

Rhode Island College
Biology 111
Introductory Biology I
Spring
Course Syllabus

Course Description

Emphasis is on the molecular and cellular nature of living systems. This course is intended for science majors and any student with an interest in science. Lecture and laboratory. (Formerly Biology 101.)

Grading Policy

- A. **Lecture Examinations.** Three hourly examinations will be given. The lowest exam score will be dropped. If for any reason you do not take an exam, then it will be the one exam score that you will drop. Make-up exams will not be given except in the most extenuating of circumstances. The two highest lecture exam scores will count 40% of the final grade while the final exam (comprehensive and cumulative) will count 35% of the final grade.

First Hourly Examination (20%)	Monday, February 20, 2010
Second Hourly Examination (20%)	Wednesday, March 31, 2010
Third Hourly Examination (20%)	Monday, April 28, 2010

- B. **Laboratory.** The evaluation of laboratory work which may include *reports*, *quizzes* and *examinations* will be worth 25% of the final course grade. A laboratory schedule will be given to you at your first laboratory meeting. In the event that your course grade is on the borderline between two grades, your laboratory attendance and performance will determine if you will receive the benefit of the higher grade.

C. **Department and College Policies**

1. It is the policy of the Biology Department that anyone missing three laboratories cannot and will not pass the course. If you know in advance that you will be missing a lab, then see me about attend the other Bio 111 lab. A missed lab can only be made up during the week of the missed scheduled lab.
2. The last day to withdraw from the course without permission is Friday, April 2, 2010. It is a student's responsibility to withdraw from a course.

Mtg. No.	DATE	LECTURE TOPIC	TEXT
January			
01	25 Mon	The Tree of Life Evolution by Natural Selection	Ch. 01 Ch. 24
02	27 Wed	Evolutionary Processes; Speciation	Ch.
25,26			
February			
03	01 Mon	Phylogenies: The History and Tree of Life	Ch. 27

04	03	Wed	Atoms, Molecules, Water	Ch. 2
05	08	Mon	Protein Structure and Function	Ch. 3
06	10	Wed	Nucleic Acids and Catalytic RNA	Ch. 4
07	15	Mon	Carbohydrates	Ch. 5
08	17	Wed	Lipids, Membranes, Primordial Life	Ch. 6

22 Mon *First Hourly Examination*

09	24	Wed	Structure and Function of Cells I	Ch. 07
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DATE No. LECTURE TOPIC TEXT

March

10	01	Mon	Structure and Function of Cells II	Ch. 07, 08
11	03	Wed	Cell-Cell Interactions and the Krebs Cycle	Ch. 09
12	08	Mon	Oxidative Phosphorylation	Ch. 09
13	10	Wed	Photosynthesis	Ch. 10

Spring Recess March 15th – 21st NO CLASSES

14	22	Mon	Photosynthesis II	Ch. 10
15	24	Wed	Mitosis and the Cell Cycle	Ch. 11
16	29	Mon	Meiosis	Ch. 12

31 Wed *Second Hourly Examination*

April

02 Fri *Last Day to Drop a Course Without Permission*

17	05	Mon	Mendelism	Ch. 13
18	07	Wed	DNA is the Hereditary Material	Ch. 14
19	12	Mon	Structure and Function of DNA	Ch. 14
20	14	Wed	The Replication of DNA	Ch. 14
21	19	Mon	How Genes Work	Ch. 15
22	21	Wed	Transcription and Translation	Ch. 16
23	26	Mon	Control of Gene Expression in Bacteria	Ch. 17

28 Wed *Third Hourly Examination*

24	03	Mon	Control of Gene Expression in Eukaryotes	Ch. 18
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May

25	05	Wed	Genetic Engineering and Genomics	Ch. 19, 20
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10 Mon *Final Examinations Begin*

Biology 111 Laboratory

Grading: The laboratory grade will comprise 25% of the course grade. The lab grade will be determined by a combination of lab quizzes, lab reports, a cumulative lab practical and exam at the end of the semester, oral and written participation of the reading assignment (*The Origin of Species*), and the completion of lab exercises, worksheets, graphs and written assignments. Lab quizzes will begin on February 8; there will be a lab quiz on that date as well as most subsequent labs. The last quiz will be April 26. There will be a brief quiz at the beginning of the lab period. Ten quizzes are scheduled; the lowest 2 quiz grades will be dropped. If a student is unable to take a quiz, that quiz will be the grade that is dropped. No makeup quizzes will be given. It is a departmental policy that students missing a significant number of laboratory exercises are subject to failing the course. In order to receive a passing grade in Biology 111, one must pass BOTH the lecture and the laboratory portion of the course.

The laboratory grade will be determined as follows:

8 Quizzes	6% of final grade
Lab reports	7% of final grade
Lab Practical	3% of final grade
Cumulative Written Lab Exam	3% of final grade
Worksheets, Exercises & Graphs	3% of final grade
<i>Origin of Species</i>	3% of final grade

Attendance: Attendance will be taken at each laboratory period. Students missing more than two laboratory periods are subject to failing the course.

Laboratory Materials: A Biology 111 Laboratory manual is available for purchase in the RIC Campus Bookstore (required). A looseleaf binder for notes and handouts is required for lab. A calculator, preferably a statistical or scientific calculator, is recommended for use in the laboratory.

- Academic Integrity** Cheating or plagiarism will not be tolerated. The result will be a failing grade on any quiz or assignment in which there is academic dishonesty. Instructors are required to report any incident(s) of academic dishonesty to the Vice President of Academic Affairs. You will be asked to sign and date a student laboratory contract that describes the appropriate behavior, expectations, and standards for working in the laboratory.
- Personal policies** Please show courtesy and concern for me and your fellow students by turning off and putting away cell phones. There should be no phone calls received or accepted during the lab period as well as no text messaging. If you need to receive or send a call or text message (on an emergency basis), please quietly excuse yourself at an appropriate time and leave the laboratory room. No eating or drinking is permitted in the laboratory.

Statements of Biology Department Policies

On Student Evaluation of Instruction:

The Biology department believes that students are able to provide valuable feedback on some important aspects of teaching performance and that all students should have the opportunity to evaluate their instructors in every course. The departmental "Lecture Instructor Evaluation Form" is available for lecture evaluation and the "Laboratory Instructor Evaluation Form" is available for laboratory evaluation. In the event that class time is not made available for instructor evaluation, individual students may obtain copies of these forms in the Biology Department Office. Completed forms should be returned to the department office in a sealed envelope labeled with the course and section number within two weeks of the last day of the final examination period for that semester.

On Care and Use of Living Organisms:

Whenever living organisms are used to illustrate biological processes in laboratory classrooms, consideration is given to the rationale for their use, including the appropriateness of the species selected and numbers used. Organisms are obtained from approved sources, such as biological supply companies. Their care and use are supervised by qualified faculty and staff who by their example inform students on principles of ethical treatment of animals. After their use, animals are either returned to appropriate care facilities on campus or are disposed of in a humane and environmentally safe manner. In the case of vertebrate animals, college policies comply with the Public Health Service's *Guide for the Care and Use of Laboratory Animals*. The animals are housed in a federally-approved Animal Care Facility. All personnel who work with animals have received appropriate training in procedures of handling. Protocols for all teaching and research activities must be approved by the college's Institutional Animal Care and Use Committee (IACUC), which requires that the instructor/ investigator provide a complete description of procedures used. Documents, including animal care guidelines, college policies, and protocols for teaching and research activities are available in the Biology Department Office. All inquiries or concerns regarding the care and use of living organisms in the Rhode Island College Biology Department should be directed to the department chairperson.

On Repetition of Courses:

Lecture and laboratory experiences are integrated components of biology courses offered at Rhode Island College. Therefore, if a student repeats a course, he/she must repeat both components. Grades previously assigned in either lecture or laboratory will not be carried forward to a new semester.

On Laboratory Attendance:

A fundamental goal of any laboratory science course is to help students gain appreciation for and familiarity with the scientific enterprise. The Rhode Island College Biology Department believes that a proper understanding of the process of science is best approached by participation in laboratory activities. Therefore, it is a departmental policy that the grade earned in laboratory will determine a significant portion of the overall course grade and that any missed or incomplete laboratory exercises will be reflected in this grade. [Students missing more than two scheduled laboratory sessions are subject to failing the course.](#)

On Reasonable Accommodation of Disabilities

The Rhode Island College Biology Department is committed to making reasonable efforts to assist individuals with documented disabilities. If you are seeking reasonable classroom accommodations under the Americans with Disabilities Act and /or Section 504 of the Rehabilitation Act of 1973, you are required to register with the Student Life Office. This office is located in Craig-Lee Hall, Room 127. The phone number is 456-8061. To receive academic accommodations in a biology class, students must first complete proper paperwork with the Student Life Office and then discuss appropriate accommodations with instructors at the beginning of each semester.

Biology 111 Laboratory Syllabus Section 3 Monday 1:00 pm – 4:00 pm

<u>DATE</u>	<u>TOPIC</u>	<u>REFERENCE</u>
January 25	Introduction to the Laboratory; Lab Safety Measurements in Biology: The Metric System & Data Analysis	Handout Exercise 2; Handout
February 1	Library Orientation Solutions, Acids, and Bases: The pH Scale	Exercise 5
February 8	Biologically Important Molecules: Carbohydrates, Proteins, and Lipids (QUIZ 1)	Exercise 6
February 15	The Microscope: Basic Skills of Light Microscopy (QUIZ 2)	Exercise 3; Handout
February 22	The Cell: Structure & Function (QUIZ 3)	Exercise 4
March 1	Spectrophotometry: Identifying Solutes & Determining Their Concentration (QUIZ 4) Graphing Techniques	Exercise 8; Handout
March 8	Diffusion & Osmosis: Passive Movement of Molecules In Biological Systems (QUIZ 5)	Exercise 9
March 15	Spring Break	
March 22	Properties of Enzymes	Handout; Exercise 11
March 29	Properties of Enzymes (QUIZ 6)	Handout; Exercise 11
April 5	Photosynthesis (QUIZ 7) <i>Origin of Species</i> – Chapters 1 & 2 (Variation)	Exercises 13 & 8
April 12	Mitosis & Meiosis; (QUIZ 8)	Exercises 14 & 15

Origin of Species – Chapters 3 & 4 (Natural Selection)
Enzyme Lab report Due

April 19 Mendelian Genetics: Chi Square Analysis (QUIZ 9) Handout
Origin of Species – Chapters 6 & 9 (Difficulties of the Theory)

April 26 Population Genetics (QUIZ 10) Handout; Exercise 18
Origin of Species - Chapters 13 & 14 (Organic Beings, Conclusions)

May 3 Laboratory Practical & Cumulative Written Exam
Mendelian Genetics Lab Report Due

There are two required purchases for the laboratory portion of Biology 111 (available at the RIC bookstore):

- 1) Exercises are found in the laboratory manual: *Biology Laboratory Manual*, 8th edition, Vodopich & Moore, McGraw- Hill, 2008.
- 2) *The Origin of Species*, revised edition, Charles Darwin, introduced & abridged by Philip Appleman, W.W. Norton & Co, 2002.

Some handouts/information sheets will be distributed in the laboratory.