

ORGANISMIC BIOLOGY LABORATORY

BL 263 SYLLABUS, FALL 2009

Meeting Time and Place: Tuesday 1:45–4:25PM, Tuesday 6:00–8:40PM, Wednesday 4:00pm–6:40pm; Thursday 9:25–12:05PM, *or* Thursday 1:45–4:25PM in Pomponio Science 206

Instructors: RU01 – Dr. Curtis Henry, Pomponio Science 218, e-mail: chenry@regis.edu ; RU02 – Dr. Scott Noble, Pomponio Science 218, e-mail: snoble@regis.edu ; RU03 - Dr. Kristi Penheiter, Pomponio Science 224, e-mail: kpenheit@regis.edu ; Dr. Marie-dominique Franco, Pomponio Science 223, email: mfranco@regis.edu ; RU05 - Mr. Christopher Cooley, M.S., Pomponio Science 222, e-mail: ccooley@regis.edu. **BL 263 Course Coordinator & BL 262 Instructor:** Dr. Michael Ghedotti, Pomponio Science 225, email: mghedott@regis.edu .

Laboratory Materials:

Ghedotti MJ. 2009. Regis University BL 263 Organismic biology laboratory manual, Fall 2009. unpub.

McMillan VE. 2006. *Writing papers in the biological sciences, fourth edition*. New York: Bedford/St.Martin's. 224 p.

Van De Graaff KM, Crawley JL. 2005. *A photographic atlas for the biology laboratory, fifth edition*. Englewood, Colorado: Morton Publishing. 264 p.

Research Notebook, Scientific Notebook Company (graph paper sewn in black cover)

Regis Bulletin Course Description: Introduces students to scientific study design, use of primary literature, basic laboratory skills, data interpretation, and presentation of scientific results. Involves exercises reinforcing lecture content. Includes dissection of representative organisms and fieldwork. NOTE: Students with AP credit are not required to take BL 262 as a co-requisite. Corequisite(s): BL 262.

Course Learning Outcomes: Students should be able to...

- generally explain how science differs from other ways of knowing.
- propose, design, and execute a simple but rigorous scientific study/investigation.
- analyze primary data using statistical P-values to correctly test hypotheses in organismic biology.
- compose a clear, concise, and accurate primary research paper.
- define the major terms used in evolutionary biology, ecology, and biodiversity.
- explain the major organizing concepts in evolutionary biology, ecology, and biodiversity.
- recognize the social and ethical relevance of content covered in ecology and human genetic diversity.

Grading:

Laboratory notebook:

Pre-laboratory assignments are completed before laboratory and will be checked weekly at the beginning of laboratory. These assignments are outlined in the manual.

In-class observations/assignments are completed in laboratory based upon the starred (★) sections in the manual and any additional pertinent observations.

Independent research project work such as outlining protocols and recording of data are to be completed in the laboratory notebook.

Laboratory exercises will involve completing exercises that should be helpful in understanding lab material. Preparing for lab, and analysis & interpretation of the previous lab's data.

Laboratory research paper is designed to teach students scientific study design and scientific writing. It is a formal exposition of the results of a scientific study of your own design.

Laboratory research paper peer reviews are critical evaluations of the papers written by fellow students in BL 263 using a review template.

Examinations are designed to assess if students have learned the course material and to serve as means to encourage students to revisit and synthesize the material covered previously in the course. They will involve identification of specimens, structures, and functions as well as interpretation of observations, applying principles of experimental design, and application of general concepts. The purpose of the laboratory exams is to evaluate your progress during the semester in acquiring laboratory-based knowledge and interpretation ability.

Each assignment will be given a percentage or point grade. These grades will be scaled in the following way to give your final percentage grade.

Assignment	percent	points
Laboratory Notebook (including pre-lab. assignments)	10%	100
Laboratory Exercises (6 @ 4% or 40 pts. each)	24%	240
Laboratory Research Paper (including draft)	24%	240
Research Paper Peer Reviews (2 @ 1% or 10 pts. each)	2%	20
"Midterm" Laboratory Examination	15%	150
Final Laboratory Examination	25%	250
Total	100%	1000

GRADING SCALE—The percent grading scale will be as follows. To change the percent scale to a point scale, move the decimal one place to the right. [We retain the right to lower the grade boundaries (i.e., "curve") of exams or the final class grades based on class performance. **In no instance will any student be given a grade independent of the scale applied to the whole section in which she/he is enrolled.**]

A = 100.00–92.50	B- = 82.49–79.50	D+ = 69.49–66.50
A- = 92.49–89.50	C+ = 79.49–76.50	D = 66.49–62.50
B+ = 89.49–86.50	C = 76.49–72.50	D- = 62.49–59.50
B = 86.49–82.50	C- = 72.49–69.50	F = <59.49

Disability Statement: If you have a documented disability that may require academic adjustments for this course, or you suspect that you may have a disability, please contact Joie Williams, Director of Disability Services (303.458.4941, or mbwillia@regis.edu). If possible, contact Disabilities Services (Coors Life Directions Center 118) at the beginning of the semester, if possible, so that you can receive accommodations for the complete semester since accommodations are not retroactive.

Putting Your Name on Assignments: It is the student's responsibility to put her/his first and last name on every exercise, quiz, and examination. Turning in an assignment or examination without a name will result in a 0% grade for that assignment.

Late Assignments: Late *final independent research project papers* will be assessed a 10% penalty if received within one week. No late final independent research project papers will be accepted after one week past the due date except when accompanied by a completed excused assignment form. Late *draft independent research project papers* will not be accepted. Students not turning in the draft will not be allowed to complete the peer review assignment and will receive a grade of 0% on this peer review assignment. *Exam 1, peer reviews, laboratory exercises, and pre-lab laboratory notebook assignments* cannot be completed late for credit but may be averaged out of a student's grade if due to excused absence (see "Excused Absences").

Possible Grading Inaccuracies: If you think that any assignment was graded in error, please bring this to your instructor's attention. Wait at least one day (a "cooling off" period) and resubmit the assignment to your instructor with a brief written explanation of why you think the grading was in error. No re-grading requests will be accepted after the last regular laboratory.

Withdrawal Deadline: The Withdrawal Deadline for Regis College courses is Fri. Oct. 30, 2009.

Inappropriate Academic Conduct: In the unlikely event that cheating, plagiarism, or academic misconduct occurs, the consequences will be severe.

- Brief communication with other students in any way during an exam, plagiarism that in the instructor's judgment was unintentional, or use of electronic devices (other than Department-provided calculators) for any purpose during exams will minimally result in a 0% score on the assignment/quiz/exam AND the formal report of the infraction to the Dean's Office (which may result in separate institutional punishment).
- Any second offense of inappropriate academic conduct in the class of *any* type, lab vandalism, plagiarism that the instructor thinks is in any way intentional, or large-scale cheating on a quiz or exam (as interpreted by the instructor) will result in immediate **failure of the course** (grade = F) AND the formal report of the infraction to the Dean's Office (which may result in separate institutional punishment).
- Whenever the instructor deems the nature, extent, or circumstances of any incident of inappropriate academic conduct serious enough to merit more severe punishment the student will **be given a grade of F in the course** AND the infraction will be reported to the Dean's Office.

Note: *Plagiarism = the use of another writer's words or ideas without using proper documentation to credit the other writer. This includes non-attribution of paraphrased sources of info. or ideas.*

Respect for Equipment and Furnishings: It is expected that students, as would any scientist, will show respect for the equipment, furniture, and materials in the laboratory. Vandalism or other intentional damage/destruction of equipment, laboratory benches, or other Regis property in laboratory is academic misconduct and will minimally result in *failure of the course* (grade = F) and the student will be held financially responsible for the cost of professional repairs or restoration.

Responsible Microscope Use: Use only the microscopes assigned to you. Microscopes must be cared for appropriately. If a microscope is returned to the cabinet with a slide left on the stage, a high or intermediate powered lens clicked into the functional position, or an inappropriately wrapped cord, then BOTH students assigned to the microscope will receive a **-1% (-10 points) final grade penalty** for each offense.

Laboratory Behavior: For reasons of safety and citizenship...

- **All students must sign the departmental form outlining laboratory safety rules. If students are under 18 years of age, a legal parent or guardian must sign a laboratory consent form before the second week.** Students under 18 who do not get this signed will be dropped from the laboratory for reasons of safety and liability.
- No food or beverage in the laboratory.
- No open-toed shoes (e.g., sandals, Birkenstocks, flip-flops) in the laboratory.
- No microorganisms cultured in laboratory may be removed from the laboratory room.
- Wear safety glasses whenever working with pathogenic bacteria or chemical solutions.
- Wear latex gloves whenever working with pathogenic bacteria (but not with non-pathogenic bacteria).
- Long hair must be tied back when working with an open flame or chemical solutions.
- Clean up broken glass carefully and IMMEDIATELY and put it in the glass waste container.
- Ask the instructor before putting ANYTHING other than soap & water down the drain.
- Treat all equipment, facilities, live organisms, and preserved specimens with respect.
- Never throw preserved tissue in the regular trash, glass waste, or down the drain.

Be tidy and do not leave messes at your laboratory bench.

Cellular Phones & Text Messaging: Turn phones off during the class period. If you have a special need to keep a phone on, you must obtain the instructor's permission. Give the class your attention.

Attendance: On-time attendance at laboratory is required. Non-emergency appointments (e.g., routine check-ups) are not acceptable excuses for missing laboratory.

- **Two (2) unexcused absences** from laboratory will cause your **final laboratory grade to be lowered one (1) full letter grade** (eg., a B+ to a C+).
- Each additional absence beyond two will result in a full letter grade reduction.
- Leaving lab early without completing the lab's activities IS an unexcused absence.
- Lab notebook entries and laboratory exercises for unexcused days missed may not be made up and will be graded as a 0% (or 0 points).
- Individual instructors may choose to assess tardiness point penalties.

Excused Absence: Serious illness documented with a note from a health care provider (*not* a regularly scheduled appointment), a death in the family, jury duty, required appearance as a legal witness, and NCAA athletic/forensic competition are reasons for excused absences. Absences due to oversleeping, vacations, parties, hangovers, forgetfulness, arrest, or police detention for misconduct are unexcused absences. Whether any other absences are excused or unexcused is entirely at the discretion of the instructor. Notify your instructor as soon as possible via e-mail, via phone, or in person before or after such an absence. Students must complete an excused absence form to which a copy of documentation has been attached for each absence. A final exam or final independent project paper *missed for an excused absence* will be rescheduled. Any other assignments or exams missed due to an excused absence will be averaged out of your grade after a completed **excused assignment form** with attached documentation has been turned in and accepted as a valid reason by the instructor after the documentation has been verified.

Absence for Athletic/Forensic Competition: Members of official Regis NCAA athletic teams or forensic team members who must miss a laboratory for competition, must: 1) Present the instructor with an official schedule provided by your coach (with the days to be missed identified) during the first week of the semester, and 2) notify the instructor with an *excused assignment form* in advance of the day that will be missed. If you do not follow this procedure any absence is unexcused.

Missed Examination or In-Class Assignment: If you miss, leave, or are removed from class for a reason that is not excused the score on the exam or assignment will be a zero (0) or will be composed of the grade for whatever portion of the examination or assignment was completed before your absence. There will be no opportunity to make up these missed exams or assignments.

Labs occur on Tuesday, Wednesday, and Thursday, thus each lab below is indicated as occurring across a range of three dates. Students need only attend their own lab on its scheduled day.

Schedule and Laboratory Topics:

Lab Topic(s)	Assignment(s) Due
Lab 1. Aug. 25-27 - Introduction & Scientific Evaluation - "Termite Wrangling"	
Lab 2. Sept. 1-3 - Population Ecology: The Effect of Slope on Plant Density -Data, t-Tests, & Graphing (<i>Writing Pap. Biol. Sci.</i> pp. 33-67)	Pre-Lab Assignment & Lab 2 Ex. Due
Lab 3. Sept. 8-10 - Community Ecology I: Microscopes, Plant Identification, & Culture of Environmental Microorganisms	Pre-Lab Assignment, & Lab 3 Exercise Due
Lab 4. Sept. 15-17 - Community Ecology II: The Effect of Slope on Plant and Microorganism Species Richness	Pre-Lab Assignment & Lab 4 Exercise Due
Lab 5. Sept. 22-24 - Population Genetics & Evolution in a Simulation	Pre-Lab Assignment, & Lab 5 Exercise Due
Lab 6. Sept. 29-Oct. 1 - Human Pop. Genetics & Hardy-Weinberg Equilibrium	Pre-Lab Assignment & Lab 6 Exercise Due
Lab 7. -Oct. 6-8 - Phlyo. Reconstruction & Basic Insect Anatomy	Pre-Lab Assignment (with Project Hypothesis) & Lab 7 Exercise Due
<i>*Revised Hypoth. & Protocol Due on Separate Page (NOT in LAB NOTEBOOK) to instructor mailbox Friday by 5pm</i>	
Week of Fall Break, No Labs	
Lab 8. Oct. 20-22 - LAB EXAMINATION , Independent Projects & Library Exercise ----Receive Trial Run Materials----	Pre-Lab Assignment (with Project Hypothesis & Protocol) Due
Lab 9. Oct. 27-29 - Diversity I: Bacteria & Archae ----Receive Any Remaining Independent Project Materials----	Pre-Lab Assignment (with Trial Run Results) Due <i>Nov. 7 Withdrawal Deadline</i>
Lab 10. Nov.3-5 - Diversity II: Protozoans, Algae, & Fungi	Pre-Lab Assignment Due
Lab 11. Nov10-12 - Diversity III: Plant Diversity & Structure	Pre-Lab Assignment & INDEPENDENT PROJECT RESEARCH PAPER Due (3 copies)
Lab 12. Nov.17-19 - Diversity IV: Animal Diversity & Development	Pre-Lab Assignment & PAPER PEER REVIEWS Due
Week of Thanksgiving Break, No Labs	
Lab 13. Dec .1-3 - Diversity V: Animal Tissues & Anatomy	Pre-Lab Assignment Due & Final Revised Research Paper Due *Lab Notebook Due at your section's Final Examination

***Due dates and times that occur outside of laboratory meeting times.**

FINAL EXAMINATION SCHEDULE (based on Schedule in Fall 2009 Schedule of Courses)

- BL 263H RU01 (9:25am T section, Ghedotti) – **FINAL EXAM Thurs. Dec. 10 - 10:10am**
- BL 263 RU01 (1:45 T section, Staff) – **FINAL EXAM Tues. Dec. 8 - 10:10am**
- BL 263 RU02 (6:00 T section, Staff) – **FINAL EXAM Tues. Dec. 8 - 6:00pm**
- BL 263 RU03 (4:00 W section, Penheiter) – **FINAL EXAM Mon. Dec. 7 - 1:15pm**
- BL 263 RU04 (9:25 R section, Franco) – **FINAL EXAM Tues. Dec. 8 - 8:00am**
- BL 263 RU05 (12:05 R section, Cooley) – **FINAL EXAM Tues. Dec. 8 - 3:30pm**

Biology 263, Syllabus – Part II

FREQUENTLY ASKED QUESTION (FAQ)

The answers reported herein are considered to set course governance precedents.



General

Question: I have A.P. or I.B. credit (= scored 4 or 5 on the A.P. Biology exam) for Introductory Biology or have college-transcribed credit for a high-school Biology course, but I'm still enrolled in this course without the lecture. Should I drop this lab course or add the lecture course?

Answer: No, we do not grant A.P. or I.B. credit for the laboratories but we do grant this credit for the lectures. You received credit based upon a lecture-material based examination but did not demonstrate laboratory proficiency on the exam. Also, we do not recognize laboratory credit for labs completed at a high school or other colleges because of the specific emphasis of our laboratories on scientific inquiry. It is "OK" to be in the laboratory (either BL 262 or BL 263H) but not the lecture because you have shown proficiency in "textbook" biology knowledge. You may attend the lecture if you ever think this may be helpful and a lecture syllabus can be obtained from your instructor.

Missing Laboratory

Question: I have an excuse such as a serious illness, a death in the family, or participation in an official NCAA athletic event and I must miss a quiz or examination. What should I do?

Answer: Discuss it with the instructor *as soon as is reasonably possible* before (e.g., NCAA game, see conditions) or after (e.g., medical emergency) the laboratory. The instructor will require some form of "official" documentation and completion of the excused absence form. If you miss the midterm examination, it will be averaged out of your grade making all other assignments and the final exam worth proportionally more. If you miss the final exam we will arrange a time to make-up the exam. You should complete the ***excused assignment form*** for each assignment missed. If the form is not filled out with appropriate documentation a grade of 0% will be assigned.

Question: I "have to" miss laboratory for a reason that is not serious or was possible to schedule otherwise (e.g., an airline reservation, driving a friend to the airport, participation in an extracurricular activity, or participation in an official NCAA athletic event *without* appropriately notifying the instructor). What should I do?

Answer: Change your plans. If the excuse is unofficial, then missing a laboratory is "skipping," which is not acceptable. You will receive a **0%** (0 points) score for any assignments due in that laboratory. A second unexcused absence will automatically reduce your final grade by 1 letter (e.g., a B+ would become a C+) **IN ADDITION TO** receiving a 0% (0 points) score on all assignments due during that missed laboratory. Your instructor may **occasionally** make exceptions and will treat a less serious excuse (e.g., a family wedding) as he/she would a more serious excuse if you discuss it with the instructor well in advance. For this you would need to fill out an ***excused assignment form*** and be willing to have the assignments averaged out of your grade (making the other assignments worth proportionally more).

Leaving in the Middle of a Laboratory

Question: I need to use the restroom during laboratory. Should I ask to be excused? May I leave?

Answer: If it a portion of the laboratory where the instructor is not speaking at the front of the room and students are working independently, please feel free to go. Given the length of laboratories, it is expected that many students will step out of the room to use the restroom, get a drink, or simply get out of the lab for a couple of minutes if the nature of the activities allows.

Question: I "have to" leave class early to do something for an extra-curricular activity?

Answer: It is your right as an adult (or nearly adult) to get up and leave whenever you choose. Do keep in mind that if you leave before completing the day's activities this will count as an unexcused

absence. It also suggests that you are having trouble with priorities. EXTRA-curricular activities are activities IN ADDITION TO your curricular activities.

Effort & Extra Credit

Question: I received a low grade but I spent a lot of time studying and working. Isn't this wrong? I tried my hardest and still got a bad grade. Trying my hardest should be enough to get a good grade.

Answer: No. The point of taking this course is comprehension of the material. Because of this, your grade is primarily based on assessment of your knowledge of the material (tests and quizzes) and ability to produce written work. Effort (usually) is a pre-requisite for performing well but outcomes are what are measured and how grades are assigned. *If you are spending a lot of time and energy and are not doing well*, try the suggestions above under "How to Study for BL 262" and *see the instructor*. You may be working very hard, but you also may be studying in an inefficient way that is making it difficult to learn the material. As a busy college student, *do not continue to waste large amounts of time studying in ways that are not effective*. Try new methods.

Question: I'm doing poorly in this class. Can I complete extra credit for a better grade?

Answer: No. The point of this course is comprehension of material including proficiency with basic skills. The material covered in this course is tested in major post-baccalaureate examinations (e.g., MCAT, GRE biology, DAT, OAT, PCAT) and is used in post graduate programs. These examinations do not have opportunities for extra credit or provide credit for trying hard. Allowing this kind of extra credit would be a DIS-service to students.

Parent or Guardian Wants to Talk to the Instructor

Question: My mother/father is going to call you. Is that OK?

Answer: Yes. However, a collegiate-level instructor's primary relationship is with you, not with your parents, and no parental discussion will (or ever has) changed a student's grade in BL 263. If your parents are serving as intermediaries, please bring any problems or concerns you have to me directly. If you are under 18 years of age the instructor can discuss all aspects of your academic performance (including attendance and behavior) with your parents or guardian. Because of *federal* privacy laws he/she will need to delay communicating with your parent about your performance until the instructor can verify your age and verify her/his identity as a parent or guardian. Because you are under 18, I must abide by your parent/guardian's wishes about disclosing any conversation concerning you. If you are 18 or older, in certain situations, it may be reasonable for your instructor to discuss your course performance with your parents. Because of *federal* privacy laws your instructor can discuss your grades and attendance with your parent/guardian **only** if you have signed a waiver that is on file in the Dean's office. Your instructor will need to delay communicating with your parent/guardian until after he/she checks your waiver status with the Dean's Office and verifies their identity.

Academic Dishonesty

Question: I screwed up and cheated on the exam (or copied someone else's exercise or plagiarized or falsified data). You caught me and said you are going to give me an "F" in the class. Isn't this too harsh?

Answer: No. As a Jesuit College it is recognized that having collective and individual responsibility for the ethical welfare of our peers exemplifies a commitment to the community. College is an adult environment with adult consequences. You have committed the worst *academic* offense that can be committed. This syllabus outlines an "F" grade in the course as reasonable penalty for cheating and this policy will be applied. I hope that this penalty will help you learn from your mistake, understand the seriousness of such misbehavior, and deter you from any future transgressions.

Feeling Overwhelmed

Question: I'm feeling overwhelmed with all my course work. What should I do?

Answer: Talk to your academic advisor (your Freshman Writing Seminar instructor if you're a 1st semester student) and possibly **talk to someone at the Coors Life Directions Center**. The Coors Life Directions Center has counselors, programs, and flyers that can help you with workload management, stress management, test anxiety, and similar issues. You could also **talk to your instructors**, to get suggestions. All of your instructors have spent many years in a collegiate environment as both students and teachers and may have some helpful insights.

BL 263 (LAB) EXCUSED ASSIGNMENT FORM

Student Name: _____ Date(s) of absence: _____

This form must be completed to have the score for an exam or assignment averaged out of a student's grade as a result of an excused absence. Exams and assignments may not be taken/turned in after the syllabus indicated class periods (they also may NOT be sent via e-mail unless specifically approved by the instructor ahead of time). A Final Exam or Final Independent Project Paper Deadline missed for an excused absence must be re-scheduled and will not be averaged out of a student's grade.

A photocopy of documentation of the absence, such as a note from a health care provider or a photocopy of a funeral card/program, must be stapled to this form for it to be accepted. The instructor reserves the right to follow up with the Office of Student Life or other sources to verify excused absences (e.g., faxing a health provider's note back to the office and asking the office to verify its authenticity).

If this completed form is not given to the instructor any missed assignment will be graded as a 0%.

This form is for the following assignment (circle as appropriate):

Examination 1 – Oct.

Independent Project Paper
(Complete 1st Draft) – 3 copies

Exercise due in Lab 2

Final Examination – Dec.

A final exam missed for an excused absence must be re-scheduled or a grade of "I" given. The Final Exam will **not** be averaged out of a student's grade.

Ind. Project Peer Reviews

Exercise due in Lab 3

Independent Project Paper

(Due Lab 13) - Final Copy

An Independent Project Final

Paper not turned in for an

excused absence must be re-

scheduled or a grade of "I"

given. This assignment will **not**

be averaged out of a student's

grade.

Exercise due in Lab 4

Exercise due in Lab 5

Exercise due in Lab 6

Exercise due in Lab 7

Pre-Lab Assignment

Date: _____

This excused absence is for the following reason (circle one):

Illness

NCAA Game

Serious Injury of a Close
Relative or Friend

Serious Injury

Funeral Attendance for a
Close Relative or Friend

Other

Documentation of illness or serious injury requires a note or photocopy of a note from a certified health care provider.

Documentation of a death would include a photocopy of a funeral card, memorial program, or other document with the deceased's name.

Documentation of these will vary. Please discuss appropriate documentation with your instructor

Include a ***brief*** explanation of the reason for the excused absence below.

I the undersigned certify that this was an excused absence of the nature indicated above and request that the indicated assignment be treated as resulting from an excused absence.

Signature: _____ Date: _____