**Bio 102 Syllabus Spring 2015 Foundations of Biology II 6 hrs, 4 cr Dr. Grigoryev**

**Office hours:** Tuesday and Thursday, 3PM to 4:30PM or by appointment in room J515. I can be reached by email at [ygrigoryev@ccny.cuny.edu](mailto:ygrigoryev@ccny.cuny.edu). I will only reply to emails from CCNY or other registered CUNY email addresses. I will NOT respond to messages from personal email servers (yahoo, gmail, etc) or to any messages that are not written out fully in standard American prose. Make sure to write “Bio102” in the subject line.

**Hours:** Lectures Tuesday and Thursday, 5PM to 6:15PM in MR2. Lab sections are scheduled throughout the week. You must take the lecture and lab together. Please do not change lab sections without re-registration or risk getting the wrong grades e.g. WN, WU, etc.

**Text**: We are using **Biology: The Dynamic Science, 3rd Edition by** Russell/Hertz/McMillan**.** The textbook bundle is available for purchase at the CCNY bookstore or the publisher’s microsite through this link for $70 from the publisher: **[http://www.cengagebrain.com/micro/1-1XZ4SWQ](http://pelican.admin.ccny.cuny.edu/wm/mail/fetch.html?urlid=445d1b09cda0b8880ddc1a9544109a2a5&url=http%3A%2F%2Fwww.cengagebrain.com%2Fmicro%2F1-1XZ4SWQ" \t "_blank)**. This package includes the physical textbook as well as an access card that allows you to register for the MindTap course website, which you need to access homework assignments as well as the digital copy of the text and other study aids. You can’t pass this course without studying the book! You must also have access to MindTap, which comes packaged with the textbook and serves as your conduit to required assignments and readings.

**Tutoring and workshops sponsored by CCAAP:** TBA. Although walk-ins are allowed, CCAAP requests that you register online so that we can keep track of usage for funding purposes. Information is available at the CCAAP office

**Online homework in MindTap:** You will be assigned homework after each lecture, which will be due at 5 PM the week after the lecture. Because we normally have 2 lectures a week, you will be expected to complete the assignments by the set due dates the following week. These assignments will collectively count for **10%** of your course grade. The readings and assignments will be accessible through the *MindTap* website, which requires a separate registration process. Please register on the website within 24 hours of the first class. If this procedure is not followed, you will not have access to required quizzes and study aids and your grade will suffer.

*Registering for Biology 102 MindTap course:*

1. Connect to [http://login.cengagebrain.com/course/xxxxxxx](http://login.cengagebrain.com/course/MTPN-P9ZP-PZ19)

2. Follow the prompts to register your MindTap course.

**Activating MindTap Access:** If you have purchased the MindTap textbook bundle from the publisher or the bookstore, activate your access using the provided access code. If you do not have the access code, you can pay online using a credit or debit card, or PayPal to obtain one. If you are unable to pay at the start of the semester, you may choose to access MindTap using **a Free Trial**, which **ends at 11:59 PM on xxxxx**. After the free trial ends you will be required to pay for access. At the end of the free trial period, your course access will be suspended until your payment has been made. All your scores and course activity will be saved and will be available to you after you pay for access.

* If you already registered an access code or bought MindTap online, the course key to register for this course is: **xxxxxxx**
* For any technical or sign-in problems, please contact technical support at 1-800-354-9706, Monday through Thursday 8:30AM to 9:00PM EST and Friday 8:30AM to 6:00PM EST or Go to www.cengage.com/support for 24/7 live chat!

**Weekly MindTap assignments will contain the following material:**

**1**. Link to the assigned e-text

**2. Practice problem sets** are not graded, but allow you to practice answering questions before you take the quiz.

**3. Quiz problem set** is graded and must be completed by 2PM a week after the corresponding lecture. The quizzes are timed, so once you open them, you must complete each quiz attempt within 60 minutes. You will be given **two** attempts and the best score will be counted towards grade. The quizzes will be available only for one week and will be automatically submitted on the due date whether you have completed them or not. After the due date passes, you will be unable to change your answers or submit any new work. The software does not care whether you have an excuse or not. Complete these assignments early to avoid any emergencies preventing you from finishing them before the due date. We will have 26 quizzes in this semester and I will drop the lowest 3 grades. By completing regular work in association with lectures, you will be better prepared for the lectures and exams in the course. Cramming is not an effective method of learning. Think of the regular assignments on MindTap as a weekly workout. Practicing and applying what you are learning from MindTap and lectures will better prepare you for class.

**Disclaimer**: I am not financially affiliated with MindTap and receive no monetary benefit from requiring this material.

**Communication:** This is a Blackboard course. Announcements, course schedule, syllabus and other pertinent

information will be posted on our class blackboard page. Please check it regularly and make sure you have active access to it (double check your settings and email address you used to sign up for blackboard).

**Attendance:** Attendance in lecture and lab is mandatory. You have to be present in the lecture class to get the information. No food, drinks or cell phones are allowed in the lecture hall. If you miss a lecture, you are still responsible for the online assignment material. If you miss two lecture exams for any reason, you will be dropped with a grade of WU. If you miss more than two laboratories, you will be dropped from the course with a grade of WU. Fieldtrips count as labs. This is a departmental policy, no exceptions. Lateness of greater than 15 min. in lab counts as an absence for the entire lab. If you miss a lab, you may make it up by asking permission from your own lab instructor FIRST and your host lab instructor! This is the only way we know you will be attending.

**Lecture exams**: The 3 lecture exams are not cumulative and each emphasizes materials that are covered in both lecture and your readings. The exam questions will test your ability to understand the underlying principles and think logically, not just memorize facts. Each lecture exam is comprised of 50 multiple-choice questions that are answered on computer-readable answer sheets. To reduce any temptation for cheating, there will be 4 fully randomized versions of the same exam. You must follow the indicated instructions on filling out information on the answer sheet. Failure to do that will guarantee you a grade of 0 on that exam because a computer will not properly score it. I do not return the exams but will post an answered copy in the Biology office for your edification. Lab exams are made up by the lab instructors and are a mix of short answer, fill-ins, problems and short essays, as well as lab practicals.

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| percentage score | letter grade |
| 97.5-100 | A+ |
| 92.5-97.4 | A |
| 90.0-92.4 | A- |
| 87.5-89.9 | B+ |
| 82.5-87.4 | B |
| 80.0-82.4 | B- |
| 77.5-79.9 | C+ |
| 72.5-77.4 | C |
| 70.0-72.4 | C- |
| 60.0-69.9 | D |
| <60.0 | F |

**Grades:** The grade in the course is determined 40% on the scores of the 3 lecture exams, 10% on online homework and 50% on the lab grades: [20% from the results on two lab exams, 12.5% from a long lab report, 7.5% from two short lab reports, 5% from short assignments, another 5% from lab quizzes and class participation]. **There are no make-up exams in either the lab or the lecture unless you have a documented medical excuse!** I do not give INC grades for any reason except for a documented medical condition. There is no extra credit.

**Course Objectives:** This course is meant to follow Bio 101 and will cover evolution, organisms, physiology and ecosystems. Evolution is the framework of Biology and will be discussed throughout the course. In order to link concepts, the course also emphasizes control and feedback systems that regulate all Biology processes. In detail:

1. Understanding the importance of Evolution as an organizing principle in Biology.

2. Understanding the importance of control and feedback systems that regulate Biology processes.

3. Compare and contrast inherent differences between plants and animals.

4. Being able to analyze data and extrapolate the results to the organismic and ecosystem levels.

**Students with Disabilities**: Students registered with the Office of Disabilities can receive extended time to take tests in a quiet environment. Students must present me with a letter from the AccessAbility Office in the **beginning of the semester** before the exam in order to receive accommodations. **No letter = no accommodations!**

**Academic Integrity**: It is acceptable to work on lab assignments with your lab partner. However, all lab assignments must be written individually. Assignments that are very similar and/or differ only in stylistic changes or wordings are **UNACCEPTABLE. Students with even part of a homework assignment that is very similar to another’s will receive a ZERO for the ENTIRE assignment or even the lab section and might face departmental disciplinary measures**. **DO NOT EVEN THINK ABOUT EMAILING YOUR ASSIGNMENT TO SOMEONE ELSE OR LETTING SOMEONE COPY YOUR HOMEWORK**. If you are not familiar with the CUNY Academic Integrity Policy on Plagiarism, the full CUNY policy can be found in the CCNY Undergraduate Bulletin 2009-2011 (Appendix B.3) <http://www1.ccny.cuny.edu/upload/academicintegrity.pdf>. Cases where academic integrity is compromised will be prosecuted according to these rules. Disciplinary sanctions range from failing the class to expulsion from the College.

**Study Suggestions**

#1. Read the lecture textbook assignment prior to coming to lecture to help familiarize yourself with the material discussed in class and fill in gaps in your notes. Each lecture is only 75 minutes long and I will not cover every single topic in the chapter, hence you MUST do the reading. The point of the lecture is to refresh your understanding of the material and encourage a discussion that can help you gain a better grasp of the concepts. Questions are highly encouraged.

#2. Get to lecture on time! I begin my talks promptly on time. Being consistently late to labs will result in WU grade.

#3. Attend my office hours and come prepared with a list of questions/topics you want to discuss. Do so weekly and not just the week of the exam!

#4.Do the practice-problem sets before taking the quizzes and learn from your mistakes. Look up the explanations for questions you got wrong and write them down in your notebook.

#5. Study your notes and revisit answers to past quizzes weekly! There is too much material to learn in one night or weekend cram session right before the exam. Make index cards for questions you got wrong after each assignment and revisit the stack regularly.

**Lecture Schedule Fall 2014**

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| Lecture # | Date | Topic | Chapters; Russell 3rd edition |
| 1 | Th 01/29 | Review of genetics from bio 101: DNA; genes; chromosomes; mitosis vs meiosis. | Ch14; 15.1-15.2; 10.2; 11.1-11.2 |
| 2 | T 02/03 | Mendelian genetics | Ch12 (pp.239-258); 13.1-13.3 & 13.5 |
| 3 | Th 02/05 | Darwin and Genetic changes within populations | 20.2; Ch 21 (pp.456-476) |
| 4 | T 02/10 | Evidence for Evolution | 20.1; 23.1; 23.3-23.5 |
| 5 | **T 02/17** | Speciation | 22 |
| 6 | Th 02/19 | Systematics and the Phylogenetic revolution | 24 |
| 7 | T 02/24 | Genome evolution | 19; handout |
| 8 | Th 02/26 | Evolutionary development: the link between genes and fossils | 16.2; 16.4; 20.3; 23.6; 32.3; 32.12; handout |
| ***9*** | T 03/03 | ***EXAM 1*** | ***EXAM 1 (lectures 1-8)*** |
| 10 | Th 03/05 | The tree of life and Overview of animals (major phyla only) | Ch25; 31.1-31.5; 32.1-32.3. 32.6-32.7; 32.11-32.12 |
| 11 | T 03/10 | Animal Body and Homeostasis | 38 |
| 12 | Th 03/12 | Osmoregulation and Urinary systems | 48 |
| 13 | T 03/17 | Nervous System I: Information flow & the Neuron | 39 |
| 14 | Th 03/19 | Nervous System II: Sensory system | 40.1-40.3; ch41 |
| 15 | T 03/24 | Digestive system | 47 |
| 16 | Th 03/26 | Circulatory system and respiration | Ch44 and 46 |
| 17 | T 03/31 | Reproductive system | 49; 50.1; 50.4 |
| ***18*** | Th 04/02 | ***EXAM 2*** | ***EXAM 2 (lectures 10-17)*** |
| 19 | T 04/14 | Overview of green plants; Plant forms and growth | 33 |
| 20 | Th 04/16 | Transport in plants | 34 |
| 21 | T 04/21 | Plant defenses and responses to the environment | 37 |
| 22 | Th 04/23 | Plant nutrition | 35 |
| 23 | T 04/28 | Plant reproduction | 36 |
| 24 | Th 04/30 | Ecology and the Biosphere | 51 |
| 25 | T 05/05 | Population ecology | 52 |
| 26 | Th 05/08 | Community ecology | 53 |
| 27 | T 05/12 | Ecosystems | 54 |
| 28 | Th 05/14 | Conservation Biology | 55 |
| **29** | *TBD* | **EXAM 3** | ***EXAM 3 (lectures 19-28)*** |

**Laboratories**

Your syllabus is attached. Another copy will be provided to you on the first day of class. Please note that assignments that are 1 day late have 10% of the grade deducted. The laboratory grade counts for 50% of your final course grade. There are no makeup exams! Attendance in the lab is mandatory and field-trips count as labs. Any student who misses more than 2 labs will be dropped with a grade of WU. Lateness of greater than 15 min. in lab counts as an absence for the entire lab. If you miss a lab, you may make it up by asking permission from your own lab instructor and your host lab instructor FIRST! All assignments must be handed in on time and in hard copy (paper). No extensions. A paper handed in 1 day late will have 10% of the grade deducted. Assignments later than 1 day, will receive a zero unless there is a documented medical excuse. Students who do not hand in the final paper will receive a grade of zero (0) for the exercise.

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| **Week** | **Lab Exercise** | **Assignments due** |
| 1 | 1. Scientific Method & Hypothesis generation; Genetics I; Flour beetles |  |
| 2 | 1. Genetics II; Statistical Analysis in Excel   (BioLab Fly simulation on computers) | * Hand in Lab Assignment 1 |
| 3 | 1. Genetics and Evolution (Allele A1 simulation on computers) | * Hand in Lab Assignment 2 |
| 4 | 1. Effects of drugs on pulsation rate I; Pedigree Analysis | * Hand in Lab Assignment 3 |
| 5 | 1. Effects of drugs on pulsation rate II |  |
| 6 | 1. Library research; Lab report Format and peer-review explained, statistical analysis reviewed (Chi-sq, T-test, standard deviation, and how their calculations in excel) | * Hand in short lab report 1 |
| 7 | 1. Lab Exam 1 |  |
| 8 | 1. Effects of temperature on oxygen consumption in fish |  |
| 9 | 1. Fetal pig dissection | * Hand in Materials & Methods and Results |
| 10 | 1. Field trip to AMNH. Evening labs will go on the field trip during the weekend | * Hand in Introduction and Discussion * Hand back Materials & Methods and Results |
| 11 | 1. Flower evolution; Environmental control of transpiration | * Hand in Abstract and Literature Cited. * Hand back Discussion and Introduction. * Hand in AMNH assignment (#4) |
| 12 | 1. Field trip to Inwood Hill Park. Evening labs and labs from Monday and Tuesday will do the field trip during the weekends. | * Hand back Abstract and Literature Cited. * Hand in short lab report 2 |
| 13 | 1. Population ecology + Flour beetles. Populus analysis on computers | Hand in Final Fish Report |
| 14 | 1. Lab Exam 2 | * Final Fish Report graded and returned. |