

Welcome to Biology 180!

This class is the first in a three-quarter sequence designed for majors in departments related to Biology. The goal of the sequence is to introduce the most fundamental issues in the biological sciences and provide the foundation for upper division courses. The courses are:

- **Biology 180:** Evolution, Mendelian genetics, and ecology.
- **Biology 200:** Cell biology, molecular biology, and development.
- **Biology 220:** Animal and plant structure and function.

Biology 180 introduces the process of evolution by natural selection and the rules of genetic inheritance. It also explores how organisms interact with each other and their environment, how humans impact natural ecosystems, and why ecologists are concerned about the future of natural systems.

The information, concepts, and style of thinking introduced in the lecture component of the course provide a unifying framework for the topics covered in Biology 200 and 220. To complement the lectures, Biology 180 labs will help you to develop key skills in experimental design and data analysis. We hope you'll find Biology 180 enlightening, stimulating, challenging, and fun.

Course Policies and Logistics

All of the information that follows is available on the Biology 180 website:

<http://protist.biology.washington.edu/biol180/>. The home page also provides links to the course syllabus, study questions, information on how to contact course personnel, and interesting course-related sites to visit. Be sure to check your UW e-mail regularly, too, as this is how we'll send out class announcements.

Grading

Course points are available as follows:

Clicker questions (in-class)	100
Reading quizzes	68
Weekly online practice exams	80
Midterm 1	100
Midterm 2	100
Midterm 3	100
Labs	72
Weekly notes checks	15
Final Exam	<u>100</u>
Total points possible	735

Clicker questions and reading quizzes are multiple choice, but most or all exam questions require written answers, diagramming or graphing, or problem-solving. Note that:

- 3 points are available each class day for clicker questions. Your lowest two days of the quarter will be dropped, so there is no consequence if you are absent or forget your clicker a couple of times.
- 10 points are available for each practice exam. Your lowest practice exam of the quarter will be dropped, so there is no consequence if you are sick or have computer problems once.
- 2 points are available for each reading quiz; your lowest two reading quizzes of the quarter will be dropped.

Graded exams will be returned as soon as we can manage. If you are absent when exams are returned, you can get yours from your TA in the next lab session. Exams that aren't picked up will be held in the Biology Office (318 HCK) until the end of the following quarter, then discarded.

Final grades are assigned as follows: the top 5% of students receive a 4.0, and the threshold for passing (0.7) is set at about 50% of exam points (this usually works out to be about 60% of the total points). The point interval between a 0.7 and a 4.0 is then divided up into equal bins; your decimal grade corresponds to where your point total falls in that interval. Note that this **grading system is explicitly non-competitive**: It is possible for 95% of the class to get a 3.9.

We will post your point totals at intervals during the quarter, via the “grade looker-upper” page on the course website. You must achieve a grade of 1.5 or higher to progress from Bio180 to 200 (or from Bio200 to 220). Each course may be repeated one time only.

Clickers

You will use a clicker (personal response device) every day in lecture, with points earned toward your final grade. Clickers are available at the bookstore; you will own your clicker and are free to use it in other classes and/or re-sell it. See the course website about which brand to buy.

Note that you must register your clicker before the second day of class, so that the points you earn will be associated with your name in the course gradesheet. The course website has a registration page where you can submit the required information.

If anyone uses your clicker to enter answers for you, it is considered academic misconduct and will be reported to the University's Disciplinary Committee—just the same as if cheating occurred on an exam.

Labs

Labs give you a chance to collect and analyze data. Attendance is required; you must go to the section for which you are registered. Be sure to read each week's write-up and do the pre-lab quiz before coming to lab. You'll be writing and submitting an individual or group report by the end of each lab.

Lab points are assigned by TAs. To manage among-TA variation in grading in an equitable way, lab points from all sections are adjusted to a common mean at the end of the course.

The following points are possible:

Data analysis	8
Mitosis and meiosis	8
Antibiotic resistance	8
Advising	8
Phylogenies I and II	16
Experimental design	8
Pond Ecology I and II	16

Incompletes

Incompletes will not be awarded except in rare cases—when a student has been in attendance, has done satisfactory work, and can offer written evidence that the work cannot be completed because of an emergency hospitalization or other circumstances beyond the student's control.

Make-up Exams

There are no make-up exams or early exams. Please do not ask to be excused from an exam because of weddings, pre-existing plane reservations, or to avoid conflicts with other exams. If you have a conflict that you do not wish to avoid, you may need to drop the course and take it another time. If you must miss an exam because of a medical emergency that requires hospitalization, contact the professor or lab coordinator as soon as possible.

Exam Regrades

If you have studied the posted exam key carefully and think that a mistake occurred in grading, you may ask for one (and only one) question to be regraded. To do so, attach a note that identifies the question you want regraded and explains the nature of the error. Be specific about the nature of the error that you identified, and make sure that you do not write anything on the exam itself. Then place the exam and note in the Bio180 Regrade Envelope above the reception desk in Hitchcock 318 within one week of the exams being handed back.

If the error involved how points were added up, treat the regrade request the same way. Addition errors do not count as the one question you can ask to be reviewed because of a grading error.

Lab Fee Refunds

A student who drops before or within the first week of the quarter has the lab fee automatically dropped from his/her account. If a student officially drops between weeks 2-4, 50% of the fee will be waived *if* the student fills out a form in 318 Hitchcock by the last of day of instruction of that quarter. Refunds will not be posted unless specifically requested by the student. Students who drop after the 4th week of the quarter are not eligible for a refund.

Cheating

Copying exam answers from a neighboring student, using notes during an exam, or altering exam answers in any way prior to regrading are all forms of cheating. Any type of cheating on an exam or regrade request will result in a grade of 0.0 for the entire exam; cheating with clickers will result in all clicker points to date being zeroed. The incident will also be reported to the University Disciplinary committee. In almost every case, the Committee's review results in academic probation or expulsion from the University.

To guard against cheating during regrade requests, we routinely scan exams before returning them to you. If you intend to ask for a regrade, avoid writing or changing anything on your exam paper. In this way, there can be no confusion about what was an answer and what you added later as notes to yourself.

The act of taking someone else's ideas or writings and passing them on as your own is called plagiarism. This is an ethical issue that the academic community takes very seriously, it is the equivalent of stealing and is not tolerated at the University of Washington. If you are at all unsure about the difference between cooperative work and plagiarism, check with your TA or professor.

Disability Accommodations

Students who need academic accommodations due to a disability should contact Disability Resources for Students, 448 Schmitz, (206) 543-8924 (V/TTY) at or before the beginning of the quarter. We will work with students and the DRS Office to make any necessary arrangements.

Tips for Success

Although there is a large body of knowledge that you must know to succeed in biology, it is critical that you do more than just memorize “facts.” As teachers, our primary goal is to emphasize critical and analytical thinking skills. We'll ask you to identify the similarities, differences, and connections between processes and events, interpret experimental results, and identify unifying concepts. We want you to understand how and why things happen—not just that they do. This level of understanding requires more active involvement on your part than just memorizing facts and regurgitating them on exams. Don't be satisfied that you understand something until you can explain it to someone else and use it to solve new problems.

Typically, exam questions in Bio180 are based on the following framework:

1/3 content • 1/3 conceptual understanding • 1/3 ability to apply concepts to new situations

Attending lectures

Lectures focus on how biologists think. They aren't meant to repeat material in the textbook, but will give you an idea of what concepts are most important. Exams are almost always based heavily or even exclusively on lecture material. Take detailed notes, then review your notes as soon after each class session as possible. Fill in any missing information or points so that they are complete and logical. You should also be able to identify the two or three most important concepts introduced in each class session. These concepts are likely to be the focus of exam questions.

Using Your Text

Your text can be an extremely valuable resource. Be sure to read the assigned material before lecture. After lecture, go back and reread the chapter with an aim toward synthesizing what you learned in class, filling in the gaps in your understanding, and drawing connections between the ideas presented in this lecture and those presented earlier in the course. Highlight important points or make an outline as you go, numbering the key ideas and summarizing each section in your own words. Answer the blue questions in the text to make sure that you understand what's going on.

Preparing for Exams

You should spend at least 3 hours out of class for every hour in class. For a 5-credit class, this means that you should spend about 15 hours each week beyond in-class time. Spend several hours each day reading your text, reviewing your notes, learning new vocabulary, and working on problems or study questions. Don't wait until exam time to figure things out. Cramming doesn't work in this course; just reading the text passively won't work, either. You must be able to work with the ideas: apply them to novel situations, solve problems, and explain them—clearly and concisely—to another person.

Getting Help

1. Office Hours

Take advantage of instructor office hours and review sessions. We really want to help you understand the material, and a willingness to ask questions is the hallmark of a mature, serious student—the type that we like to write letters of recommendation for. We are here to help. You have to do your part, though, and make the effort to come talk to us. And please don't wait until mid-quarter when you've fallen behind. Start early.

2. Biology 179

Bio179 is organized by the Biology Graduate Student Diversity Interest Group and is led by grad students who know how Bio180 works. You'll meet once a week, in small groups, to analyze your learning style and do exercises that build the skills required to succeed. You'll learn how to study for exams, how to take notes and read effectively, what to do the last 24 hours before an exam, and how to learn from mistakes. And it's a great opportunity to meet other Bio180 students and form study groups.

3. C.L.U.E.

The University offers evening study sessions in Mary Gates Hall, with a graduate student available to answer questions. You'll get information about times and locations for Bio180 sessions via email.

4. Tribeta Tutoring

Members of the Biology Club volunteer their time to work with students in the introductory Biology courses. These are upperclassmen who have done well in the intro courses; they also work with faculty to make sure they are current with the course. You'll get information about times and locations for Bio180 sessions via email. Website: <http://students.washington.edu/tribeta>

5. Study Groups

Study groups can be a powerful learning experience because they challenge you to explain things to someone else—they make studying more efficient and effective, as well as more fun. Focused study with others allows you to pool your ideas and see material from a different perspective. To form a study group:

- Talk to people in lab or use the course newsgroup to find others with similar schedules and goals.
- Aim for a group of 4. Larger groups may not give everyone a chance to participate; smaller ones may not generate enough ideas or feedback. Don't study with close friends, or you'll end up chatting.
- Choose a convenient, comfortable, and quiet place to meet each week. Schedule your first meeting early in the quarter and clarify the goals of the group: to fill in gaps in lecture notes, discuss weekly study questions or questions in the text, study for exams, discuss the reading and/or ideas generated by the class, and so on.

Remember: you never know the stuff until you teach it.

6. Biology 180 Newsgroup

A class discussion list is available via the course website. Use this newsgroup to find a study group, pose questions, propose answers to other student questions (or instructor questions), or discuss issues related to class.

UW Department of Biology: Everything You Need To Know But Were Afraid To Ask!

Advising Office, 318 Hitchcock Hall (206-543-9120)

- Walk-in hours for advising are Monday through Friday 9 a.m. to noon and 1 p.m. to 3:30 p.m.
- Advising is open to anyone—you do not need to be a declared major to come in.
- Please check in with an adviser at least once *every* quarter. Planning ahead can save you headaches later! (Trust us on this one.)
- We are happy to make an appointment with you to accommodate your schedule or to spend more time assisting you; contact an adviser directly to schedule appointments.
- Appointments are required for long-range planning as this takes more time than we can devote to you during walk-in hours. Long-range is anything beyond the next quarter.
- Our busy times are during registration and the first week of the quarter; please bear in mind that this is not an ideal time to come in for long-range planning
- If you submit a request, petition, or other paperwork with one adviser, please follow up directly with that same adviser when you have further questions.

Membership Has Its Privileges!

Reminder: to declare biology, you must have a 2.5 (or better) in Bio180 or a 2.0 (or better) average for the entire series.

- Only declared biology majors are allowed to register for the foundation courses (350, 354, 355, 356) and 400-level biology courses during period I registration
 - This is why it is important that you take Bio180 seriously. The sooner you can declare biology, the sooner you can move along in your curriculum!
- Declared majors are added to the “**biostudent**” **email listserv**, which sends announcements about jobs, internships, volunteer and research opportunities, new or exciting courses, department events, changes in the advising office hours, etc. Any student may join the biostudent listserv at anytime by going to: <http://mailman1.u.washington.edu/mailman/listinfo/biostudent>
- When you declare biology, you get **treats!** Just for signing up, you get a tootsie pop in the flavor of your choice.

Rumors, Myths, Legends ... Here's The Real Deal!

- **Declaring biology** as your major is easy and pain-free! You just come see an adviser, we fill out a form, you sign it, you get treats, and you are on your way!
- You can start taking the foundation courses as soon as you complete Bio180... the pre-req's look like this:
 - Bio354 and 356** require Bio180
 - Bio355** requires Bio 200
 - Bio350** requires Bio220
- **Repeating a course** is a bad option. You may repeat Bio180 once (only), on a space-available basis, by reregistering for the course during period II registration. There are only 10 spots for repeaters in Bio200 and 220 each quarter and you must petition to repeat; there is no guarantee that

you will be allowed to repeat. To repeat a Biology course other than 180, 200, 220 you may be able to either reregister for the course or ask the permission of the instructor.

- There are **no wait lists** for closed classes! There are **no add codes** for closed classes! If a course is full you should:
 1. Keep checking the time schedule for an opening. Be sure to check after grades are posted for the current quarter, as students not meeting the prereq's will get dropped. This is noted on the time schedule as "cancellation in effect."

Note that to check for an opening, you must click on the link for each individual SLN; the front page of the time schedule is refreshed only once every 24 hrs.

 2. Go to the class and associated labs or quiz sections the first day and first week of the quarter; ask the instructor about getting in to the course.
- **Graduating Senior Priority:** you can use your GSP registration for 2 quarters—this allows you to register on the first day. You must apply for graduation by the deadline listed in the academic calendar: <http://www.washington.edu/students/reg/calendar.html>

Resources... Use Them!

- The Department of Biology has a beautiful website with tons of great information, including undergrad research info, policy info, and faculty profiles: <http://depts.washington.edu/biology/>
- The Tri-Beta Honor Society offers free tutoring for bio courses and Genome371; the Biology Club that Tri-Beta sponsors is a fun way to meet other students and take part in biology-related events. See the next page for more information.
- The Center for Career Services offers loads of free services to students! They can help you determine your strengths and interests for future career possibilities, research potential careers and salary earnings, learn how to network and find jobs, decide about grad school, write a resume, prepare for interviews, find internships and summer jobs, and create a letter of recommendation file (there is a fee for this service). Learn more at <http://depts.washington.edu/careers/>.

Advisers:

Janet Germeraad
Director of Academic Services
206-543-6647
janetjg@u.washington.edu

Jason Patterson
Academic Counselor
206-543-7767
patterj@u.washington.edu

Tom Freng
Senior Academic Counselor/Program Administrator
206-616-3982
tfreng@u.washington.edu

Andrea Crosby
Academic Counselor
206-616-8147
acroz@u.washington.edu

BIOLOGY CLUB

BIOLOGY CLUB MEETINGS

The Biology Club is a fun and interesting way to meet other students. There are bi-weekly meetings throughout the quarter, as well as fieldtrips, volunteer opportunities, and more. Check out the Tri-Beta website, <http://students.washington.edu/tribeta>, for more information and a detailed schedule.

TUTORING

The Tri-Beta Biological Honor Society offers free tutoring for the Intro Biology courses and Genome 371. All of the volunteer tutors have been through these courses, and they can help you get through it too! See <http://students.washington.edu/tribeta/tutoring.html>.

MENTORING

Looking for someone who has navigated the Biology Department and who knows the ropes at UW? Check out the mentoring program offered by Tri-Beta. Each quarter, the program matches new Biology students with upperclassmen already in the Department of Biology. This is a great opportunity for upperclassmen to share their insights on how to make school a little easier to bear, while, for new Biology students, it is a chance to soak up all of the advice that they can get!

Go to mentoring web page, <http://students.washington.edu/tribeta/mentoring.html>, and sign up to be matched with a mentor. We do our best to match you with a mentor of similar biological interests.

LEADERSHIP OPPORTUNITIES

Looking for leadership experience but don't know where to begin? Start by joining the Biology Club, and then join Tri-Beta after you have completed the intro biology series. Once you're a full member of Tri-Beta, you may run for an officer position. Becoming an officer increases contacts within Biology and other related departments, looks great on a resume, and is a fantastic way to interact with other students, faculty, and staff to help build a stronger biological community.

BIOLOGY T-SHIRTS

Show that you're a part of the best department on campus and purchase a Biology T-shirt TODAY. The money funds the annual spring BBQ, treats during tutoring sessions, and food at club meetings. Wear your T-shirt the 1st Wednesday of each month, Biology T-shirt Day, and stop by 318 HCK to get your free candy and enter to win a terrific prize!

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Beta Beta Beta Biological Honor Society (Tri-Beta)