AMBROSE

BIO 131: INTRODUCTION TO BIOLOGY I (3)
WINTER 2013

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 1:00-2:15
Lab – Tuesdays 4:00-6:30

Meeting Rooms:

Lecture – A2210
Lab – A2145

Instructor

Dr. Aaron L. Alford
Office: A2160
Office Hours: Tuesdays and Thursdays, 9:00-11:00 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. Unit 1 – Fundamentals of Biology
   a. The Scientific Method/Biodiversity
   b. Evolution and Ecology
   c. Biochemistry/Organic Molecules
   d. Cell Structure and Function

II. Unit 2 – Reactions of Life
   a. Autotrophs and Heterotrophs
   b. Photosynthesis
   c. Cellular Respiration
   d. Cell Cycle and Communication

III. Unit 3 – Genetics
   a. Reproduction and Heredity
   b. DNA, RNA, and Protein
   c. Genes Expression and Inheritance
   d. Mechanisms of 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 that of the other exams (see above). Although the bulk of the final exam will cover new material, approximately 10% of the exam will be comprehensive in nature.

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 29, 2012 (Fall semester) or Monday, **March 4, 2013** (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 15 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

Activity	Points	Percent of Grade
Lecture Exams (including Final)	300	60%
Lab Reports and Activities	150	30%
In-class Assignments	50	10%
Total	500	100%

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

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.

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	Textbook Chapter(s)
Jan		7		
		8		
	1	9	Classes Begin	
		10	Intro/Scientific Method/Themes of Life	1
		11		
		14		
		15	Themes of Life	1
	2	16		
		17	Chemical Basis of Life	3, 5
		18		
		21		
		22	Chemical Basis of Life	3, 5
	3	23		
		24	Cellular Basis of Life/Cell Structure	6, 7
		25		
		28		
		29	Cellular Basis of Life/Cell Structure	6, 7
	4	30		
		31	Community Day (no classes)	
Feb		1		
		4		
		5	Catchup/Exam Review	
	5	6		
		7	**Exam 1**	
		8		
		11		
		12	Intro to Metabolism	8
	6	13		
		14	Intro to Metabolism	8
		15		

	7	18	Family Day (no classes)	
		19	Mid-semester break (no classes)	
		20	Mid-semester break (no classes)	
		21	Mid-semester break (no classes)	
		22	Mid-semester break (no classes)	
	8	25		
		26	Photosynthesis	10
		27	Global Impact Community Day (no day classes)	
		28	Photosynthesis	10
Mar		1		
	9	4		
		5	Cellular Respiration	9
		6		
		7	Cellular Respiration	9
		8		
	10	11		
		12	Catchup/Exam Review	
		13		
		14	**Exam 2**	
		15		
	11	18		
		19	Cell Cycles/Life Cycles	12, 13
		20		
		21	Genes and Inheritance	14, 15, 16
		22		
	12	25		
		26	Genes and Inheritance	14, 15, 16
		27		
		28	Transcription and Translation	17
		29	Good Friday (no classes)	
Apr	13	1		
		2	Protein Synthesis	18
		3		

		4	Viruses and Genome Evolution	19, 21
		5		
		8		
		9	Catchup/Exam Review	
	14	10		
		11	**Final Exam: 9:00am, Room A2133**	
		12		

Lab Schedule (tentative)

Month	Week	Date	Lab Topic
Jan		7	
		8	
	1	9	Classes Begin
		10	
		11	
		14	
		15	Intro to Scientific Investigation (tutorial)
	2	16	
		17	
		18	
		21	
		22	Microscopy
	3	23	
		24	
		25	
		28	
		29	Scientific Writing (tutorial)
	4	30	
		31	Community Day (no classes)
Feb		1	
		4	
	5	5	Membranes and Particle Movement (lab report)
		6	

		7	
		8	
		11	
		12	Enzyme Activity (lab report)
	6	13	
		14	
		15	
		18	Family Day (no classes)
		19	Mid-semester break (no classes)
	7	20	Mid-semester break (no classes)
		21	Mid-semester break (no classes)
		22	Mid-semester break (no classes)
		25	
		26	Photosynthesis
	8	27	Global Impact Community Day (no day classes)
		28	
Mar		1	
		4	
		5	Fermentation (lab report)
	9	6	
		7	
		8	
		11	
		12	Cellular Respiration and Cell Cycle (tutorial)
	10	13	
		14	
		15	
		18	
		19	Genetics I
	11	20	
		21	
		22	

	12	25	
		26	Genetics II (lab report)
		27	
		28	
		29	Good Friday (no classes)
Apr	13	1	
		2	DNA Replication (tutorial)
		3	
		4	
		5	
	14	8	
		9	Bacteriology
		10	
		11	
		12	