Course Name: Diversity of Life: Invertebrates
Course Number: z364
Credits: 5 credits
Instructor name: Dr. Nathan Kirk (He, him, his)
Instructor email: nathan.kirk@oregonstate.edu (Skype: nlkirk)

Course Description
Exploration of the diversity and evolutionary relationships among major invertebrate groups with an emphasis on building and interpreting phylogenetic trees as well as comparing and contrasting morphology, function, and life history within each group.

Prerequisites: ((BI 211 or 211H) and (BI 212 or 212H) and (BI 213 or 213H)) or (BI 204, 205 and 206). A minimum grade of C- is required in BI 211, BI 211H, BI 212, BI 212H, BI 213, BI 213H, BI 204, BI 205 and BI 206.

Z364 Inclusivity Statement
In an ideal world, science would be objective. However, science is a human-endeavor and is historically built on a small subset of privileged voices. It is possible that there may be both overt and covert biases in the material due to the lens with which it was written, even though the material is primarily of a scientific nature. Integrating a diverse set of experiences is important for a more comprehensive understanding of science. Please contact me if you have any suggestions to improve the quality of the course materials.

I (like many people) am still in the process of learning about diverse perspectives and identities. If something was said in class (by anyone) that made you feel uncomfortable, please talk to me about it. As a participant in course discussions, you should also strive to honor the diversity of your classmates. Furthermore, I would like to create a learning environment for my students that supports a diversity of thoughts, perspectives and experiences, and honors your identities (including race, gender, class, sexuality, religion, etc.) To help accomplish this:

Pronouns: If you have a name and/or set of pronouns that differ from those that appear in your official records, please let me know!

Statement of Accessibility: All students have the right to learn from and participate in the classroom. I am always open to hearing ways to make it more inclusive and accessible. Please contact me with any feedback

Course Credits
This is a combined lecture and laboratory course. The course combines approximately 90 hours of instruction, online activities, and assignments for 5 credits.
Communication
To be successful in this class it is important for us to effectively communicate. In addition to communication with me, you will also benefit from information that your classmates have. Therefore, there are a couple of places that you can post questions that you may have:

1) Canvas discussion board ("course basics") is a great place to address issues you are having with the technical side of being in an online environment. Issues with technology, due dates, missing links, etc. should be posted here so that everyone will benefit from the discussion.
2) Weekly Canvas discussion boards will be set up for discussion of course material. You will be making posts here for various assignments and your classmates (and I!!) will be able to respond to your questions here.
3) Email (nathan.kirk@oregonstate.edu) is my preferred method of contact for all additional course content questions and items of a personal nature (e.g. family emergencies, medical emergencies, missed deadlines, upcoming coursework, etc.)
4) Skype I will be available for digital office hours 2x a week and by appointment.
5) In person (Cordley 3002) If you live in the Corvallis Area and would like to meet in person, please email me to set up a mutually convenient time.

Although often it will be much sooner, I will respond to all posts and emails within 1 business day. I tend to check email and boards ~ 1x per day on weekends (Saturday and Sunday).

Technical Assistance
If you experience any errors or problems while in your online course, contact 24-7 Canvas Support through the Help link within Canvas. If you experience computer difficulties, need help downloading a browser or plug-in, or need assistance logging into a course, contact the IS Service Desk for assistance. You can call (541) 737-8787 or visit the IS Service Desk online.

Learning Resources

Computer access with video and microphone

Note to prospective students: Please check with the OSU Beaver Store for up-to-date information for the term you enroll (OSU Beaver Store Website or 800-595-0357). If you purchase course materials from other sources, be very careful to obtain the correct ISBN.

Basic Needs Statement
Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact the Director of Care in the office of the Dean of Students for support (studentassistance@oregonstate.edu, 541-737-8748). There might also be a food pantry in your community to help. You can search by zipcode here: http://www.feedingamerica.org. You can find information about enrolling in SNAP (food stamps) in your state here: https://www.fns.usda.gov/snap/apply.
Your local library might be able to help you find a copy of some textbooks through interlibrary loan.

Furthermore, please notify the professor about your concerns if you are comfortable in doing so. This will enable them to provide any resources that they may possess.

**Measurable Student Learning Outcomes**

1) Classify invertebrates within Phyla based on molecular evidence and morphological synapomorphies (shared derived characters).
2) Identify, compare and contrast morphological features of invertebrate phyla and clades.
3) Identify key evolutionary innovations that have allowed invertebrates diversify, specialize and colonize diverse habitats.
4) Explain the relationship between form and function and predict how changes in form will affect function.
5) Describe evolutionary relationships among the major invertebrate phyla using a weight of evidence approach.
6) Build phylogenetic trees and hypotheses based on different sets of evidence (characters), correctly interpret their meaning and present the findings in scientific communications.

**Evaluation of Student Performance**

In this course there will be multiple opportunities to earn points. I will provide feedback and grades within 1 week of submission.

**Formative assessment:**

- Online Discussions: 1 per week (5 pts each x 10 = 50 pts total)
- Pre-module reading quizzes (10 pts each x 8 = 80 pts total)
- Post-week quizzes (10 pts each x 8 = 80 pts total)
- Labs (5 pts each x 10 = 50 pts)
- Creature reports (10 pts each x 5 = 50 pts)
- Invertebrate Safari assignments (10 pts each x 5 = 50 pts)
- Tree check in (5 pts x 3 = 15 pts) ***This is a group assignment***

**Summative assessment:**

- Midterm Exam (100 pts)
- Final Exam (100 pts)
- Final Phylogenetics paper (100 pts)
- Final Phylogenetics presentation (25 pts)

**Letter Grade**

Letter grades will be assigned via point cutoffs as defined here. Those receiving at least ## pts will receive an “A”.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percent Range</th>
<th>Point Cutoff</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93-100</td>
<td>651</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
<td>630</td>
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</tbody>
</table>

This course is offered through Oregon State University Extended Campus. For more information visit: http://ecampus.oregonstate.edu.
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<thead>
<tr>
<th>Grade</th>
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</thead>
<tbody>
<tr>
<td>B+</td>
<td>88-89</td>
<td>616</td>
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<tr>
<td>B</td>
<td>83-87</td>
<td>581</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
<td>560</td>
</tr>
<tr>
<td>C+</td>
<td>78-79</td>
<td>546</td>
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<tr>
<td>C</td>
<td>73-77</td>
<td>511</td>
</tr>
<tr>
<td>C-</td>
<td>70-72</td>
<td>490</td>
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<tr>
<td>D+</td>
<td>68-69</td>
<td>476</td>
</tr>
<tr>
<td>D</td>
<td>63-67</td>
<td>441</td>
</tr>
<tr>
<td>D-</td>
<td>60-62</td>
<td>420</td>
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<tr>
<td>F</td>
<td>≤59</td>
<td>&lt;420</td>
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### Course Content

Here you will find the weekly course assignments.

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Learning Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction to phylogenetics and relatives of metazoans</td>
<td>Online discussion #1 Creature report #1 Reading quiz #1 Post quiz #1</td>
</tr>
<tr>
<td>2</td>
<td>Basal taxa (Cnidaria, Porifera and Ctenophores)</td>
<td>Online discussion #2 Invertebrate safari #1 Reading quiz #2 Post quiz #2</td>
</tr>
<tr>
<td>3</td>
<td>Deuterostomes: Echinoderms and chordates</td>
<td>Online discussion #3 Creature report #2 Reading quiz #4 Post quiz #4</td>
</tr>
<tr>
<td>4</td>
<td>Finish Deuterostomes and Start Spiralia</td>
<td>Online discussion #4 Invertebrate safari #2 Reading quiz #4 Post quiz #4</td>
</tr>
<tr>
<td>5</td>
<td>Spiralia: Mollusca</td>
<td>Online discussion #5 Creature report #3 Midterm: Through Deuterostomes</td>
</tr>
<tr>
<td>6</td>
<td>Spiralia: Annelida and friends</td>
<td>Online discussion #6 Invertebrate safari #3 Reading quiz #5 Post quiz #5</td>
</tr>
<tr>
<td>7</td>
<td>Finish Spiralia: Start Ecdysozoa: Nematoda</td>
<td>Online discussion #7 Creature report #4 Reading quiz #6 Post quiz #6</td>
</tr>
<tr>
<td>8</td>
<td>Ecdysozoa: Nematomorpha,</td>
<td>Online discussion #8</td>
</tr>
</tbody>
</table>

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tardigrada and friends</td>
<td>Invertebrate safari #4&lt;br&gt;Reading quiz #7&lt;br&gt;Post quiz #7&lt;br&gt;&lt;b&gt;Final Phylogenetics Paper&lt;/b&gt;</td>
</tr>
<tr>
<td>9</td>
<td>Ecdysozoa: Arthropoda</td>
<td>Online discussion #9&lt;br&gt;Creature report #5&lt;br&gt;Reading quiz #8&lt;br&gt;Post quiz #8</td>
</tr>
<tr>
<td>10</td>
<td>Invertebrate biology in the 21rst century</td>
<td>Online discussion #10&lt;br&gt;Invertebrate safari #5&lt;br&gt;&lt;b&gt;Final Phylogenetics Presentation&lt;/b&gt;</td>
</tr>
<tr>
<td>Finals</td>
<td></td>
<td>Final Exam</td>
</tr>
</tbody>
</table>

**Course Policies**

**Discussion Participation**
Students are expected to participate in all graded discussions. While there is great flexibility in online courses, this is not a self-paced course. You will need to participate in discussions on at least two different days each week, with your first post due no later than Wednesday evening, and your second and third posts due by the end of each week.

**Late Work Policy**
Please try your best to make all scheduled due dates. All late work will lose 10% (of the assignment) per day until there are no remaining points (i.e. 10 days late).

Please see below for missed exam policy.

**Proctored Exams**
This course requires that you take exams under the supervision of an approved proctor. Proctoring guidelines and registration for proctored exams are available online through the Ecampus testing and proctoring website. It is important to submit your proctoring request as early as possible to avoid delays.

There will be two proctored exams in this class: One midterms and a final exam. The final will be cumulative and will cover all material in the course.

**Makeup Exams**
Makeup exams will be given only for missed exams excused in advance by the instructor. Excused absences will not be given for airline reservations, routine illness (colds, flu, stomach aches), or other common ailments. Excused absences will generally not be given after the absence has occurred, except under very unusual circumstances.
Incompletes
Incomplete (I) grades will be granted only in emergency cases (usually only for a death in the family, major illness or injury, or birth of your child), and if the student has turned in 80% of the points possible (in other words, usually everything but the final paper). If you are having any difficulty that might prevent you completing the coursework, please don’t wait until the end of the term; let me know right away.

Guidelines for a Productive and Effective Online Classroom
Students are expected to conduct themselves in the course (e.g., on discussion boards, email) in compliance with the university’s regulations regarding civility. Civility is an essential ingredient for academic discourse. All communications for this course should be conducted constructively, civilly, and respectfully. Differences in beliefs, opinions, and approaches are to be expected. In all you say and do for this course, be professional. Please bring any communications you believe to be in violation of this class policy to the attention of your instructor.

Active interaction with peers and your instructor is essential to success in this online course, paying particular attention to the following:

- Unless indicated otherwise, please complete the readings and view other instructional materials for each week before participating in the discussion board.
- Read your posts carefully before submitting them.
- Be respectful of others and their opinions, valuing diversity in backgrounds, abilities, and experiences.
- Challenging the ideas held by others is an integral aspect of critical thinking and the academic process. Please word your responses carefully, and recognize that others are expected to challenge your ideas. A positive atmosphere of healthy debate is encouraged.

Statement Regarding Students with Disabilities
Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval, please contact DAS immediately at 541-737-4098 or at http://ds.oregonstate.edu. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

Accessibility of Course Materials
All materials used in this course are accessible. If you require accommodations please contact Disability Access Services (DAS).

Additionally, Canvas, the learning management system through which this course is offered, provides a vendor statement certifying how the platform is accessible to students with disabilities.
Expectations for Student Conduct
Student conduct is governed by the university's policies, as explained in the Student Conduct Code. Students are expected to conduct themselves in the course (e.g., on discussion boards, email postings) in compliance with the university's regulations regarding civility.

Academic Integrity
Students are expected to comply with all regulations pertaining to academic honesty. For further information, visit Student Conduct and Community Standards, or contact the office of Student Conduct and Mediation at 541-737-3656.

OAR 576-015-0020 (2) Academic or Scholarly Dishonesty:
a) Academic or Scholarly Dishonesty is defined as an act of deception in which a Student seeks to claim credit for the work or effort of another person, or uses unauthorized materials or fabricated information in any academic work or research, either through the Student's own efforts or the efforts of another.
b) It includes:
   i) CHEATING - use or attempted use of unauthorized materials, information or study aids, or an act of deceit by which a Student attempts to misrepresent mastery of academic effort or information. This includes but is not limited to unauthorized copying or collaboration on a test or assignment, using prohibited materials and texts, any misuse of an electronic device, or using any deceptive means to gain academic credit.
   ii) FABRICATION - falsification or invention of any information including but not limited to falsifying research, inventing or exaggerating data, or listing incorrect or fictitious references.
   iii) ASSISTING - helping another commit an act of academic dishonesty. This includes but is not limited to paying or bribing someone to acquire a test or assignment, changing someone's grades or academic records, taking a test/doing an assignment for someone else by any means, including misuse of an electronic device. It is a violation of Oregon state law to create and offer to sell part or all of an educational assignment to another person (ORS 165.114).
   iv) TAMPERING - altering or interfering with evaluation instruments or documents.
   v) PLAGIARISM - representing the words or ideas of another person or presenting someone else's words, ideas, artistry or data as one's own, or using one's own previously submitted work. Plagiarism includes but is not limited to copying another person's work (including unpublished material) without appropriate referencing, presenting someone else's opinions and theories as one's own, or working jointly on a project and then submitting it as one's own.

c) Academic Dishonesty cases are handled initially by the academic units, following the process outlined in the University's Academic Dishonesty Report Form, and will also be referred to SCCS for action under these rules.

Tutoring and Writing Assistance
NetTutor is a leading provider of online tutoring and learner support services fully staffed by experienced, trained and monitored tutors. Students connect to live tutors from any computer that has Internet access. NetTutor provides a virtual whiteboard that allows tutors and students to work on problems in a real time environment. They also have an online writing suite where
tutors critique and return essays within 24 to 48 hours. Access NetTutor from within your Canvas class by clicking on the Tools button in your course menu.

The Oregon State Online Writing Suite is also available for students enrolled in Ecampus courses.

**TurnItIn**

Your instructor may ask you to submit one or more of your writings to Turnitin, a plagiarism prevention service. Your assignment content will be checked for potential plagiarism against Internet sources, academic journal articles, and the papers of other OSU students, for common or borrowed content. Turnitin generates a report that highlights any potentially unoriginal text in your paper. The report may be submitted directly to your instructor or your instructor may elect to have you submit initial drafts through Turnitin, and you will receive the report allowing you the opportunity to make adjustments and ensure that all source material has been properly cited. Papers you submit through Turnitin for this or any class will be added to the OSU Turnitin database and may be checked against other OSU paper submissions. You will retain all rights to your written work. For further information, visit [Academic Integrity for Students: Turnitin – What is it?](http://ecampus.oregonstate.edu).

**Student Evaluation of Courses**

The online Student Evaluation of Teaching system opens to students during the week before finals and closes the Monday following the end of finals. Students receive notification, instructions and the link through their ONID. They may also log into the system via Online Services. Course evaluation results are extremely important and used to help improve courses and the online learning experience for future students. Responses are anonymous (unless a student chooses to “sign” their comments, agreeing to relinquish anonymity) and unavailable to instructors until after grades have been posted. The results of scaled questions and signed comments go to both the instructor and their unit head/supervisor. Anonymous (unsigned) comments go to the instructor only.