Instructor: Dr. Carrie L. Woods  
cwoods@pugetsound.edu  
Thompson 223B  
253-879-3301  
Office hours: MW: 11:00 am – 12:00 pm; T: 10:00 am – 11:00 am; or email for appointment  
**I will respond to most emails between 9 am and 5 pm. You should expect a response within a few hours but it could be up to a day or two.**

Lecture: MWF 10:00 am – 10:50 am (Thompson 193)

Labs: We meet the first week of classes. All labs are 1:00 pm – 4:00 pm in Harned Hall 245.  
AA (Monday) IA: Kiona Parker (kparker@pugetsound.edu)  
AB (Tuesday) IA: Sarah Mueller (sdmueller@pugetsound.edu)  
AC (Wednesday) IA: Hannah Collier (hcollier@pugetsound.edu)

Textbooks: (if you took BIO 111, you should already have these books)  
SimUText Intro Biology Section: Darwinian Snails (tutorial) ($5) (required)  
Pechenik, J. 2009. A Short Guide to Writing About Biology (recommended)

Course website: I use Moodle for course information and handouts as well as grades. The syllabus and schedule, labs and extra readings will all be posted on Moodle where you can view them and, if you want, print them. Many assignments will be uploaded directly into Moodle. To access Moodle, get on the web and go to http://moodle.pugetsound.edu. Your password is your UPS network password. All of you are already enrolled in the course. You MUST have access to these materials so let me know if you don’t.

Email: Your IA’s and myself will be in contact with you with important information through your Puget Sound email. Please check it regularly.

Optional books: You can find field guides to the plants and animals of this region (both terrestrial and marine). You can never have enough field guides! Some good ones are:  

FAIR WARNING: Although Biology 112 is listed as a Natural World Core, it is taught as the second course in the Biology major, and as such may be more challenging than the core class you might imagine it to be. If you are looking for a relatively easy core, I suggest finding another class. Biology 111 is a prerequisite. I will expect you to be familiar with the concepts and terminology learned in Biology 111 (or AP/IB Biology).
Course Description and Objectives: The vast diversity of life is amazing. The organization and complexity of even the simplest bacteria is mind-boggling. The exuberance of multicellular life that we see around us every day is awe-inspiring. Our lives depend on this diversity. How did all these strange, living beings come to be? Why do they look the way they do? How do they work? These are questions that we can, and should, ask. In Biology 112, we will begin to explore the different facets of evolution and the diversity of living organisms. We will look at adaptations to different environmental challenges and begin thinking of organisms as life cycles.

This course will provide a general overview of the history and diversity of life as well as the processes and mechanisms – evolution – that lead to this diversity. The course emphasizes some of the fundamental aspects of organismal biology such as reproduction, feeding, and locomotion (or lack thereof). In lecture, principles common to diverse taxonomic groups will be presented with specific examples taken from different organisms.

The enduring understandings I would like you to take from this course are:
1) A conceptual framework for thinking about the diversity of life beginning with the fundamentally important process of evolution;
2) The background required for framing biological questions in a comparative and evolutionary context;
3) Familiarity with and perhaps even fondness for some of the organismal diversity that surrounds us providing us with some sense of place;
4) Understand and critically evaluate the primary literature; and
5) Improve your scientific writing skills.

Lectures: Lecture topics are listed on the attached schedule. Prepare for lecture by reading the material assigned in the text and handouts BEFORE lecture. Attending lectures and taking notes is extremely important. We will have many group activities and discussions that you should not miss. I may also “cold call” on students randomly to answer questions in class. I do this not to embarrass you or “catch” you, but to involve everyone to the utmost in the class, to tell each of you that I believe in you, and to keep the class moving forward together.

Each lecture will start with an activity designed to get you thinking like a biologist. It could be a “fun fact” about diversity contributed either by me or you or it could be an image for which you will need to make an observation, develop a hypothesis and design an experiment to test that hypothesis. I may ask you to write this on a sheet of paper (at most half a page – images welcomed) at the beginning of class and hand it in or we might engage in a discussion. I expect you to participate and you should expect that of yourself because participation often leads to a greater understanding of the material.

Your time in class will be most productive if you:
- Prepare for class by studying the reading assignment before the class.
- Come to class on time.
- Engage in thoughtful, effective note taking during class.
- Ask for a restatement or clarification of statements you do not understand.
- Contribute to class discussions.
I encourage you to ask questions at any time during the class. Plan to use these opportunities by writing down questions that come to mind during your reading and study or if I say something you do not understand or seems confusing. I am also available during my office hours or through an appointment. Following each class, devote 2-3 hours to rewriting your lecture notes, carefully rereading the text material and integrating it with your lecture notes.

NOTE: The syllabus lecture schedule is a tentative one. We may move ahead or get behind. All quizzes and exams will be given on the dates scheduled regardless of where we are in the discussion. I will announce what materials each quiz or exam will cover. Throughout the course I will use PowerPoint and the blackboard to help convey information. My powerpoint slides will be uploaded to Moodle but they have little text on them. I do not provide copies of lecture notes, another reason to strive to attend every lecture.

Cell phones & Laptops: cell phones should be turned OFF during lecture and lab. You should NOT use a laptop to take notes. I have provided a link in Moodle to explain why.

Lecture exams and quizzes: Exams and quizzes are scheduled during lecture (see Course Schedule). Questions will require that you be very familiar with lecture and lab material. Some questions will require you to apply concepts to novel situations not specifically covered in lecture or lab. Cell phones cannot make an appearance during exams or quizzes.

You will do best on exams and quizzes if you:

- Adopt a “study as you go” policy
- Rewrite (do not type) your notes within 24 h after every lecture
- Don’t wait until a day or two before the exam or quiz to start studying (what if you have two other exams and a 10 page paper due??)
- Organize or join a small study group. Use the group to review information. Practice teaching each other the material. The more you intellectually engage your mind with the topic materials, the more you will learn and the better prepared you will be for the quizzes and exams
- Make sure your class, lab, and study time is specific and focused.
  - Turn off electronic devices and minimize distractions. A shorter amount of focused study time is more productive than a longer period of time filled with distractions.

There will be no opportunity for make-up quizzes: There will be 6 quizzes during the course and you will be able to drop the lowest one. Absence for an exam or quiz or lab for a bona fide medical reason will require a written excuse from your health care provider and MAY OR MAY NOT be considered in assessing final grades. If you have a scheduling conflict with a quiz, the missing quiz score will count as your lowest score. Sports-related and/or other extra-curricular excuses must be cleared with me (email me) AT LEAST ONE WEEK PRIOR TO A SCHEDULED EXAM. I will try to find a time to schedule a make-up exam that is mutually agreeable. In keeping with University policy, the final exam will be given ONLY at the time indicated in the course schedule.

Laboratory: Lab is required. The labs have been designed to help you understand concepts discussed in lecture and to familiarize you with major groups of organisms. Material covered in lab will be included in lecture exams and quizzes. Missing a lab will result in the loss of the
points for that week’s lab assignment. During the early labs of the semester we will visit
different local habitats and you will become familiar with the major taxa (phyla and some
classes) found in these habitats as an introduction to 55 common and/or ecologically important
species. Some of our time will be spent on more detailed investigations of mechanisms of
evolution, phylogenetics, and organismal form and function. Under extreme circumstances you
may be able to reschedule a lab; arrange with me at least one week before the lab. Most of the
labs are full and cannot accommodate extra students; only in very unusual circumstances will
you be allowed to switch labs. Labs cannot be made up after the last lab section of the week has
met (Thursday afternoon). Each student must register for a lab section of the course, and
attendance in lab is mandatory.

Lab handouts will be available on Moodle by Friday before lab. **You must print out the lab
handout and bring it to lab.** Please come to lab PREPARED. Careful preparation before the lab
will (1) allow you to get more out of the lab, (2) make it much more likely that you will enjoy the
lab, and (3) increase the probability that you will finish on time or early.

Here is how to prepare:

1. **Download and print** the lab and any associated material from the Moodle site and bring
   your copies to lab (we will not provide extra copies in lab).
2. **Read** the assigned readings before lab.
3. **Complete any pre-lab** material prior to coming to lab. Information from this section
   may appear on exams and quizzes. Prelabs are due at the beginning of lab.
4. **Read** the entire lab exercise prior to coming to lab. Know what the lab involves and
   come prepared.

**YOU MUST BE AT LAB ON TIME.** Labs will begin promptly at their designated times. Some
of our labs include field trips. If you miss the van, you will need to get yourself to the field site.

**Exams on Lab material:** There will be two exams on the lab material. The first will be a field
exam on identifying and naming the Familiar 55; the second will be an in-lab exam answering
questions about organisms we’ve explored in lab over the semester.

**Case Studies:** We will use three lecture periods to discuss case studies. For each of these case
studies, you will have a primary literature paper or other material to read (or some podcast or
video to watch), preparation questions to answer before the discussion, and follow-up questions
to answer after the discussion.

**Turning in Assignments:** All assignments will be turned in through Moodle (unless stated
otherwise). There will be Assignment icons in Moodle that allow you to upload your
assignments. This saves paper, allows me to send comments back to you outside of class,
prevents lost assignments and time-stamps your submission. Feedback will be done using Track
Changes in Word and uploaded directly to Moodle. You will receive an email when I upload my
edits. Assignments should be uploaded to Moodle at the start of lecture or lab as indicated on the
individual assignment and lecture schedule. **Please ONLY send a WORD DOCUMENT file
and use the file naming format: your last name_assignment (e.g., Johnson_Assignment 1).**
Late Policy: Any assignments turned in late will lose 5% a day (including weekends), down to 0%. I cannot accept any written assignments after the start of our final exam. Work turned in late on the same day that it is due will be considered ½ a day late and be assessed a penalty of 2.5% of the original point value. TO BE FAIR TO ALL STUDENTS, I MUST STRICTLY ENFORCE THIS LATE POLICY. I will consider waiving the penalty only in a case of a medical or family emergency. Written documentation of the nature of the emergency may be required. An extra-curricular activity, travel, or work in another course is not a valid reason for late work. If you must miss class for one of these reasons, it is your responsibility to check the lecture schedule and assignment guidelines to determine if anything will be due in your absence. Please check with me if you are unsure.

Course Policies: You are responsible for all material covered in lectures, portions of the text assigned during lectures, and readings listed on the syllabus. In lecture periods, you will be given information that is not in the textbook and (as stated earlier) I don’t post my lecture notes, only the slides used in lecture. Therefore you must attend lectures and take detailed notes if you want to do well in the course. The list of readings from the required book, Biology: How Life Works, will be in the schedule. I will give ample notice for readings. I will add other reading material that we will discuss directly into Moodle as pdf files. You are responsible for printing, reading, and either bringing them to class or critically evaluating them before coming to class. I would also suggest reading the material again after class to solidify the findings.

Group Work: There will be times over this course where you will work on group assignments and/or utilize data collected while working in groups. Each and every graded assignment based on such effort must be your own work. For the tables or figures, you each must make your own, even if you work together and help each other. Anyone handing in someone else’s work or printing multiple copies of the same work to be handed in separately will be treated as plagiarism.

Diversity: Lack of respect for diversity will not be tolerated in the class. Diversity encompasses age, life experiences, profession, race, religion, gender, nation, lifestyle, social class, learning style, philosophy of life, sexual orientation, personality, mental and physical challenges, customs, values, among other.

Office of Accessibility and Accommodation: If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Peggy Perno, Director of the Office of Student Accessibility and Accommodations, Howarth 105, pperno@pugetsound.edu, 253.879.3395. She will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential. If you are enabled extra time on an exam, you must give me the form from the Office of Student Accessibility and Accommodations ONE WEEK before any exam (at the start of class is best so I can provide adequate accommodations). Generally, extra time is not given for in-class quizzes but if you absolutely need extra time for the quizzes, please come and talk to me the first week of class.

Student Bereavement Policy: Upon approval from the Dean of Students’ Office, students who experience a death in the family, including parent, grandparent, sibling, or persons living in the
same household, are allowed three consecutive weekdays of excused absences, as negotiated with the Dean of Students. For more information, please see the Academic Handbook.

**Classroom Emergency Response Guidance:**
Please review university emergency preparedness, response procedures and a training video posted at [www.pugetsound.edu/emergency/](http://www.pugetsound.edu/emergency/). There is a link on the university home page. Familiarize yourself with hall exit doors and the designated gathering area for your class and laboratory buildings.

If building evacuation becomes necessary (e.g. earthquake), meet your instructor at the designated gathering area so she/he can account for your presence. Then wait for further instructions. Do not return to the building or classroom until advised by a university emergency response representative.

If confronted by an act of violence, be prepared to make quick decisions to protect your safety. Flee the area by running away from the source of danger if you can safely do so. If this is not possible, shelter in place by securing classroom or lab doors and windows, closing blinds, and turning off room lights. Lie on the floor out of sight and away from windows and doors. Place cell phones or pagers on vibrate so that you can receive messages quietly. Wait for further instructions.

**Academic and Scientific Integrity:** Academic honesty is a fundamental principle of intellectual endeavor. Scientific integrity is an integral part of the scientific process. Simply put - cheating sucks. It is selfish, unfair to others, cheats the cheater of learning, and ends up consuming way too much time and emotion. Cheating is a waste of your time and mine. You will learn nothing and I will have to waste my time dealing with it rather than spend time on students who aren’t cheating.

It is your responsibility to make sure that you know and completely understand what constitutes academic dishonesty and plagiarism. It is your responsibility to read and understand the UPS policies on Academic Integrity. If you haven’t already been through the new Academic Integrity tutorial on the library’s website, you should familiarize yourself with it: [http://alacarte.pugetsound.edu/subjectguide/6-Academic-Integrity-Puget-Sound](http://alacarte.pugetsound.edu/subjectguide/6-Academic-Integrity-Puget-Sound).

By becoming a part of the UPS community and taking this course, you are stating that you have read the information on the UPS web page and that you fully understand what constitutes plagiarism and the penalties for academic dishonesty.

Several forms of academic dishonesty are especially relevant to this class:
- Cheating on exams or quizzes
- Alteration, fabrication or misrepresentation of data
- Plagiarism on any assignment including questions and comments and lab exercises. Note that plagiarism includes paraphrasing that uses the original wording or sentence structure. Cite references more than you think you need to!

Even when lab work is performed in groups, **you must complete all written work individually unless the assignment specifically states otherwise.** To avoid problems, never collaborate with classmates when you are actively writing your labs, papers or other assignments. I encourage you to discuss assignments with your colleagues, but do not take notes during those discussions because that can lead to answers that are suspiciously similar between individuals. I ran across
this quote on George Gilchrist’s Diversity of Life Web Page. It captured my sentiments so thoroughly that I have reprinted it for you – complete with quotes:

“Remember that you are here to learn, not to get a good grade. Cheating will not help you learn, [nor] will it help you get into medical school or graduate school. It will not help you get a good job nor will it help you obtain happiness with your life. Cheating is for losers and I don’t think anyone here falls into that category. If you decide that maybe you really want to be a loser and that cheating might be just the ticket to get you there, I will help you in every way I can. If you are caught cheating, you will fail this course and may be ejected from the university. More importantly, you will have cheated yourself out of the education you have been working and paying to obtain.”

If you cheat, I have to report you and sanctions range from losing credit for the assignment plus 100 points to, most commonly, being dismissed from the course with an F. You could also face a misconduct hearing and possible expulsion.

Copyright and Fair Use: Course materials are for educational purposes only and limited to students enrolled in the course. They are protected by copyright law and may not be copied, downloaded, stored, transmitted, shared or changed in any way.

Grading
Final grades will be determined based on the total points accumulated by each student. The maximum number of points possible is shown below:

<table>
<thead>
<tr>
<th>Item</th>
<th>Points</th>
<th>GRADING SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture Exams (3) (100 points each)</td>
<td>300</td>
<td>93 – 100 = A</td>
</tr>
<tr>
<td>Quizzes (6) (15 pts each, 1 dropped)</td>
<td>75</td>
<td>90 – 92.9 = A-</td>
</tr>
<tr>
<td>Final exam (50 pts on last unit, 100 pts on entire course)</td>
<td>150</td>
<td>87 – 89.9 = B+</td>
</tr>
<tr>
<td>Labs</td>
<td>200</td>
<td>83 – 86.9 = B</td>
</tr>
<tr>
<td>Lab introduction and methods</td>
<td>30</td>
<td>80 – 82.9 = B-</td>
</tr>
<tr>
<td>Lab results and discussion</td>
<td>30</td>
<td>77 – 79.9 = C+</td>
</tr>
<tr>
<td>Lab final paper</td>
<td>50</td>
<td>73 – 76.9 = C</td>
</tr>
<tr>
<td>Lab exams (Field exam 25, Lab exam 75)</td>
<td>100</td>
<td>70 – 72.9 = C-</td>
</tr>
<tr>
<td>Case studies (15 each)</td>
<td>45</td>
<td>67 – 69.9 = D+</td>
</tr>
<tr>
<td>Participation*</td>
<td>20</td>
<td>63 – 66.9 = D</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1000</td>
<td>60 – 62.9 = D-</td>
</tr>
</tbody>
</table>

*Participation includes showing up for class and lab, participating in class and lab (discussions, asking questions), and in-class assignments (observation, hypothesis, experiment).

Nurture your sense of wonder and awe. Look at the world with a child’s eyes. Let yourself be curious. Play in the dirt, mud and water and keep your senses open.

Darwin’s first drawing of an evolutionary tree
Biology 112
STUDENT CONTRACT
Diversity of Life, Fall 2016

Please sign the contract and return it to your professor by Friday, September 2.
Signed contracts are required to receive grades in this course.

I have read the syllabus and understand the content of the syllabus.

- I am aware of quiz, exam, and final exam dates. I understand that no make-up quizzes or exams will be given.
- I am aware of the assignment schedule, and I understand that assignments are due on the date and time stated. I understand that there is a penalty for assignments turned in late.
- I understand that labs are mandatory and that failure to attend lab for something other than a documented medical or family emergency will lead to a lower final course grade.

I have read the University’s policy on violations of academic integrity and the penalties associated with such violations.

- I understand these policies and penalties.

I have read the material about academic integrity and plagiarism contained on the Collin’s Library website as outlined in the syllabus.

- I have taken the Academic Integrity Quiz associated with the Library’s web page on Academic Integrity.
- I understand what constitutes plagiarism.
- I pledge to refrain from any act of academic dishonesty, plagiarism or scientific misconduct.
- I understand that all written work must be completed individually by me unless the assignment specifically states otherwise. I understand that if I violate this policy, penalties will be applied.

NAME (PRINT) ________________________________________________

SIGNATURE  ________________________________________________

DATE   ________________________