

BIOLOGY 200 – Concepts in Biology

INSTRUCTORS & OFFICE HOURS:

Caroline Devan (cmd26@njit.edu), CKB 337, Wed 11:00 - 12:00 & Thurs 10:00 - 12:00, or by appointment
 Andrew Mashintonio (amash03@gmail.com), CKB 337D, Tues 10:00-11:30 & Thurs 1:00-2:30, or by appointment
 Maria Stanko (mstanko@njit.edu), CKB 340E, Mon 2:00-4:00pm, or by appointment

STUDY SUPPORT Liz Cronin (ec83@njit.edu)
 CKB 331B
OFFICE HOURS: Wed 3:00-4:30 & Fri 12:00-1:30

COURSE MEETINGS: Lecture-
 Mon/Wed 11:30am-12:55pm GITC **OR**
 Tue/Th 11:30am-12:55pm CKB 303 **OR**
 Tue/Th 2:30pm-3:55pm CKB 303
 Recitation – Various Th or Fri (by section)
 For the correct times for your section, see:
<http://courseschedules.njit.edu/index.aspx?semester=2015f&subjectID=BIOL>

COURSE WEBSITES: moodle.njit.edu
LOCATION: Central King Building or GITC
www.njit.edu/about/visit/njit-maps.php

Course Description:

This course will introduce students to the study of biology at the beginning of their course of study. Central ideas in the biological sciences will be highlighted, with an emphasis on the process of scientific discovery and investigation. The course will provide the basis for more advanced coursework and learning experiences in biological sciences as students delve into the curriculum of study. This is a required course for all NJIT and Rutgers-Newark Biology majors.

Required Materials:

An **iClicker** is also required for this course. You can purchase one from the NJIT or Rutgers campus bookstore. Any version of an iClicker brand device is acceptable.

This course has no textbook. Course readings and online resources will generally be provided via Moodle.

Please ensure you can access the Moodle as soon as possible!

Grading Policy:

Your grade for this course will be determined based on a number of components (the breakdown is on the right).

Attendance, Make-up, and Lateness Policy:

Lectures and recitations are linked, and attendance at all course sessions is important to doing well in the course. Attendance at recitations is required. If you must miss recitation for a valid reason, please discuss making up the missed material with your recitation instructor as soon as possible.

Attendance and participation in lecture will be assessed using the iClickers. Be sure you bring your iClicker to every lecture!

Late assignments will be deducted 10% of the points available for each 24 hours after the assignment was due. This is true for ALL assignments.

Lecture:	
Recitation Attendance & participation	65 points
Lecture Participation	35 points
Assignments/Quizzes	120 points
Exams	80 points
Projects	80 points
TOTAL	380 points

Grading Scale	
A	>90%
B+	85-90%
B	80-85%
C+	75-80%
C	70-75%
D	60-70%
F	<60%

Course Syllabus

Fall 2015

Schedule: Dates listed by week; lectures will meet twice every week and recitation will meet every week, unless otherwise noted. Please note that this is the proposed schedule and is subject to change. A more detailed schedule will be continually updated via the course Moodle site.

Week of	Lecture Topic	Recitation	Assignments Due
8/31	Mon - No Lecture Intro: Learning Styles, Class purpose, Goals	Discussion on Intelligence	HW1 - Syllabus (5pts)
9/7	Graphing/Numbers & Figures Science Writing	Interpreting graphs	PreQuiz on Moodle Finish graph for recitation this week
9/14	Ethics What Is Biology?	Ethics case studies	
9/21	Evolution/Natural Selection Adaptation/Fitness	Selection: dogs and peacock	HW2 Ethics response (10pts) Quiz on Moodle
9/28	What is flu? DNA Discovery/Structure	White-nose syndrome	HW3 Selection assignment (10pts) Project 1, Part 1
10/5	DNA Transcription/Translation	Decoding the flu	HW4 Bird flu (10 pts) Project 1, Part 2
10/12	Mutations Phylogenetic Trees	Molecular phylogenetics	Project 1, Part 3
10/19	Exam 1 What is DFTD?	Discuss Exam 1 DFTD	
10/26	DNA Replication Cell Division	Copying DNA	HW5 Graphing population changes (10pts) Project 1, Part 4
11/2	Cancer Population Genetics	Cancer exercise	Quiz on Moodle Project 2, Part 1
11/9	Meiosis Inheritance	Pedigree worksheet	Project 2, Part 2
11/16	Interactions / Competition Predation / Trophic Cascades	Tasmanian food web	HW6 Pedigrees (10 pts)
11/23	Community diversity Wed/Th - No Lecture	NO Recitations	
11/30	Life History Strategies	Tasmanian devil life history	Project 2, Part 3 Quiz on Moodle
12/7	Other examples: Ebola	NO Recitations	HW7 – Ebola readings questions (10 pts) PostQuiz on Moodle
12/15-21	Exam 2 - During Final Exam Week		Project 2, Part 4

Academic Dishonesty:

The course has a zero tolerance policy for academic dishonesty, including plagiarism and cheating. Instances of dishonesty will be punished by a zero on the assignment, and consultation with the office of the Dean of Students to determine if further action is required. If you have any questions about what constitutes plagiarism or cheating, please ask or refer to the academic integrity code: <http://www.njit.edu/academics/integrity.php>

Learning Outcomes:

1. Learning How to Learn

- Students will develop personal learning strategies based on recognition of their own learning processes.
- Students will identify their learning style and develop a learning plan that is aligned with that style.
- Students will reflect on the note taking and study process and self-monitor their habits throughout the semester
- Students will develop a plan for their continued learning beyond this course.

2. Application

- Students will develop hypotheses to explain observed phenomena.
- Students will design a basic experiment to test a hypothesis, taking into account the ethical and methodological considerations for proper experimental design.
- Students will read and evaluate data critically:
 - identify and describe patterns in raw data.
 - interpret statistical analysis of others' results.
 - draw conclusions based on graphical presentation of data.
- Students will communicate scientific information effectively:
 - present source material without plagiarizing.
 - convey information in written and graphical form.
 - target delivery appropriately to audience.

3. Integration

- Students will synthesize ideas from multiple areas in order develop complex concepts.

4. Human Dimension

- Students will feel confident in their ability to apply knowledge to solve problems.
- Students will cooperate with their peers to solve problems as part of a team.
- Students will take responsibility for their learning process and academic success.

5. Caring/Valuing

- Students will get excited about the value of course material within their personal and professional lives.
- Students will commit to being a good learner in this course and beyond.

Individual class sessions will have more specific content outcomes, based on what is being discussed that week and how it relates to the larger goals of the course. Look for those to be posted to Moodle and contained in the lecture slides for that topic.