



AMBROSE

**BIO 131 Introduction to Biology I (3)  
Winter 2014**

**Course Description**

This course examines the basic principles of biological systems, including the biology and function of viruses and bacteria.

**Class Schedule**

Meeting Times:

Lecture – Tuesdays and Thursdays 2:30-3:45

Lab – Tuesdays OR Thursdays 4:00-6:30

Meeting Rooms:

Lecture – A2131

Lab – Tuesdays A2151; Thursdays A2145

**Instructor**

Dr. Aaron L. Alford

Office: A2160

Office Hours: M 3:00-4:00, T,Th 12:00-1:00, or by appointment

Phone: (403) 410-2000, ext. 5940

Email: aalford@ambrose.edu

**Textbook (required)**

Reece, J.B., Urry, L.A., Cain, M.L., Wasserman, S.A., Minorsky, P.V., and R.B. Jackson.  
2011. Campbell Biology, 9th edition. Benjamin Cummings, Toronto.

**Attendance**

Regular attendance will be essential for success on all exams and assignments. No points will be subtracted from the grade for non-attendance. However, some assignments cannot be made up if missed.

## Course Outline

- I. Fundamentals of Biology
  - A. The Scientific Method/Biodiversity
  - B. Evolution and Ecology
  - C. Biochemistry/Organic Molecules
  - D. Cell Structure and Function
  
- II. Reactions of Life
  - A. Autotrophs and Heterotrophs
  - B. Photosynthesis
  - C. Cellular Respiration
  - D. Cell Cycle and Communication
  
- III. Genetics
  - A. Reproduction and Heredity
  - B. DNA, RNA, and Protein
  - C. Genes Expression and Inheritance
  - D. Viruses and Genome Evolution

## Expected Learning Outcomes

This is an introductory course in biology, covering such aspects of cell biology as respiration and fermentation, photosynthesis, DNA replication, protein synthesis, and gene expression.

## Learning Objectives

1. Students will gain a greater understanding of fundamental biological principles
2. Students will be able to discuss the evolutionary history, biological diversity and modern relationships between prokaryotes and eukaryotes
3. Students will learn laboratory techniques essential to research in biology-related fields
4. Students will collaborate with peers to design and carry out a research project and be able to present this in written and oral formats

## Course Requirements

### Assignments

All exams and assignments are announced and/or scheduled in advance, and will occur as scheduled, unless otherwise noted. All assignments will be due at the designated time; late work **CANNOT** be graded without a legitimate, documented excuse.

### *Lecture*

1. Written exams are objective, utilizing a variety of formats including multiple-choice, matching, true/false, fill in the blank, short-answer, and long-answer questions.
2. In-class activities will include case studies, review quizzes, and informal discussions. These will be based on recent lecture material and are designed to help students review concepts and discuss their implications.
3. The final exam will have a structure similar to the lecture exams, with a combination of question formats. Approximately 75% of the final exam will cover new material, whereas approximately 25% of the exam will consist of comprehensive material. Further details regarding this comprehensive material will be forthcoming.

Please note: Students may request revised final exams if they have three exams in one 24-hour period or two exams at the same time. Final exam schedule revision request forms are available at the Registrar's Office and must be handed in by Monday, October 28, 2013 (fall semester) or Monday, March 3, 2014 (winter semester). If you do not have your request in by this date, all exams within a 24-hour period will have to be written as scheduled. If you have two exams at the same time, you will be given four hours to write both exams. Graded final examinations will be available for supervised review at the request of the student. Please contact your instructor.

### *Lab (Begins 14 OR 16 January)*

1. Lab Reports are designed to review important concepts, summarize pertinent results, and demonstrate comprehension of material covered during the lab session. Lab reports will always be collected at the *beginning* of the class in which they are to be submitted, unless otherwise noted by the instructor.
2. During some weeks, lab sessions will consist of a tutorial that will involve lecture, group work, and discussion. Activities from and participation in tutorials also will count toward the course grade.

Please note: Attendance at the laboratory sessions is compulsory. Any lab missed without a valid excuse cannot be made up. A valid excuse (such as illness, death in the family etc.) must be validated by written proof from a doctor or counselor.

### Point Distribution

<b>Activity</b>	<b>Percent of Grade</b>
Lecture Exams (2)	40%
Lecture Activities	10%
Final Exam (1)	20%
Lab Reports and Activities	30%

### Grading Scale

A+	97-100%	C+	67-69%
A	93-96% Excellent	C	63-66% Satisfactory
A-	89-93%	C-	60-62%
B+	83-89%	D+	54-59%
B	77-82% Good	D	50-53% Minimal Pass
B-	70-76%	F	Below 50% Fail

Please note: An appeal for change of grade on any course work must be made to the course instructor within one week of receiving notification of the grade. An appeal for change of final grade must be submitted to the Office of the Registrar in writing within 30 days of receiving notification of the final grade, providing the basis for appeal. A review fee of \$50.00 must accompany the appeal to review final grades. If the appeal is sustained, the fee will be refunded.

### **Important Notes**

#### Late Policy

Over the course of term, we will be engaged in a number of projects that require both faculty-student and student-student collaboration. Often, these collaborations will culminate in assignments that will be turned for a grade. Thus, it will be vital that all parties take responsibility for their part of these activities. As your instructor, I will provide clear objectives, adequate time, and necessary assistance for completing these assignments. As students, you will be responsible for working together and managing your time such that you are prepared for due dates. This will not only help improve your grade, but also will make for a more pleasant interaction with me and your fellow students. With that said, I realize that certain circumstances prevent students from turning in individual assignments on time. I have developed the following late policy to address these situations. This late policy will apply to all lecture and laboratory assignments. However, the late policy will not cover lecture exams, the final exam, or the lab project report and presentation, all of which must be turned in on time.

Condition	Markdown
Assignment was turned in on the same calendar day* after the time it was due, or 1 calendar day after it is due	10%
Assignment is turned in 2 calendar days after it is due	20%
Assignment is turned in 3 calendar days after it is due	30%
Assignment is turned in 4 calendar days after it is due	40%
Assignment is turned in 5 calendar days after it is due	50%
Assignment is turned in >5 calendar days after it is due	100%

\*Calendar days include both weekdays and weekends

### Electronic Etiquette

Students are expected to treat their instructor, any guests, and fellow students with respect. It is disruptive to the learning goals of a course or seminar and disrespectful to fellow students and the instructor to engage in electronically-enabled activities unrelated to the class during a class session. Please **TURN OFF** all cell phones and other electronic devices during class. Laptops should be used for class-related purposes only. Please **DO NOT** use iPods, MP3 players, or headphones. Do not text, read or send personal emails, go on Facebook or other social networks, search the internet, or play computer games during class. The professor has the right to disallow the student to use a laptop in future lectures and/or to ask a student to withdraw from the session if s/he does not comply with this policy. Repeat offenders will be directed to the Dean. If you are expecting communication due to an emergency, please speak with the professor before the class begins.

### Academic Policies

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Student Handbook and Academic Calendar. Personal information, that is information about an individual that may be used to identify that individual, may be collected as a requirement as part of taking this class. Any information collected will only be used and disclosed for the purpose for which the collection was intended. For further information contact the Privacy Compliance Officer at [privacy@ambrose.edu](mailto:privacy@ambrose.edu).

### Extensions

Although extensions to coursework in the semester are at the discretion of the instructor, students may not turn in coursework for evaluation after the last day of the scheduled final examination period unless they have received permission for a "Course Extension" from the Registrar's Office. Requests for course extensions or alternative examination time must be submitted to the Registrar's Office by the appropriate deadline (as listed in the Academic Calendar <http://www.ambrose.edu/publications/academiccalendar>). Course extensions are only granted for serious issues that arise "due to circumstances beyond the student's control."

### Academic Integrity

We are committed to fostering personal integrity and will not overlook breaches of integrity such as plagiarism and cheating. Academic dishonesty is taken seriously at Ambrose University College as it undermines our academic standards and affects the integrity of each member of our learning community. Any attempt to obtain credit for academic work through fraudulent, deceptive, or dishonest means is academic dishonesty. Plagiarism involves presenting someone else's ideas, words, or work as one's own. Plagiarism is fraud and theft, but plagiarism can also occur by accident when a student fails or forgets to give credit to another person's ideas or words. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from the university college. Students are expected to be familiar with the policies in the current Academic Calendar and the Student Handbook that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean and become part of the student's permanent record.

Students are strongly advised to retain this syllabus for their records!

### Lecture Schedule (tentative)

Month	Week	Date	Lecture Topic	Text Reading
Jan	1	8	Classes Begin	
		9	Introduction	
		10		
	2	13		
		14	Intro to Science and Biology	Ch 1
		15		
		16	Chemical Basis of Life	Ch 3; Ch 5
		17		
	3	20		
		21	Cellular Basis of Life/Cell Structure	Ch 6; Ch 7
		22		
		23	Cellular Basis of Life/Cell Structure	Ch 6; Ch 7
		24		
	4	27		
		28	Intro to Metabolism	Ch 8
		29		
		30	Program Day (no classes)	
		31		
Feb	5	3		
		4	Catchup/Exam Review	
		5		
		6	<b>Exam 1</b>	
		7		
	6	10		
		11	Photosynthesis	Ch 10
		12		
		13	Photosynthesis	Ch 10
		14		
	7	17	Family Day (no classes)	
		18	Reading Week (no classes)	
		19	Reading Week (no classes)	
		20	Reading Week (no classes)	
		21	Reading Week (no classes)	
	8	24		
		25	Cellular Respiration	Ch 9
		26		

		27	Cellular Respiration	Ch 9
		28		
Mar	9	3		
		4	Cell Communication	Ch 11
		5		
		6	Cell Cycles/Life Cycles	Ch 12; Ch 13
		7		
	10	10		
		11	Catchup/Exam Review	
		12		
		13	<b>Exam 2</b>	
		14		
	11	17		
		18	Genes and Inheritance	Ch 14
		19		
		20	Genes and Inheritance	Ch 15
		21		
	12	24		
		25	Genes and Inheritance	Ch 16
		26		
		27	Transcription and Translation	Ch 17
		28		
	13	31		
Apr		1	Protein Synthesis	Ch 18
		2		
		3	Biotechnology	Ch 20
		4		
	14	7		
		8	Viruses and Genome Evolution	Ch 19; Ch 21
		9		
		10	Catchup/Exam Review/Last Day of Classes	
		11		
	15	14		
		15	<b>Final Exam, 1:00-4:00pm, Airhart Auditorium</b>	
		16		
		17		
		18		



**Lab Schedule (tentative)**

Month	Week	Date	Lab Topic
	1		
Jan		8	
		9	No labs
		10	
	2	13	
		14	Introduction to Science (tutorial)
		15	
		16	Introduction to Science (tutorial)
		17	
	3	20	
		21	Microscopy
		22	
		23	Microscopy
		24	
	4	27	
		28	Scientific Writing (tutorial)
		29	
		30	Scientific Writing (tutorial)
		31	
Feb	5	3	
		4	Membranes and Particle Movement
		5	
		6	Membranes and Particle Movement
		7	
	6	10	
		11	Enzyme Activity
		12	
		13	Enzyme Activity
		14	
	7	17	
		18	Photosynthesis
		19	
		20	Photosynthesis
		21	
	8	24	
		25	Fermentation

		26		
		27	Fermentation	
		28		
Mar		3		
	9	4	Cellular Respiration	
		5		
		6	Cellular Respiration	
		7		
	10	10		
		11	Genetics I	
		12		
		13	Genetics I	
		14		
	11	17		
		18	Genetics II	
		19		
		20	Genetics II	
		21		
	12	24		
		25	DNA Replication (tutorial)	
		26		
		27	DNA Replication (tutorial)	
		28		
	13	31		
Apr			1	Bacteriology
			2	
			3	Bacteriology
		4		
	14	7		
			8	No labs
			9	
			10	No labs
		11		