INSTRUCTORS:
Dr. Jim Bauer
476 Aronoff Laboratory
E-mail: bauer.362@osu.edu
Office hours: 476 Aronoff Laboratory
Thurs 1-2 PM or by appt.

Dr. Erik Rothacker
260 Jennings Hall
E-mail: rothacker.1@osu.edu
Office hours: 240B Jennings Hall
Wed. 2:30-3:30PM or by appt.

GRADUATE TEACHING ASSISTANTS
Amber Bellamy (bellamy.41@osu.edu), office hrs: Tues 11AM-noon & by appt., 110 Jennings Hall
Zac Beres (beres.36@osu.edu), office hrs: Tues 11AM-noon & by apt., 378 Aronoff Lab
Kellen Calinger (calinger.2@osu.edu), office hrs: Mon 10:30-11:30AM & by apt., 366 Aronoff Lab
Tahir Ibrahim (ibrahim.93@osu.edu); office hrs: Mon 2-3PM & by appt., 356 Aronoff Lab
Steve Gougherty (gougherty.2@osu.edu); office hrs: Mon 10-11AM & by appt., 110 Jennings Hall
Scott Kelsey (Kelsey.38@osu.edu), office hrs: Tues 11AM-noon & by appt., 110 Jennings Hall

LECTURES:
Monday & Wednesday 3:55 – 5:15 PM, Room 1184 Postle Hall

LABORATORIES:
Each student must enroll in one lab section. Labs meet in Room 130 Jennings Hall.
Tuesday 8:00-10:55AM (GTA: Amber Bellamy)
12:45-3:40PM (GTA: Tahir Ibrahim)
Wednesday 9:10-11:55AM (GTA: Scott Kelsey)
Thursday 8:00-10:50AM (GTA: Zac Beres)
12:45-3:40PM (GTA: Kellen Calinger)
Friday 9:10AM-11:55AM (GTA: Steve Gougherty)

LEARNING OBJECTIVES:
We have identified numerous learning objectives for the course. Achieving these learning objectives will require that you attend and participate in labs, as well as complete all activities and assignments.
The student who successfully completes the laboratory portion of this course should be able to:

• Understand how evolutionary principles apply to ecological problems.
• Appreciate the importance of systems thinking in ecology.
• Appreciate the need to consider scale when trying to interpret spatial and temporal patterns in nature.
• Appreciate the importance of change in ecology.
• Understand how ecologists use the scientific method.
• Understand the difference between using observational and experimental approaches to understanding nature.
• Appreciate how models are used to understand nature.
• Learn the need for, meaning of, and use of statistics as a tool to understand nature.
• Understand the ecology of the individual organism.
• Understand what factors and processes affect population size, structure, and growth rate.
• Understand how interactions among species and among species and the environment affect community structure and function.
• Understand the flow of energy and nutrients through ecosystems.
• Appreciate the role of global processes in ecology.

COURSE STRUCTURE & ASSESSMENT:

Course Structure: EEOB 3410 has a single, 2-hour 55-minute laboratory meeting per week. All reading assignments and other materials for the laboratories will be posted on the EEOB 3410 Carmen site (i.e., no laboratory manual needs to be purchased for this class). It will be your responsibility to check the Carmen site each week (before class), read all appropriate materials, and bring to class all appropriate datasheets and lab instructions.

These laboratory experiences are designed to complement and extend the material covered in the lecture portion of the course, and will include group experiments, demonstrations, analysis problems, computer simulations, presentations, and the writing and peer-review of a scientific paper. Most exercises will require data analysis and written submissions ranging from brief summaries prepared during class to scientific reports that will be completed outside of class.

The laboratory grade will be calculated primarily on the basis of the following criteria: 1) weekly lab write-ups (totaling 145 points); 2) a scientific paper based on a long-term competition experiment (first drafts = 20 points for Introduction and Methods, and 20 points for Results and Discussion; final version = 50 points); 3) a peer review of another student’s competition paper (20 points); and 4) a team (2 students) a) summary of your presentation (10 points) and actual presentation on a scientific paper of your choice (40 points). Total maximum points = 305.

Weekly lab write-ups: Most labs will include a written assignment summarizing the lab exercise in a form that represents the Results and Discussion sections of a traditional scientific paper. Your lab instructor will tell you more about each assignment as it approaches. Most lab write-ups will be due at the end of the lab period. In a couple of instances, labs will need to be completed at home.

Scientific paper: To help you learn the basics of technical writing, you will write a full scientific report covering 1 of the 2 competition experiments (beetle or plant). You will be required to submit initial drafts that will be reviewed by your TA and peer-reviewed by a lab mate. You will use these reviews to improve your final submitted paper.

Peer review: You will be required to provide a critical, yet constructive review of a lab mate’s competition paper. Instructions and a rubric will be provided to assist you.

Presentation: You and a lab mate will create and give a 10-minute oral presentation on a scientific paper during the semester. We will provide you with a range of journal articles from which to choose your paper, with your lab instructor confirming that the paper is acceptable. The presentation will need to convey an overview of the paper, which includes its rationale, main findings, and conclusions, as well as offer your assessment of the paper. Instructions and a rubric will be provided to assist you.

As part of the presentation exercise, each team will also be required to submit the week before a short summary/critique outlining the main points of the paper to be presented and discussed in your oral presentation.
POLICIES & PROCEDURES:

Attendance Policy: You must notify your GTA *ahead of time* if you will miss a laboratory class. This must be for a valid reason and a written excuse provided to the TA by the next class (lab or lecture). If you arrive late to your lab, you will lose 25% of the points for that lab up to being 15 min. late. Arrival later than 15 min. after that start of the lab will result in you being awarded no points for that lab. Late arrivals are extremely disruptive to the flow of the lab, to the other students and to the lab instructor. In addition, your late arrival puts you at a disadvantage by having missed what has already been covered and by being out of synch for the remainder of the lab. A possibility exists that your GTA can arrange for you to attend 1 of the 5 other laboratory sections, if you cannot make yours in a given week, but only with a) advance notice to the TA and b) a valid written excuse for your absence. The activities in lab are difficult to make up outside of class, so you must attend punctually each week. **Anyone missing three laboratory periods for reasons other than those deemed appropriate by University rules will be assigned a grade of E for the course regardless of points accumulated.**

Late assignments: Assignments submitted late will have 25% of the maximum possible points deducted per day late. For example, a student who turns in a 20-point assignment two days late will be able to earn a maximum of 10 points. If you think you will have trouble turning in an assignment on time, discuss the situation with your lab instructor as soon as you can, well before it is due.

Sharing lab report data: Often laboratory exercises involve group participation while conducting experiments and collecting data. During this part of the process, we encourage active participation and discussion among students; however, unless otherwise specified by your instructor, preparing (i.e., writing, graphing, etc.) laboratory reports must be an individual exercise. This practice is designed to ensure that each student takes an active role in analyzing data, graphing results, and interpreting his/her results in writing. Your lab instructor will not accept laboratory reports that have been prepared as a group effort unless you have been given specific directions to do so for that specific report.

If you have any questions, feel free to contact your lab instructor. Better yet, drop by your lab instructor’s office and s/he will work with you to answer your questions. Your lab instructor will work to make the lab portion of the course a good learning experience, as well as an enjoyable one.

FREQUENTLY ASKED QUESTIONS (FAQs):

What should I do if I feel I need some accommodation to allow me to succeed in this course? If you feel you may need an accommodation based on a special need, you should contact Dr. Bauer or Dr. Rothacker to arrange an appointment as soon as possible after the beginning of the semester. At that time we can discuss the course format, anticipate your needs, and explore potential adaptations to meet your needs. We rely on the Office for Disability Services (ODS; [http://ods.osu.edu/](http://ods.osu.edu/)) for assistance in verifying the need for accommodations and developing accommodation strategies. If you have not previously contacted the Office for Disability Services, please do so at 614-292-3307 in room 150 Pomerene Hall to coordinate reasonable accommodations. Note: The syllabus and lab materials can be made available in alternative media, given advanced notice and documentation from ODS.

What is the course policy on Academic Misconduct? You are responsible for completing your assignments on your own, unless otherwise noted. Examples of plagiarism and other forms of academic misconduct are given in the OSU Code of Student Conduct ([http://studentaffairs.osu.edu/cse/](http://studentaffairs.osu.edu/cse/)), and it is the responsibility of all OSU students to understand what actions might be construed as academic misconduct. See [http://oaa.osu.edu/coamFAQs.html](http://oaa.osu.edu/coamFAQs.html) for frequently asked question on academic misconduct. Any and all suspected incidents of academic misconduct will be forwarded to the OSU Committee on Academic Misconduct for adjudication.
<table>
<thead>
<tr>
<th>Lab</th>
<th>Dates</th>
<th>Topic</th>
<th>In-Class Activities</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/12-1/16</td>
<td>Lab 1 - Introduction to Ecology Labs and Quantitative Tools</td>
<td>Intro to lab activities; Introduction to Excel and basic stats; Provide list of literature papers for upcoming student presentations</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>1/19-1/23</td>
<td>Lab 2 - Competition Experiment Setup</td>
<td>Set up interspecific plant &amp; intraspecific beetle competition experiments; Choose papers and dates for upcoming student oral presentations</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>1/26-1/30</td>
<td>Lab 3 - Scientific Inquiry</td>
<td>How to develop hypotheses (visit South Oval/Mirror Lake area); How to conduct a literature search; How to read and critically examine a scientific paper</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>2/2-2/6</td>
<td>Lab 4 - Human Demography</td>
<td>Sample at Green Lawn Cemetery; Help for first group of student presenters next week Due: Literature Search Exercise Due: Summaries of papers to be covered in week 5 oral presentations</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>2/9-2/13</td>
<td>Lab 5 - Ecological Sampling Techniques</td>
<td>Mark-recapture study with insects; First group of student oral presentations Due: Human Demography Write-up</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>2/16-2/20</td>
<td>Lab 6 - Qualitative Modeling</td>
<td>Ecosystem model development; review of Excel; Overview of how to write a scientific paper; Help for second group of student presenters next week Due: Summaries of papers to be covered in week 7 oral presentations</td>
<td>10</td>
</tr>
<tr>
<td>7</td>
<td>2/23-2/27</td>
<td>Lab 7 - Competition Experiment Revisited</td>
<td>Collect data on beetle experiment; Additional statistics review; Second group of student oral presentations</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>3/2-3/6</td>
<td>Lab 8 - Predator-Prey Interactions</td>
<td>Simutext Lab: Model Isle Royale moose-wolf populations; Help for third group of student presenters next week Due: Summaries of papers to be covered in week 9 oral presentations Due: 1st Draft of Introduction and Methods sections of Competition Expt. paper</td>
<td>10</td>
</tr>
<tr>
<td>9</td>
<td>3/9-3/13</td>
<td>Lab 9 - Plant Parasitoids</td>
<td>Parasitoid analysis on goldenrods; Third group of student oral presentations</td>
<td>10</td>
</tr>
<tr>
<td>10</td>
<td>3/16-3/20</td>
<td>Spring Break – no lab</td>
<td></td>
<td>40</td>
</tr>
<tr>
<td>11</td>
<td>3/23-3/27</td>
<td>Lab 10 - Competition Experiment Revisited</td>
<td>End experiments &amp; collect data</td>
<td>15</td>
</tr>
<tr>
<td>12</td>
<td>3/30-4/3</td>
<td>Lab 11 - Paper Writing Assistance</td>
<td>Receive help with data analysis (statistics), organization and writing of competition experiment papers; Assign peer reviewers</td>
<td>20</td>
</tr>
<tr>
<td>12</td>
<td>4/6-4/10</td>
<td>Lab 12 – Nutrient Limitations on Primary Producers</td>
<td>Simutext Lab: Liebig’s Barrel and Limiting Nutrients Due: 1st Draft of Results and Discussion sections of Competition Expt. paper</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Date</td>
<td>Activity</td>
<td>Details</td>
<td>Weight</td>
</tr>
<tr>
<td>-----</td>
<td>----------</td>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>13</td>
<td>4/13-4/17</td>
<td>Lab 13 - Plant Competition/Wildflowers</td>
<td>Sample plants/wildflowers at Sharon Woods</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Due: Peer Reviews of Competition Papers</td>
<td>20</td>
</tr>
<tr>
<td>14</td>
<td>4/20-4/24</td>
<td>Lab 14 – Complete final versions of competition experiment papers and submit</td>
<td>Course evaluations</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Due: Final Draft of Competition Experiment Paper</td>
<td></td>
</tr>
</tbody>
</table>