

**Principles of Biology: Cells  
BIO 204 – Sections 05 & 06  
Spring Semester, 2008  
Dobo Hall, Room 103 – MWF 08:00 – 08:50**

*Instructor:* Dr. Amanda Southwood  
Office hours – M/T 09:00 – 10:30 (or by appointment)  
Dobo Hall Room 114  
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*Course website:* <http://people.uncw.edu/southwooda/BIO204.htm>

*Text:* Campbell, N.A. and Reece, J.B. 2005. Biology, 7<sup>th</sup> Edition  
Benjamin Cummings Publishing, San Francisco, CA.

*Lab Manual:* Shafer, T.H. 2003. Laboratory Manual: Principles of Biology. Pearson  
Custom Publishing, Boston, MA.

*Course description:* Biology 204 is an introductory course designed primarily, but not exclusively, for students majoring in the biological sciences. This course will provide a broad overview of some of the fundamental concepts in the study of life, with an emphasis on molecular and cellular processes. The information that you learn in BIO 204 will lay the foundation for courses that focus on life at higher levels of biological organization (i.e. organisms and ecosystems). Students interested in disciplines such as physiology, ecology, and medicine will find that a basic understanding of the unifying principles of life on the molecular and cellular level will be essential for success in these fields.

The course will be divided into several units:

- 1) Basic principles of biology and chemistry
- 2) Biological molecules
- 3) Cell membranes and communication
- 4) Energy and metabolism
- 5) Mitosis and meiosis
- 6) Genetic information and variation
- 7) Gene expression

*Course evaluation:* Exams (total of 420 points) – During the course of the semester, there will be 4 non-comprehensive multiple-choice exams scheduled. Each exam is worth 90 points of your final grade. There will also be a comprehensive final exam worth 60 points that covers vocabulary for all chapters. Please see the lecture outline for details re. dates for each exam. Note that the fourth non-comprehensive exam will be held at the same time as the comprehensive vocabulary final exam. The combined score for all exams will be worth 70% of your final grade.

Quizzes (total of 30 points) - There will be unannounced in-class quizzes throughout the course of the semester. Quizzes will contain true-or-false or multiple-choice questions that cover lecture material. The combined score for all quizzes will be worth 5% of your final grade.

Laboratory (total of 150 points) – The laboratory component of this course counts for 150 points of your final grade (i.e. 25% of the final grade). Doing well in lab is a good way to boost your grade for BIO 204! Laboratory instructors will provide details re. lab evaluation. Attendance in laboratory is mandatory.

**NOTE:** I may include extra credit questions on exams or have extra credit activities in class, but there will be NO other options for extra credit in this course. Don't bother to ask.

*Final letter grade:* Your final grade for the course will be based on your total accumulated points out of a possible 600 points. The grading scale may be adjusted slightly if deemed necessary by the instructor.

A	90 – 100%	540 – 600 points
B	80 – 89%	480 – 539 points
C	70 – 79%	420 – 479 points
D	60 – 69%	360 – 419 points
F	≤ 59%	≤ 359 points

*Make-up policy:* If you must miss an exam due to an unavoidable conflict, such as serious illness or a family emergency, you must contact me and provide me with written/verifiable documentation of the conflict **BEFORE** the exam. **Make-up exams will not be offered.** If you miss an exam and have a valid excuse for doing so then the proportion of your final grade that other exams are worth will be adjusted to compensate for the missed exam (i.e. the other exams will be worth more to make up the difference). If you fail to provide me with a valid excuse for missing an exam, you will receive a grade of 0 for the missed exam with no exceptions. Some examples of excuses that are not valid are "I overslept!" or "I forgot that the exam was today!" or "I thought we could drop our lowest exam score!".

Some sections of BIO 204 permit you to drop your lowest exam score. I DO NOT DO THIS!!! Every exam counts towards your final grade!

You will receive a grade of 0 for any missed quizzes with no exceptions. Make-up quizzes will not be offered.

*A note on academic honesty...*

Please refer to the section entitled Academic Honor Code outlined in the Student Handbook and Code of Student Life (p. 6-10) to familiarize yourself with UNCW policy on plagiarism and cheating (<http://www.uncw.edu/stuaff/doso/documents/Code.Of.Student.Life.pdf>). I expect all students to read this information, to abide by it, and to be aware that no form of academic dishonesty will be tolerated in this section of BIO 204.

*Students with disabilities:*

If you are a student with a diagnosed disability and require special accommodations to attend BIO 204, please contact the Office of Disability Services in Westside Hall (x3746) to obtain an accommodation letter. Bring a copy of the accommodation letter to me and we will discuss the appropriate accommodations based on the recommendations of Disability Services.

*Helpful hints:*

Many students consider BIO204 a difficult course. If you would like to do well in this class, I suggest the following:

- 1) Attend class and take good notes (yes, I know that 08:00 is early...)
- 2) Use the study guides and Powerpoint presentations provided on the course website.
- 3) Take a look at the CD provided with the textbook – it has diagrams and short movies that may help clarify difficult concepts and sample questions to help you prepare for exams.
- 4) Read chapters before class and review notes soon after class.
- 5) Do not wait until the day before an exam to start studying for that exam! We cover a LOT of information in this course, and the best way to prepare for exams is to set aside time each week to review the class notes and answer study guide questions.

*Lecture outline*

	dates	reading assignment	topics	
1) Basic principles of biology	W 1/9		course intro, major themes in biology	
	F 1/11	Ch. 1	biological organization, intro to cells	
	M 1/14	Ch. 6	cell structure	
	W 1/16	Ch. 6	cell structure	
	F 1/18	Ch. 2	chemical bonds, chemical reactions	
	M 1/21	***MLK Holiday – no class***		
	W 1/23	***Dr. Southwood out of town – class cancelled***		
	F 1/25	Ch. 2	chemical bonds, chemical reactions	
	M 1/28	Ch. 3	polarity, properties of water	
	W 1/30	Ch. 3	pH, <i>EXAM REVIEW</i>	
	F 2/1	<b>Mid-term Exam #1 (Ch. 1, 2, 3, 6)</b>		
	2) Biological molecules	M 2/4	Ch. 4	carbon, functional groups
		W 2/6	Ch. 5	macromolecules, carbohydrates
F 2/8		Ch. 5	Lipids, proteins	
3) Cell membranes	M 2/11	Ch. 5	nucleic acids	
	W 2/13	Ch. 7	Membrane structure	
	F 2/15	Ch. 7	Membrane function - transport	
	M 2/18	Ch. 11	Membrane function - communication	
	W 2/20	Ch. 11	membrane function - communication	
	F 2/22	<i>Catch up and EXAM REVIEW</i>		
	M 2/25	<b>Mid-term Exam #2 (Ch. 4, 5, 7, 11)</b>		
4) Energy and metabolism	W 2/27	***Dr. Southwood out of town – class cancelled***		
	F 2/29	Ch. 8	concepts of energy transfer	
	M 3/3 – F 3/7	***Spring Break – no class***		
	M 3/10	Ch. 8	enzymes	
	W 3/12	Ch. 9	redox reactions	
	F 3/14	Ch. 9	cellular respiration	
	M 3/17	Ch. 9	cellular respiration	
	W 3/19	Ch. 10	photosynthesis	
	F 3/21	***State holiday – no class***		
	5) Mitosis and meiosis	M 3/24	Ch. 12	mitosis and cell division
W 3/26		Ch. 13	sexual life cycles, meiosis	
F 3/28		<i>Catch up and EXAM REVIEW</i>		
M 3/31		<b>Mid-term Exam #3 (Ch. 8, 9, 10, 12, 13)</b>		
6) Genetics	W 4/2	Ch. 14	Mendelian genetics	
	F 4/4	Ch. 14	inheritance patterns	
	M 4/7	Ch. 14	inheritance patterns	
	W 4/9	Ch. 15	chromosomes	
	F 4/11	Ch. 16	DNA	
	M 4/14	Ch. 16	DNA	
7) Gene expression	W 4/16	Ch. 17	transcription	
	F 4/18	Ch. 17	translation	
	M 4/21	Ch. 17	mutation	
	W 4/23	Ch. 19	gene regulation	
	F 4/25	Ch. 19	genetics and disease	
	M 4/28	<i>Catch up and EXAM REVIEW</i>		
	W 4/30	<b>Mid-term Exam #4 (Ch. 14, 15, 16, 17, 19)</b>		
	08:00 – 11:00	<b>VOCABULARY EXAM (Chapters 1-19)</b>		