

Biology 105
Biological Concepts: Unity
Section A09C-HS106
Spring 2011

Dr. Jennifer M. Zaspel
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Office hours

MW 10:20-12:20. I am happy to make appointments outside of my normal office hours. Please contact me by phone or e-mail.

Course Description

Biology 105 is the introductory course for all Biology courses on this campus, serving as a general education course for many and the first step towards the nursing program for others. It is assumed you are entering this course with no real background in Biology. The main focus of the course is to examine the characteristics shared by all living organisms. This boils down to the bulk of the course being an introductory cell biology course. We begin by studying basic chemistry, then move on to biological molecules and how they interact, then onto cells and cell structure, how cells make and use energy, how they reproduce, and finally how cells and organisms evolve. Throughout the course I will be tying the material into real life examples about how Biology relates to your everyday life (and it really, really does). I hope you leave the course with a better understanding of basic biology that enables you to make informed decisions about your life, and current political issues such as genetically modified organisms and stem cell research among others.

Statement on Liberal Education

As part of your education at UW Oshkosh, you are asked to take a number of courses that are lumped under the term "General Education". What we want you to gain from these courses is what is commonly called a "Liberal Arts" education. Liberal Arts is defined in a number of ways, but I feel the best definition is "a set of skills and knowledge that make you a well-rounded individual capable of becoming a competent citizen of the world." Don't treat gen ed courses, such as this one, as merely things to be taken to "get them out of the way." We as an institution and I as an instructor feel that liberal education is very important and we are constantly working to give you the skills and knowledge we know you need...hence gen ed courses! For instance, in Biology 105, you will not only learn about basic Biology and Chemistry, but you will work on your critical thinking skills (via learning and application of the scientific method) your written communication skills (via lab reports), and your knowledge of the physical and natural world. Critical thinking and writing are skills you need no matter what career you choose.

Lecture information

Lecture Schedule: 9:10-10:10 a.m. MWF in Halsey 106.

Lecture Text: Campbell et al.: *Biology: Concepts and Connections*, Sixth Edition, Pearson Cummings Custom Publishing, San Francisco, CA.

Lecture Format: Lectures will be presented via Powerpoint. I will frequently refer to the figures, so you should bring your text to class and make note of any figures from the text that I specifically reference.

Lecture exams: We will have four lecture exams on the scheduled dates (please see the lecture/lab schedule). Each exam will be worth 100 points, and consist of 50 multiple-choice questions (each question is worth 2 pts). I write all exam questions based on the material I present in lecture.

Make-up exam: If you miss a lecture exam, I will offer a make-up exam during the last week of the semester. The exam will be comprehensive in nature and you will have to take it at the Testing Center in Polk. Your grade on the make-up exam will replace the zero you received for the missed exam. You must get permission from me in advance to take the make-up exam.

Lecture Quizzes: There will be a total of eight lecture quizzes over the course of the semester. They will be worth 10 points each and be variable in format...short answer, fill in, or multiple choice.

Lecture Attendance Policy: I will not take attendance. However given that each lecture represents ~10% of the subsequent exam, skipping lecture is the most foolish and grade-damaging thing a college student can do. I will not repeat lectures and I do not publish my lecture notes. If you want to know what will be on the next exam, you have to come to class every day. If you skip class you will have to get notes from a fellow student. Any student with a valid excused absence will be allowed to make up any missed material, with the exception of in-class quizzes. An excused absence does not excuse a student from the responsibility of knowing the material covered during the day class was missed.

Students with disabilities are asked to contact their lecture and lab instructors in the first week of class so that all possible accommodations may be arranged.

Laboratory Information

Laboratory Instructor(s): Each laboratory instructor will provide their contact information and office hours in their lab syllabus, which they will post on the D2L site for your lab section. Your lab instructors will be: B01L (Monday 8-10 a.m.): Andrew Bosma. B02L (Monday 3-5 pm) Bea Holton. B03L (Tuesday 11:10-1:10): Bea Holton. B04L (Wednesday 8-10 a.m.) Andrew Bosma. B05L (Wednesday 3-5 p.m.) Robert Pillsbury. B06L (Thursday 11:10-1:10 p.m.) Bea Holton. B07L (Thursday 1:20-3:20 p.m.) Jennifer Zaspel.

Lab instructor contact information is as follows:

Bosma: bosmaa@uwosh.edu

Holton: holton@uwosh.edu

Pillsbury: pillsbur@uwosh.edu

Zaspel: zaspel@uwosh.edu

Laboratory meeting times: Labs will meet each week at the assigned times in Halsey 211.

Laboratory Text: **BIO 105: Concepts in Biology: Unity: *Laboratory Manual*. Bring it** (along with lecture text) to every laboratory meeting.

Study Aids: Each student will need to develop a personal study system that works for him/her. Here are some suggested tools.

MANAGE YOUR TIME: Make up a weekly schedule and stick to it.

ATTEND CLASS: Do not skip, pay attention, take good notes.

USE THE WEB RESOURCES THAT COME WITH THE TEXTBOOK: There are a lot of useful study tools on the web.

DEVELOP A STUDY ROUTINE: place, time, study partner, study group, study supplies, reward system

ATTEND S.I. SESSIONS: S.I. leader to be announced.

GO TO THE READING STUDY CENTER: 201 Nursing/Education, 424-1031, www.uwosh.edu/programs/readingstudycenter

GO TO THE ACADEMIC RESOURCE CENTER: 317 Dempsey, 424-2290, www.uwosh.edu/car/

Grading: There is a total of 700 points

Lecture grading: There will be four lecture exams, each worth 100 points, for a total of 400 points.

Laboratory grading: There will be two exams worth 50 points each. An additional 200 points will be assigned to various lab reports, quizzes and hand-ins to be announced in laboratory by your lab instructor (see your laboratory syllabus). Therefore, there are 300 total points for the laboratory portion of the course.

Course grade: The 400 points from the lecture exams will constitute 57% of the total course grade, while the 300 points total from the laboratory (exams plus in-lab assignments) will constitute the other 43% of the total course grade. I do not curve. I do not normalize. End-of-the-semester letter grade assignments will be made using the grading scale given below.

Grading Scale:

<u>Total points</u>	<u>Percent</u>	<u>Letter grade</u>
700-630	100-90.0	A
629-616	89.9-88.0	A-
615-602	87.9-86.0	B ⁺
601-560	85.9-80.0	B
559-546	79.9-78.0	B-
545-532	77.9-76.0	C ⁺
531-490	75.9-70.0	C
489-476	69.9-68.0	C-
475-462	67.9-66.0	D ⁺
461-434	65.9-62.0	D
433-420	61.9-60.0	D-
<419	<59.9	F

Statement on Use of Electronic Devices in Class

In order to protect and foster the proper learning environment, the use of cell phones is not allowed in lecture or lab. That includes sending or receiving voice or text messages, or even checking to see if new calls/messages have come in. Please turn your phone off at the start of class to prevent interruptions from incoming calls. Wireless laptop computers are allowed, but only if their use is limited to activities directly related to course performance such as taking notes or looking up content on the web. Use of portable music devices is not allowed in lecture or lab at any time. Use of any electronic device during an exam will result in an automatic zero for that exam.

E-mail Policy:

Part of being a student and on the way to being a professional is learning how to communicate like a professional. Along those lines, any e-mail sent to me must be addressed to Dr. Zaspel or Dr. Z, and must be written in complete sentences, use proper grammar, and not contain any text speak. I reserve the right to not respond to e-mails that do not meet these criteria. If I do not respond, go back and check the message you sent for violations.

Statement on Academic Dishonesty

Students are referred to the University of Wisconsin Oshkosh Student Discipline Code as detailed in Specific provisions of Chapter 14 of the State of Wisconsin Administrative Code. Any student(s) found in violation of any aspect of the above Code (as defined in sections UWS 14.02 and 14.03) will receive a sanction as detailed in UWS 14.05 and 14.06. Sanctions range from an oral reprimand to expulsion from the University of Wisconsin-Oshkosh. Students have the right to request a hearing and to appeal sanctions (as defined in UWS 14.08-14.10). Talking during an exam or looking at another student's exam will constitute grounds for disciplinary action.

Lecture and Laboratory Syllabus--Biology 105—Spring 2011

Date	Lecture number and topic	Textbook section
Jan 31	1 Syllabus and other business. The Scope of Biology	1.1-1.6, 1.7-1.8 *
Feb 2	2 Chemistry: Elements, Atoms and Molecules	2.1-2.8
Feb 4	3 Chemistry: Properties of H ₂ O and Chemical Reactions Laboratory Exercise 1	2.9-2.18
Feb 7	4 Molecules: Organic Compounds, Carbohydrates and Lipids	3.1-3.10
Feb 9	5 Molecules: Proteins and Nucleic Acids	3.11-3.16
Feb 11	6 Cells and Organelles I Laboratory Exercise	4.1 4.2-4.13
Feb 14	7 Cells and Organelles II	4.14-4.23
Feb 16	8 The Working Cell: Membrane Structure & Function	5.1-5.5
Feb 18	-- Lecture Exam I (on lectures 1-7, Chapters 1-4) Laboratory Exercise 3	***
Feb 21	9 The Working Cell: Transport Across Membranes	5.6-5.9
Feb 23	1 The Working Cell: Energy and the Cell	5.10-5.13
Feb 25	1 The Working Cell: How Enzymes Function Laboratory Exercise 4	5.14-5.16
Feb 28	1 Respiration: Introduction and Glycolysis	6.1-6.7
Mar 2	1 Respiration: Krebs Cycle and Chemiosmosis	6.8-6.12
Mar 4	1 Respiration: Fermentation and Interconnections Laboratory Exercise 5	6.13-6.16
Mar 7	1 Photosynthesis: Overview	7.1-7.6
Mar 9	1 Photosynthesis: Light Reactions and Calvin Cycle	7.7-7.11 7-12
Mar 11	1 Photosynthesis: Greenhouse Effect, Ozone Layer, Fall Foliage Laboratory Exercise 6	7.13-7.14, & extra
Mar 14	1 No Class	*
Mar 16	1 Reproduction and Inheritance: Fission, Mitosis and Cancer	8.1-8.11
Mar 18	-- Lecture Exam II (on lectures 8-17, Chapters 5-7) Laboratory Exercise 7	***
<u>Spring Break--March 20-27</u>		
Mar 28	2 Reproduction and Inheritance: Meiosis	8.12-8.15
Mar 30	2 Reproduction and Inheritance: Independent Assortment and Crossing Over	8.16-8.24
Apr 1	2 Reproduction and Inheritance: Human Gamete Production & Stem Cells Laboratory Exercise 8: Laboratory Exercise 9.1	TBA
Apr 4	2 Patterns of Inheritance: Mendel's Laws	9.0-9.4
Apr 6	2 Patterns of Inheritance: More on Mendel's Laws	9.5-9.9, 9-10
Apr 8	-- Lab Exam I (on labs 1-6) Laboratory Exercise 9.2 Laboratory Exercise 10.1	***
Apr 11	2 5 Patterns of Inheritance: Variations and the Chromosomal Basis for Inheritance	9.11-9.23
Apr 13	2 Molecular Biology of the Gene: DNA Structure and Replication	10.1 10.2-10.7
Apr 15	-- Lecture Exam III (on lectures 18-25, Chapters 8-9) Laboratory Exercise 9.3 Laboratory Exercise 10.2	***
Apr 18	2 Molecular Biology of the Gene: Transcription and Translation	10.8-10.16
Apr 20	2 Molecular Biology of the Gene: Microbial Genetics	10.17-10.23

Apr 22	2 9	DNA Technology Laboratory Exercise 9.4 Laboratory Exercise 10.3	12.1-12.2, 12.6-12.9, 12.3-12.5, 12.10
Apr 25	3	How Populations Evolve: Darwin's Theory of Evolution	13.1-13.5 13.6
Apr 27	3	How Populations Evolve: Populations and Microevolution	13.7-13.17, 13.13-13.14
Apr 29	3	The Origin of Species: Species and Speciation Laboratory Exercise 9.5 Laboratory Exercise 10.4	14.1-14.6
May 2	3	The Origin of Species: Species and Speciation	14.7-14.9 14.10-14.11
May 4	3	Early Earth and the Origin of Life	15.1-15.13 15.10
May 6	3	Catch up day, SOS Laboratory Exercise 11	***
May 9	--	Lab Exam II (on labs 7-11)	***
May 11	--	Lecture Exam IV (on lectures 26-35, Chapters 10-16, 11)	***
May 13	--	Make up Exam (comprehensive)	***

Laboratory Syllabus
Biology 105-Spring 2011
Lab Section B07L

Instructor: Dr. Jennifer M. Zaspel
Office hours: Monday and Wednesday 10:20-12:20.
Office(s): HS 36
ph: 424-1044
e-mail: zaspelj@uwosh.edu

Course Description: This is the lab portion of the Concepts in Biology: Unity course. The lab is designed to help you understand the concepts you learn in lecture by seeing them in action. You will also learn basic lab techniques and how to conduct a scientific experiment-knowledge that you can apply to pretty much any situation in life from cooking to relationships. I hope you leave this course with a better understanding of how living things work and the ability to make informed decisions about current issues that affect you and your family.

Lab Text: Biology 105 Concepts in Biology: Unity. You need to bring your lab text to lab every period. In addition you will also need to bring your lecture text.

Meeting Time/Room: Labs meet in Room 211 of Halsey Science Center. Section A02L meets from 1:20-3:20 on Thursdays. All labs are two hours long.

Lab Schedule: Labs will follow the order laid out in your lab manual.

Attendance: Roll will be taken each lab period. If you are absent without contacting me beforehand, you won't be eligible for any lab report or quiz points for that period. There are no make-ups for labs as they are time-consuming to set-up and sometimes involve use of living organisms that are difficult to maintain. If you miss a lab, try to attend a different section, but make sure you obtain permission from myself and the other lab instructor before doing so...don't just show up in another lab.

Lab Grade: You will receive 300 total points pertaining to your experience in lab: 100 points from the two multiple-choice laboratory exams and 200 points that will be assigned by me. The 200 points will be assigned as follows:

Lab Reports: 100 points-I will randomly collect lab reports at the end of 6 lab periods and they will be worth 20 points each; I will drop the lowest lab report score. The lab reports will be written on the blank report forms included in your lab manual. Each report needs to include: a hypothesis statement, proposed experiments and controls, predictions, and data/results (many times in the form of a graph). During lab, I will give you more instructions and detailed feedback on what I expect in the lab reports.

Lab Quizzes: During 10 lab periods I will have a "pop" quiz at the beginning of lab. Each will be worth 10 points for a total of 100 over the semester. They may contain questions pertaining to the previous lab exercise, or have questions about the background and methods of the exercise you will be performing that day.

How does your lab grade figure into your course grade?

At the end of the semester, I will report to your lecture instructor (myself) a grade for lab. This will be a point total out of 200. The lab points earned plus your lab exam grade will be added to your lecture points earned (400). Your total points earned will then be divided by 700, the total points possible in the course, to give a percentage, which will be your final grade. Please see the lecture syllabus for how that breaks down into letter grades.

ENTOMOLOGY 332/532

SPRING 2011

(Tentative Schedule)

Wk.	Date	Lecture (M. 1:50-2:50)	Ch.	Date	Lab (M. & W. 3:00-5:00)	Ch.
1	Jan. 31	Importance of Insects	1	Jan. 31 Feb. 2	Insect Systematics Related Arthropods	7 7
2	Feb. 07	Insect Development	6	Feb. 07 Feb. 09	External Anatomy External Anatomy	2 2
3	Feb. 14	Insect Evolution	8	Feb. 14 Feb. 16	External Anatomy Lab Exam I	2
4	Feb. 21	Ground-dwelling Insects	9	Feb. 21 Feb. 23	Entognatha-Odonata Plecoptera-Thysanoptera	TB1-5 TB6-19
5	Feb. 28	Aquatic Insects	10	Feb. 28 Mar. 02	Hemiptera Neuropterida	TB20 TB21
6	Mar. 07	Insects and Plants	11	Mar. 07 Mar. 09	Lab Exam II Lecture Exam I	Week 5
7	Mar. 14	Insect Societies	12	Mar. 14 Mar. 16	Coleoptera Coleoptera/Strepsiptera	TB22 TB23
	Mar. 21	SPRING BREAK		Mar. 21 Mar. 23	SPRING BREAK	
8	Mar. 28	Insect Predation	13	Mar. 28 Mar. 30	Diptera Diptera/Mecoptera	TB24 TB25
9	Apr. 4	Insect Defense	14	Apr. 4 Apr. 6	Siphonaptera/Trichoptera Lepidoptera	TB26-27 TB 28
10	Apr. 11	Medical Entomology	15	Apr. 11 Apr. 13	Hymenoptera Lecture Exam II	TB29 Week 9
11	Apr. 18	Pest Management	16	Apr. 18 Apr. 20	Review Lab Lab Exam III	
12	Apr. 25	Anatomy and Physiology	3	Apr. 25 Apr. 27	Methods in Entomology Field Trip	17
13	May 02	Sensory Systems	4	May 02 May 04	Field Trip Field Trip	
14	May 09	Insect Reproduction	5	May 09 May 11	Field Trip Lecture Exam III	Week 14

Text: *The Insects: An Outline of Entomology*, P.J. Gullan & P.S. Cranston 2010 (4th Edition).

Lab Manual: *Entomology: Laboratory Manual* by H.G. Drecktrah, 1997 (available in University Bookstore).

Instructor: Dr. Jennifer M. Zaspel

Office Hours: W, 12:20-2:20 or by appointment (H36)

Office Phone: 424-1044; Dept. Phone 424-1102.

Examinations: All examinations will be given during the lab period specified in the schedule.

Points Distribution:

Laboratory Exam I - 100 points, Lecture Exam I - 100 points

Laboratory Exam II - 100 points, Lecture Exam II - 100 points

Laboratory Exam III - 100 points, Lecture Exam III - 100 points

Insect Collection - 200 points

TOTAL: 800 points

*Bonus quizzes may be given during the lecture period.

Grading Scale:

Students can monitor their progress by checking the Grades page on the course D2L site. Simply add up the total of exam and extra credit points you have accrued, divide it by 800, and multiply by 100 to get the percentage.

Percentages: 93-100, 90-93, 87-89, 82-86, 80-82, 77-79, 73-76, 70-72, 67-69

Grade: A, A-, B+, B, B-, C+, C, C-, D+

Insect Collection:

Each student is expected to make an insect collection during the term as part of the course requirements. The collection is worth 200 points towards the final grade for this course. The collection is due on the last day of classes.

Equipment and Materials for Class:

The following equipment will be issued to each student. Please fill out the two "Equipment Loan" forms when the equipment is issued to you. Turn in one form and keep the other for your records. All equipment must be returned at the end of the semester or when the collection is completed. Lost or broken items will result in a replacement fee.

1. Insect box
2. 3-step pinning block
3. Observation block
4. Spreading board
5. Aerial net

6. Aspirator
7. Killing jar
8. Forceps
9. Insect pins (size 3)

Other equipment such as blacklights, traps, aquatic nets or other sampling devices may be checked out for short time periods.

Other items are optional and are the students responsibility:

1. Dissecting kit
2. Micron pens for insect labels (size 005 at Art Haus on 426 N. Main).
3. Clear fingernail polish for point mounting

If you wish, a drawer may be selected in the lab HS-51, in which you may store your supplies for the course. It is strongly recommended that you secure the drawer with a lock; you are responsible for lost/stolen items.

Students Registered for Graduate Credit:

Each student registered for graduate credit will be required to complete a special project, the nature of which will be mutually agreeable to the student and the instructor. The topic of the special project (e.g., a research paper) should be determined before the end of the fourth week of the semester.

Attendance Policy:

Attendance is mandatory for each lecture and lab session (see "Course Attendance" statement in the Undergraduate Bulletin). Lab attendance is particularly important. No formal make-up labs will be provided. If you know that you will miss a lab, contact me in advance to make other arrangements.

Academic Integrity:

Students are expected to uphold the guidelines of academic integrity put forth by University of Wisconsin-Oshkosh. Violation of these standards (i.e. cheating) will result in formal written reprimand, a failing grade for the course, and possible disciplinary probation.

Common Courtesy:

A ringing cellular phone disrupts the learning process of your neighbors. Please turn off all cell phones and pagers prior to class. If you are being disruptive, talking excessively, reading the newspaper, talking on your cell phone, lost in a dream with your iPod plugged into your ears, etc., you will probably be asked to leave, maybe even asked to drop the class.

Americans with Disabilities Act:

UWO is committed to providing accommodations and/or services to students with documented disabilities. Students who are seeking support for a disability should contact Disability Services, 125 Dempsey Hall. Phone: 424-3100; TTY 424-1319; email www.tts.uwosh.edu/dean/