BIO-121 "INTRODUCTION TO BIOLOGY" **SYLLABUS**

FALL 2022 **Name:**

Lecture Section 301 + Lab Sections 301 and 302

INSTRUCTOR

Oksana Korol, Ph.D.

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phone: (315) 496-8020 (it is a Google Voice number: your call may be screened before it is picked up)

office location: Ferrante Hall 236 (F 236), next to the West entrance to the building

office hours: Mon & Wed 11:15-12:15 pm; Thu, 3:00-6:00 pm

If my office hours do not fit your schedule, we can schedule an appointment for a different time. Talk to me before or after class—or email me with the times when you are available.

MODALITY: Face-to-face lecture and lab

MEETING TIMES & LOCATIONS

Lecture: MW 9:35-11:00 am (F 259), Aug 29 - Dec 10, 2022 + final exam during Finals Week (Dec 12-15, 2022)

Lab 301: Mon 1:30-4:00 pm (room F 240)

Lab 302: Wed 1:30-4:00 pm (room F 240)

Lab 309: Tue 3:05-5:35 pm (room F 240)

Lab 602: Tue 7:50-10:20 pm (room F 240)

COURSE DESCRIPTION

This introductory one-semester course introduces some core concepts of biology. Topics include the scientific method, the molecular and cellular basis of life, energy flow in biological systems, gene expression, DNA technology, inheritance, tissues, organ systems, and reproduction. This course is primarily intended for students who need additional preparation before attempting BIO 151 (General Biology I) or BIO 171 (Anatomy & Physiology I), including students pursuing careers in nursing, respiratory care, surgical technology, or as a physical therapist assistant. Non-science majors may also take this course to fulfill a science requirement. This course counts as a general education elective for MTS.AS majors. No prerequisite.

LEARNING OUTCOMES

Upon satisfactory completion of this course, the successful student will be able to:

1. Recall fundamental biological principles and apply critical thinking skills to demonstrate an in-depth knowledge of biological principles.
2. Demonstrate proficiency in using the scientific method and common biological instrumentation/procedures.
3. Use a minimum of 10 different study methods/student skills.
4. Assess their career aspiration, taking their BIO 121 experience into account, at an early stage in their academic career.

RECOMMENDED SUPPLIES

Textook: Hoefnagels, Mariëlle. *Biology: The Essentials*, any edition, any format. (There is no lab textbook.)

Software: RemNote license. (A link with a discount code will be provided.)

REQUIRED SUPPLIES

- 3 ring-binder (1.5 or 2 inches), binder dividers, pens (2-4 different colors), access to a computer

METHODS OF EVALUATION: ASSIGNMENTS THAT CONTRIBUTE TO YOUR COURSE GRADE

This is a highly structured class, so there is something due every week. A typical week will involve taking a lab quiz and a practice test. Some weeks will also feature a homework, extra credit assignment, and/or a test. For details, see the course schedule at the end of the syllabus.

Assignment type	Points per assignment	Number of assignments	OK to work with others?	Open book, open notes?	How many attempts?	Time limit?	How to submit	Due
Lab Quiz	10 points	13 Lab Quizzes (lowest grade dropped)	no	yes	1	30 min	online	Sat, 8 pm
Practice test	10 points	15 Practice tests (lowest grade dropped)	yes	yes	1	no	online	Sat, 8 pm
Homework	10 points	7-10 Homework assignments	yes	yes	can be resubmitted	no	online	Sat, 8 pm
Extra credit	variable	4-6 assignments, ~15 points total	yes	yes	can be resubmitted	no	online	Sat, 8 pm
Test	70 points	3 Tests + 1 Final	no	yes	1	2 hours	online	Sun, 8 pm
				no	1	20-30 min	in-class	see schedule

Total for the semester will be ~ 600 points. The number of assignments may vary slightly.
The assignments can be accessed in D2L, through the **Course Activities** tab or the **Course Calendar** widget.

- ***Lab Quizzes***: Hands-on, group activities in lab will reinforce what we learned in lecture. Points for labs are earned by completing Lab Quizzes. The best way to prepare for the Lab Quizzes is to attend the lab and to complete a post-lab the following day. (Don't forget to check your post-lab answers against the Answer Key posted in D2L.)
- ***Homework***: The homework assignments will integrate the individual pieces of information into the big picture—and will give you a chance to try different study strategies.
- ***Practice Tests:*** The practice tests will help you pace your studying and to give you regular feedback.
- ***Extra credit***: There will be several extra credit assignments. You will have opportunities to earn extra points for attending office hours, meeting with a tutor at the Learning Center, participating in a study group, and/or meeting with your academic advisor. The forms for each extra credit assignment will be posted in D2L. No individual extra credit is available.
- ***Tests***: Tests will cover the material from both *lectures* and *labs*. Test questions will come in a variety of formats: multiple-choice, fill-in-the-blank, labeling, short answer, and essay questions. Tests will have an *in-class* portion (focused on factual questions) and an *online* portion (focused on application questions). The tests *cannot* be re-taken; use the practice tests to get a conceptual preview of the tests.

LETTER GRADES

A	93-100%	B	83-86%	C	73-76%	D	63-66%
A-	90-92%	B-	80-82%	C-	70-72%	D-	60-62%
B+	87-89%	C+	77-79%	D+	67-69%	F	< 59%

The grades will be rounded up or down to the nearest whole number. For example, 92.5% will be rounded to 93% (A); 92.4% will be rounded to 92% (A-).

To check your grades, either for an individual assignment or your current overall grade, head to D2L and click on the "Grades" tab.

What is the lowest grade that will not derail your plans for graduation or transfer? That depends on what your plans are:

If you are...	**You will need to earn...**
a pre-health student (pre-Nursing, pre-PTA, pre-Surg Tech, etc.)	at least a **C+** (77%) to be considered for admission; at least a **B** (83%) to be a competitive candidate
not pre-health, but planning to transfer to a 4-year college	at least a **C** (73%); some competitive schools (e.g., SU or SUNY Bingo) want at least a **C+** or a **B**
not pre-health, not planning to transfer, and not on academic probation or financial aid warning	at least a **D-** (60%)

If you are not on track to the grade you need, talk to your professor during office hours, talk to your classmates about what is working for them, or talk to a tutor at the Learning Center.

LATE WORK is accepted in this course. Please see Course FAQ for details.

MISSED LECTURE, LAB, OR TEST? Please see Course FAQ for instructions.

ATTENDANCE EXPECTATIONS STATEMENT

Successful students come to class and participate, so I hope you will be there for every lecture and lab. If you must miss a class, please email me to let me know when you will be back and what is your plan for catching up. (Please see Course FAQ for suggestions on how to catch up.) If you miss multiple weeks by the middle of the semester, you may be administratively withdrawn from the course. This may impact your Financial Aid, dorm eligibility, etc. If you know that you will be missing more than a day or two, email me!

CLASSROOM BEHAVIOR AND USE OF CELL PHONES

Cell phones tend to be very distracting, both for the person using the phone—and people sitting next to them. To minimize the distractions, please refrain from using cell phones during class and lab. If you must take an emergency phone call, quietly take it outside. If I find that a cell phone is distracting you from a lecture or a lab, I will ask you to leave your phone on my desk until the end of the class. No cell phones during tests, please.

ACADEMIC INTEGRITY AND DISCIPLINE

"Current and prospective students at Onondaga Community College are expected to adhere to the values of intellectual and academic honesty and integrity. Violations of academic honesty will not be tolerated.

Examples of violations include but are not limited to: cheating on a quiz or a test, passing someone else's work for your own, or fabricating data. For more information, please refer to http://catalog.sunyocc.edu/content.php?catoid=2&navoid=26#academic-integrity."

There are some assignments in this class on which you are encouraged to work together. They are the homework assignments, practice tests, and post-labs. For these assignments, it is OK to discuss the questions with others. I would encourage you, though, to write down the answers *in your own words*. Why? Because putting ideas in your own words helps you remember them. In the long run, that produces better test scores.

There are other assignments in this class which are meant to be your own work. They are lab quizzes and tests. Copying someone else's answers on those assignments—or even discussing the questions with others—is considered a violation of academic integrity, since you are passing someone else's work for your own. If it appears that you are copying someone else's work (or someone else is copying your work), I will reach out to you, to remind you of the expectations. If the violations continue, I may assign zero for the assignment, for all parties involved. Repeated violations may trigger further action.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

The Office of Accessibility Resources (OAR) at Onondaga Community College assists students with documented disabilities of all types. If you have a disability or suspect you may have one, please contact them at 315-498-2245 or stop their office in Coulter Library. They can set up special accommodations like extra test time or testing in a quiet location. If you are already registered with the office, please submit a copy of your plan to your instructor. For more information, visit: http://students.sunyocc.edu/index.aspx?id=70

STATEMENT ON DIVERSITY AND INCLUSION

Onondaga Community College is committed to fostering an inclusive learning environment that facilitates and supports student success. We believe that our campus is enriched and strengthened by diversity along a range of different dimensions. The various perspectives that stem from the multifaceted identities and experiences of our campus community are invaluable assets in the classroom that bring complexity and nuance to the process of critical thinking as well as intellectual and personal growth. We are all vital in promoting and cultivating a culture of respect that honors and affirms the rights, safety, dignity, and worth of every individual.

LEARNING CENTER

The Learning Center offers an opportunity to get help with anything that is course-related. This includes specific biology questions and general study skills questions, like "How do I prepare for a quiz?" Outside of the rush hour, it is also a nice place to study, either on your own or as a part of a study group. The Learning Center is located in the Gordon Building, right next to the cafeteria, in Room G 202. For more information, visit: http://students.sunyocc.edu/index.aspx?menu=928&id=34300

LAB SAFETY

We will be working with some potentially dangerous materials in lab (hot plates, strong acids and bases, etc.). To keep everyone safe, we expect you to follow professor's instructions, to learn and follow lab safety rules, and to behave responsibly in lab. Students who do not may be removed from the lab and/or prohibited from participating in future labs at the professor's discretion. For your safety, ***no food or drink is permitted in the lab***.

BIO-121 LAB SCHEDULE (**MON LAB /** LAB SECTION 301)

Week	Starting on	Lab
1	08/29/22	1 Scientific method
2	09/05/22	*No lab (Labor Day)*
3	09/12/22	2 Cells
4	09/19/22	3 Biological molecules
5	09/26/22	4 Microscope
6	10/03/22	5 Diffusion
7	10/10/22	6 Enzymes
8	10/17/22	7 Photosynthesis
9	10/24/22	8 Mitosis
10	10/31/22	9 Genetics I (Mendelian genetics)
11	11/07/22	10 Genetics II (Non-mendelian genetics)
12	11/14/22	11 DNA replication and RNA synthesis
13	11/21/22	*No lab (Thanksgiving Break)*
14	11/28/22	12 DNA fingerprinting
15	12/05/22	13 Tissues
16	12/12/22	*No lab (Final Exams week)*

LAB SCHEDULE (**TUE and WED LABS**/ LAB SECTIONS 302, 309, AND 602)

Week	Starting on	Lab
1	08/29/22	0 Intro to the course
2	09/05/22	1 Scientific method
3	09/12/22	2 Cells
4	09/19/22	3 Biological molecules
5	09/26/22	4 Microscope
6	10/03/22	5 Diffusion
7	10/10/22	6 Enzymes
8	10/17/22	7 Photosynthesis
9	10/24/22	8 Mitosis
10	10/31/22	9 Genetics I (Mendelian genetics)
11	11/07/22	10 Genetics II (Non-mendelian genetics)
12	11/14/22	11 DNA replication and RNA synthesis
13	11/21/22	*No lab (Thanksgiving Break)*
14	11/28/22	12 DNA fingerprinting
15	12/05/22	13 Tissues
16	12/12/22	*No lab (Final Exams week)*

BIO-121 LECTURE SCHEDULE (Other homework assignments may be added. Please check the D2L's Course Calendar or the shared class calendar.)

Week	Mon	Wed	Sat
1	8/29/2022	8/31/2022	9/3/2022
	Ch 1 The scientific study of life	Ch 3 Cells (start)	☐ **"Student Info" HOMEWORK** ☐ **"Calendar" HOMEWORK** ☐ **Course Logistics QUIZ**
2	9/5/2022	9/7/2022	9/10/2022
	No classes (Labor Day)	Ch 3 Cells (finish)	☐ **Lab 1 QUIZ** ☐ **Ch 1 PRACTICE TEST** ☐ **EXTRA CREDIT 1 "Office hours"**
3	9/12/2022	9/14/2022	9/17/2022
	Ch 2A Chemistry (Sections 2.1-2.4) (start)	Ch 2A Chemistry (Sections 2.1-2.4) (continue) *Last day to drop the class is Fri, Sept 16*	☐ **Lab 2 QUIZ** ☐ **Ch 3 PRACTICE TEST** ☐ **EXTRA CREDIT 2 "Learning Center"**
4	9/19/2022	9/21/2022	9/24/2022
	Ch 2A Chemistry (Sections 2.1-2.4) (finish)	Ch 2B Biological molecules (Sections 2.5) (start)	☐ **Lab 3 QUIZ** ☐ **Ch 2A HOMEWORK** ☐ **Ch 2A PRACTICE TEST** ☐ **Test prep schedule HOMEWORK**
5	9/26/2022	9/28/2022	10/1/2022
	Ch 2B Biological molecules (Sections 2.5) (finish) *(end of Test 1 material)*	Ch 3/4 Plasma membrane (Sections 3.3 & 4.5) (start)	☐ **Lab 4 QUIZ** ☐ **Ch 2B PRACTICE TEST** ☐ **EXTRA CREDIT 3 "Study Group"**
6	10/3/2022	10/5/2022	10/8/2022
	Ch 3/4 Plasma membrane (Sections 3.3 & 4.5) (finish)	Ch 4 Energy and enzymes (Sections 4.1-4.4) ☐ **In-class part of TEST 1 (Ch 1, 2, 3)**	☐ **Lab 5 QUIZ** ☐ **Ch 3/4 HOMEWORK** ☐ **Ch 3/4 PRACTICE TEST** ☐ **Online part of TEST 1 (Ch 1, 2, 3) (Sun)**
7	10/10/2022	10/12/2022	10/15/2022
	Ch 5 Photosynthesis (start)	Ch 5 Photosynthesis (finish)	☐ **Lab 6 QUIZ** ☐ **Ch 4 PRACTICE TEST** ☐ **Ch 5 PRACTICE TEST**
8	10/17/2022	10/19/2022	10/22/2022
	Ch 6 Respiration and fermentation (start)	Ch 6 Respiration and fermentation (finish) *(end of Test 2 material)*	☐ **Lab 7 QUIZ** ☐ **Ch 6 HOMEWORK** ☐ **Ch 6 PRACTICE TEST**

Week	Mon	Wed	
9	10/24/2022	10/26/2022	10/29/2022
	Ch 8 DNA replication … and mitosis	Ch 10A Genetics (Sections 10.1-10.6 & 10.9) (start) ☐ **In-class part of TEST 2 (Ch 3 [3.3], 4, 5, 6)**	☐ **Lab 8 QUIZ** ☐ **Ch 8 HOMEWORK** ☐ **Ch 8 PRACTICE TEST** ☐ **Online part of TEST 2 (Ch 3, 4, 5, 6) (Sun)**
10	10/31/2022	11/2/2022	11/5/2022
	Ch 10A Genetics (Sections 10.1-10.6 & 10.9) (continue) *Start thinking about register for the next semester*	Ch 10A Genetics (Sections 10.1-10.6 & 10.9) (finish)	☐ **Lab 9 QUIZ** ☐ **Ch 10A HOMEWORK** ☐ **Ch 10A PRACTICE TEST**
11	11/7/2022	11/9/2022	11/12/2022
	Ch 10B Genetics (Sections 10.7-10.8) (start)	Ch 10B Genetics (Sections 10.7-10.8) (finish)	☐ **Lab 10 QUIZ** ☐ **Ch 10B PRACTICE TEST** ☐ **EXTRA CREDIT 4 "Advising"**
12	11/14/2022	11/16/2022	11/19/2022
	Ch 7A DNA (Sections 7.1 & 8.2)	Ch 7B DNA (Sections 7.2 - 7.6) (start) *Last day to withdraw from class is Mon, Nov 21*	☐ **Lab 11 QUIZ** ☐ **Ch 7A PRACTICE TEST**
13	11/21/2022	11/23/2022	11/26/2022
	Ch 7B DNA (Sections 7.2 - 7.6) (finish) *(end of Test 3 material)*	*No classes (Thanksgiving Break)*	*Nothing due (Thanksgiving Break)*
14	11/28/2022	11/30/2022	12/3/2022
	Ch 11 DNA technology (start)	Ch 11 DNA technology (finish)	☐ **Lab 12 QUIZ** ☐ **Ch 7B PRACTICE TEST**
15	12/5/2022	12/7/2022	12/10/2022
	Ch 23 Animal tissues and organ systems ☐ **In-class part of TEST 3 (Ch 7, 8, 10)**	Ch 30 Animal reproduction (Section 30.3)	☐ **Lab 13 QUIZ** ☐ **Ch 11 PRACTICE TEST** ☐ **Ch 30 + 23 PRACTICE TEST** ☐ **Online part of TEST 3 (Ch 7, 8, 10) (Sun)** ☐ **EXTRA CREDIT 5 "Reflections"**
16	12/12/2022	12/14/2022	12/17/2022
	No classes (Finals week)	**Test 4 (Ch 11, 23, 30, and cumulative final)** *(tentative)*	*Last day to turn in any late assignments*