NSCI 105, Introduction to Biology, Syllabus
(4 credits)

COURSE DESCRIPTION

This course focuses on essential concepts and fundamental principles of modern biology. It begins with the basic chemistry of life, moves to the cell as the basic unit of life along with the fundamentals of DNA and genetics, and ends with an overview of human body systems. The course also compares and contrasts the theory of evolution with creation accounts in the Scriptures. The laboratory component of the course consists of seven virtual labs which simulate the way that scientists conduct experiments and collect and analyze data which eventually lead to scientific discoveries.

REQUIRED TEXTS & RESOURCES

Fowler, S., Roush, R., & Wise, J. (2013). *Concepts of Biology.* OpenStax College. https://openstax.org/details/concepts-biology

Avissar, Y., Choi, J., DeSaix, J., Jurukovski, V., Wise, R., & Rye, C. *Biology.* OpenStax College.
https://openstax.org/details/biology
The texts will be available online for free, as well as downloadable in a .pdf or epub version.

Cushwa, Wally. *Human Biology*. OpenStax College.
https://cnx.org/contents/5ZI71dr1@3.2:KwETоVnw@5/Preface

Website for completing virtual laboratory exercises:
McGraw- Hill Biology Virtual Laboratory Exercises. Retrieved from http://www.mhhe.com/biosci/genbio/virtual_labs_2K8/

NOTE: The Point University Bookstore may offer this textbook (s) in other formats. Information can found at www.pointuniversityshop.com.

COURSE SCHEDULE

Each course begins on a Wednesday with a Getting Started module before moving into the week 1-7 content. The introduce yourself forum is required during the Getting Started module in order to be counted present during this half-week of instruction. The introduce yourself forum is open from the start of the course to the first Sunday. All posts are due by Sunday at 11:59 p.m. Participation is required to be marked present for this time period. Keep in mind that in future weeks, forum due dates may be different.

Unless stated otherwise, graded assignments are due on the last day of the course week (Sunday). http://point.edu/course-schedules/

	Learning Activities	Graded Assignments
		*Unless otherwise stated, all assignments are due by 11:55 p.m on Sunday of the week assigned.
Week 1: **Introductory Chemistry and The Scientific Method**	Unit One: Introduction to Biology and Characteristics of Life Unit Two: Chemistry of Life	Forum #1: Original Post Due on Day 4; Responses Due Sunday Unit 1 Quiz Unit 2 Quiz Lab Report - Independent and Dependent Variables Element Report
Week 2 **Cell Structure and Function**	Unit 3: Cell Structure and Function Unit 4: How Cells Obtain Energy	Forum Two: Original Post Due on Day 4; Responses Due Sunday Unit 3 Quiz Lab Report - Enzyme Controlled Reactions Metabolism Writing Assignment Name That Organelle Assignment
Week 3 Cell Cycle and Heredity	Unit 5: The Life Cycle of Cells Unit 6: Heredity	Forum Three: Original Post Due on Day 4; Responses Due Sunday Unit 5 Quiz Unit 6 Quiz Lab Report - Cell Cycle and Cancer Punnet Square Acitivity
Week 4: Molecular Biology, Evolution and Creation Science	Unit 7: Molecular Biology Unit 8: Evolution and Creation Science	Forum 4: Original Post Due on Day 4; Responses Due Sunday Unit 7 Quiz Evolution v. Intelligent Design Assignment Lab Report - DNA and Genes
Week 5: Skin, Eyes, Ears, Respiration and Heart	Unit 9: Skin, Eyes, Ears, Respiration and Heart	Forum 5: Original Post Due on Day 4; Responses Due Sunday Unit 9 Quiz Annotated Bibliography Assignment Lab Report - Blood Pressure
Week 6: Digestion, Muscles, Bones, Brain and Glands	Unit 10: Digestion, Muscles, Bones, Brain, and Glands	Forum 6: Original Post Due on Day 4; Responses Due Sunday Unit 10 Quiz Lab Report: Muscle Contraction
Week 7: Immune, Urinary, and Reproductive Systems	Unit 11: Immune, Urinary, and Reproductive Systems	Forum Seven: Original Post Due on Day 4; Responses Due Sunday Unit 11 Quiz Lab Report: Nutrition Final Disease Project Uploaded

GRADING POLICIES

Course Evaluation Plan

An assessment instrument (checklist, rubric, quiz, etc.) will accompany each major graded assignment. See the instructions for specific assignment criteria and accompanying grading instruments.

Points Distribution

Graded assignments will be distributed as follows:

Graded Assignments	Points Possible
Discussion Boards (7 x 40 pts)	280
Learning Activities (6 x 25 pts)	150
Quizzes (9 x 30 pts)	270
Annotated Bibliography	80
Final Project	200
Labs (7@ 50 pts each)	350
Syllabus Acknowledgement and Introduction (During Preview Week)	20
Total Points:	1350

Final Grades

The following scale will be used when calculating final grades:

A	90-100%	D	60-69%
B	80-89%	F	0-59%
C	70-79%		

Final grades will be posted according to the Academic Calendar:
http://point.edu/academic-calendar/

COURSE LEARNING GOALS & OBJECTIVES

TIME REQUIREMENTS & COMMITMENTS

This course is 3 credit hours. Regarding time on task, students can expect to spend approximately 16 hours per week for an undergraduate course.

Goal 1: *The student will describe the characteristics of life and understand the cellular processes within living things.*	
	Objective 1.1: *The student will recognize the characteristics of life.*
	Objective 1.2: *The student will explain the steps of the scientific method.*

	Objective 1.3: *The student will understand basic chemistry, including the chemistry of water and its importance in biological function.*
	Objective 1.4: *The student will identify the four types of organic molecules and the importance of each in metabolic function.*
	Objective 1.5: *The student will label the organelles within an animal cell and state the function of each.*
	Objective 1.6: *The student will outline the phases of the cell cycle and state the major differences between mitosis and meiosis.*
	Objective 1.7: *The student will explain the processes of DNA replication and protein synthesis.*
	Objective 1.8: *The student will research the basic components of metabolism in animals and relate health issues to their effect on metabolic processes.*
Goal 2: *The student will identify the major elements of each of the eleven organ systems within the human body and describe the pathology of various diseases within each.*	
	Objective 2.1: *The student will recognize the major structures within the integumentary, cardiovascular, immune, digestive, respiratory, urinary, nervous, muscular, skeletal, endocrine, and reproductive systems and the physiological roles of each.*
	Objective 2.2: *The student will identify the pathology involved in and symptoms of various diseases within each of the body systems.*
Goal 3: *The student will examine Mendelian genetics as well as the tenets of evolutionary theory and compare to the creation account in the Bible.*	
	Objective 3.1: *The student will review Mendel's theories and practice using Punnett squares.*
	Objective 3.2: *The student will examine Darwin's theory of evolution and analyze criticisms of the theory.*
	Objective 3.2: *The student will debate whether evolutionary theory can be compatible with the Biblical account of creation.*

DISABILITY SERVICES

Point University is committed to providing qualified students with disabilities an equal opportunity to access a Point education through the provision of reasonable and appropriate accommodations and support services. Accordingly, Point complies with Title IX (https://point.edu/title-ix) of the Educational Amendments of 1972 and the subsequent reauthorization of that act, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990 and subsequent amendments to that act. For more information about Disability Support Services, see the "Consumer Information" section of the website (http://point.edu/disclosures) and the "Student Services" section of this catalog, or contact the Director of Disability Services and College Section 504 Coordinator, at disability.services@point.edu.

COURSE EXPECTATIONS

Attendance

A student is expected to actively participate in each week of the class in which he or she is enrolled. Active participation each academic week includes submitting classwork in one or more of the following activities within the course during the week they are due: discussion forums, assignments such as (but not limited to) projects, papers, presentations, case studies, quizzes, or exams. Students may be absent up to 25% of the class. After absences exceed 25% of the session or term's total – in either consecutive or cumulative days – the student will be withdrawn from the class roster and assigned a grade on the basis of work completed at the time of withdrawal unless, because of exceptional circumstances, prior arrangements have been made with the professor and the Chief Academic Officer.

Students representing the university, such as student-athletes, remain responsible for submitting work online within the week it is due to be counted present. No student will be disadvantaged while representing the university. However, the responsibility is on the student to notify faculty no later than one week before missing class for any reason, to ensure time for content to be made available to them and for make-up work to be considered and arranged. It is expected that students will limit their absences outside of these required absences, as they will be dropped if they overcut the allowed number of absences.

The full attendance policy is found in the catalog (https://point.edu/catalogs/).

Etiquette & Netiquette

Students are expected to be respectful and well-mannered towards the instructor and their peers, whether in the physical classroom or the online course site. For guidance on meeting this expectation, particularly in the online environment, please see the materials provided during student orientation or reach out to advising.center@point.edu.

Policies

For academic policies governing attendance, late assignments, and student support, please refer to the Academic Catalog directly (https://point.edu/catalogs/).

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