-It exercises** (*Symmetry in Animal Body Plans*, *Chordate Embryos*, and *Unique Traits of Mammals*), and **Apply-It homework** as well as **quiz.**

Evaluation Methods

Your final grade will be based on your performance on the following:

1) MindTap weekly activities = 30%
2) MindTap weekly homework = 30%
3) MindTap weekly quizzes = 40%

MindTap Online Weekly Quizzes: **Quizzes on each textbook chapter** covered in this course will be given using the course's textbook website MindTap **(Login site information is given activities for Module 1 or in Starr Biology module, use BIOLOGY 101 link). Please DO A SYSTEM CHECK to make sure that your browser meets the requirements for MindTap. The quizzes for the appropriate chapters are under APPLY IT. The quizzes are open book and open internet exercises, but they will be timed so be prepared when you initiate the quiz.**

MindTap Online Weekly MindTap Learn-It Activities and Homework: Additional **graded activities and homework** are also on MindTap. Full credit for the Learn-It activities and Learn-It homework will be awarded based upon either obtaining a maximum score or obtaining a ~75% score (overall) using the maximum number of attempts. Supplementary non-graded resources are available for your use in MindTap, including pre-assessment learning exercises to identify strengths and challenges. While these are not graded, they can prove useful in your understanding of the course materials.

Canvas Overview & Learning Resources—Further Study: non-graded resources (videos, animations and websites) for specific chapters are available for your use. Again, although they are not graded, they can be useful in your understanding of the course materials.

Quiz Method: Online Without Proctoring
This course requires all students to complete quizzes online in MindTap. Students receive one attempt on each quiz.

Grading Scale
The following grading scale is used to evaluate all course requirements and determine your final grade:

A = 93–100	B = 83–87.9	C = 70–77.9	D = 60–69.9
AB = 88–92.9	BC = 78–82.9		F = Below 60

Pass/Fail Option
Students who enroll in an Independent Learning (IL) course under the pass/fail option will receive a final grade of S in place of a final grade equivalent to an A, AB, B, BC, or C and a final grade of U in place of a final grade equivalent to a D or F.