

**BIOLOGY 200 (002-012): CONCEPTS IN BIOLOGY**

**INSTRUCTORS:** Dr. Maria Stanko, [mstanko@njit.edu](mailto:mstanko@njit.edu), 340E CKB, Office Hours Mondays: 2-4 pm

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**LECTURES:** M, W: 10:00am-11:25am [CKB 303] –OR– T, R: 10:00am-11:25pm [CKB 303]

**RECITATION (BY SECTION):** 1 period (85 mins), Thurs OR Fri , please see course schedule for time and location:  
<http://courseschedules.njit.edu/index.aspx?semester=2015s&subjectID=BIOL&course=200>

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

**COURSE WEBSITE:**

This course has no textbook. Course readings and online resources will generally be provided via Moodle: <http://moodle.njit.edu/>, login with UCID. Please ensure you can access the Moodle site as soon as possible!

**GRADING POLICY:**

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

COMPONENT	POINTS
Recitation Attendance/Participation	65 points
Lecture Participation	35 points
Assignments/ Quizzes	115 points
Exams	80 points
Projects	100 points
<b>TOTAL</b>	<b>395 points</b>

LETTER GRADE	SCALE
A	> 90%
B+	85 – 90%
B	80 – 85%
C+	75 – 80%
C	70 – 75%
D	60 – 70%
F	< 60%

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**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](#).

**SCHEDULE AND COURSE OUTLINE:** Please note that this is the proposed schedule. We may make changes to the schedule when needed; you will be notified of any changes. Readings and assignments will be posted to the course website.

WEEK OF	LECTURE TOPIC	RECITATION	SELECTED ASSIGNMENTS
1/19	<b>Mon/Thurs - No Lecture</b> Intro: Learning Styles, Class purpose/Goals	Discussion on Intelligence	HW1 - Syllabus (5pts)
1/26	Graphing/Numbers & Figures Science Writing	Discussion of data collected in lecture	<a href="#">PreQuiz on Moodle</a> Finish Graph for recitation this week
2/2	Ethics; What Is Biology?	Ethics case studies	HW2 Ethics response (10pts)
2/9	Evolution/Natural Selection Adaptation/Fitness	Selection exercise	HW3 Selection assignment (10pts) <a href="#">Quiz on Moodle</a>
2/16	What is flu? DNA Discovery/Structure	Germ Theory/Experimental Design	HW4 Bird flu (10 pts) Project 1, Part 1
2/23	DNA Transcription/Translation	T/T Packet - Decoding the Flu	Project 1, Part 2
3/2	Mutations; Phylogenetic Trees	Molecular phylogenetics	Project 1, Part 3
3/9	<a href="#">Exam 1</a> ; What is DFTD?	Discuss Exam 1; DFTD	
<b>Mar. 15-22</b>	<b>SPRING BREAK: NO LECTURES OR RECITATIONS THIS WEEK</b>		
3/23	DNA Recap; Cell Division	Copying DNA	HW5 Graphing population changes (10pts) Project 1, Part 4
3/30	Cancer; Pop Genetics	NO Recitations	<a href="#">Quiz on Moodle</a> ; Project 2, Part 1
4/6	Meiosis; Inheritance	Mapping traits in dogs	HW6 Pedigrees (10 pts); Project 2, Part 2
4/13	Interactions Predation / Trophic Cascades	Tasmanian food web	HW7 Food web drawings (10pts)
4/20	Biodiversity Life History Strategies	Project 2 discussion	Project 2, Part 3
4/27	Other examples	Discuss readings/ Quiz review	<a href="#">Quiz on Moodle</a>
5/4	Other examples	No Recitations	Wed/Thurs - No Lecture (Reading Days)
5/8-14	<a href="#">Exam 2 - During Final Exam Week</a>		Project 2, Part 4
<b>FINALS</b>	<b>FINAL EXAM WEEK: MAY 8-14, 2015</b>		

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### 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.

### 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 to 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 likely 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.*