Field Ecology (Biology 199, Section 8160)
Summer 2004 Syllabus

Instructor: Terrence Willett
Phone: (408) 848-4852
Email: twillett@gavilan.edu
Website: http://www.gavilan.edu/research/bio199.htm
Office: Life Science 114
Office hours by appointment

Biology 199 introduces concepts in ecology, plant and animal identification, and habitat assessment in a field setting. Students should be prepared for primitive camping and long hours of intensive learning. No prior biology is expected but due to the requirement to keep a detailed field journal and perform simple calculations, it is advised that students be eligible for English 250 and Math 205. This class is 1 unit, which may be CSU transferable as an elective.

Grades in Biology 199 will be established according to the following assignments and grading scale:

Assignments
Field Journal 80 points
Participation 20 points
Total 100 points

Grading
Credit = 70 to 100 points
No-Credit = less than 70 points

The number of points for each assignment will depend upon demonstration of attainment of the following Course Learning Outcomes:

• Synthesize data from disparate habitat assessments
• Differentiate organisms using an identification key
• Work with a team to collect data
• Calculate descriptive habitat statistics such as Jaccard index
• Apply ecological theory to field observations
• Clearly describe field observations in written journal format
• Demonstrate proper field safety protocols

The Field Journal is the main assignment for the class. Each page of the journal should have:
1. Date
2. Location (underlined) described in a way that the site could be found 100 years from now
3. Weather
4. Your name
5. Your observations which can be text and/or drawings
6. Your analyses which will include calculations and/or logical reasoning and inference

Required and optional measurement exercises that must be recorded in your journal include:
1. Count number of vertical strata in at least two different areas
2. Count number of species of particular guild in at least two different locations and calculate:
   Species richness
   \[ S = \text{number of distinct species} \]
   Jaccard index
   \[ C = \frac{j}{(a+b-j)} \]
   \[ a = \# \text{ species in area a, } b = \# \text{ species in area b, } j = \# \text{ species common to both areas} \]
3. Observe and journal in one spot for one hour
4. Measure leaf length of same species in two locations that differ in distance from stream, elevation, solar exposure, or other environmental variable (optional)
### Tentative Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Location</th>
<th>Topic/Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friday 6/18</td>
<td>5pm to 8pm</td>
<td>Social Science 206, Gavilan College</td>
<td>Introductory to ecology, field journaling, identification keys, and field trip preparation</td>
</tr>
<tr>
<td>Friday 6/25</td>
<td>6pm to 8pm</td>
<td>Big Basin Visitor Center, Camp Site</td>
<td>Set up camp, walk Redwood Trail</td>
</tr>
<tr>
<td>Saturday 6/26</td>
<td>8am to 12pm</td>
<td>Big Basin</td>
<td>Plant and animal identification, forest mensuration, redwood old growth and second growth hike</td>
</tr>
<tr>
<td></td>
<td>12pm to 1pm</td>
<td></td>
<td>Lunch</td>
</tr>
<tr>
<td></td>
<td>1pm to 3pm</td>
<td></td>
<td>Observation</td>
</tr>
<tr>
<td></td>
<td>3pm to 6pm</td>
<td></td>
<td>Riparian hike</td>
</tr>
<tr>
<td></td>
<td>6pm to 8pm</td>
<td></td>
<td>Dinner, clean up, discussion</td>
</tr>
<tr>
<td>Sunday 6/27</td>
<td>8am to 9am</td>
<td>Big Basin</td>
<td>Break camp</td>
</tr>
<tr>
<td></td>
<td>9am to 10am</td>
<td></td>
<td>Travel to Castle Rock</td>
</tr>
<tr>
<td></td>
<td>10am to 12pm</td>
<td>Castle Rock</td>
<td>Oak woodland hike</td>
</tr>
<tr>
<td></td>
<td>12pm to 1pm</td>
<td></td>
<td>Lunch</td>
</tr>
<tr>
<td></td>
<td>1pm to 3pm</td>
<td></td>
<td>Wrap up discussion, finish journal</td>
</tr>
<tr>
<td></td>
<td>3pm</td>
<td></td>
<td>Turn in journal and travel home</td>
</tr>
</tbody>
</table>

**Required equipment**
- Field Journal
- Pens, pencils, erasers for journaling
- Hat
- Sunglasses
- Sun screen
- Insect repellent
- At least one quart worth of water bottles
- Sturdy hiking shoes
- Flashlight
- Personal first aid including alcohol/peroxide, band aids, and bandages/sterile pads
- Contribution for food and camping (probably $15 to $20)
- Tent and sleeping gear (may be shared)

**Recommended equipment**
- Any relevant plant or animal guides or natural history guides
- Binoculars
- Magnifying glass or hand lens
- Camera
- Drawing pad, pencils, and pens
- Compass
Accommodations, Policies, and Warnings

If you have any disability for which you require accommodations, you may request assistance from the instructor and/or disabled student services (408) 848-4865/4767, www.gavilan.edu/dsps/.

Students are expected to act with academic honesty and integrity. Plagiarism will result in a failing grade and disciplinary action that may include recommendation for dismissal. No illegal drugs, alcohol, dogs (except trained guide dogs), or weapons are allowed on college grounds, during college field trips, or on State Park property. Students violating this policy will be immediately dropped from the class and receive a failing grade and may receive further disciplinary action.

Field trip sites may contain rash inducing plants such as poison oak and stinging nettle as well as stinging and biting animals including mosquitoes, ticks, bees, wasps, mountain lions, and rattlesnakes. Avoidance of these plants and animals along with wearing light colored long sleeve shirts and pants, boots that cover your ankles, insect repellents, staying on trails, and hiking in groups are the best protection against these potential hazards.

Directions to Big Basin from Gavilan College region
Hwy 101 North to
Hwy 85 North to
Saratoga Ave Exit
Left onto Saratoga
Saratoga becomes Hwy 9
Right onto Big Basin Way/Hwy 236
About 8 miles to headquarters
Total distance about 60 miles. Allow 1.5 hours.

Park Address
21600 Big Basin Way
Boulder Creek, CA 95006-9064

Big Basin Redwood State Park, CA Latitude / Longitude: 37.16621 / -122.24605
Castle Rock State Park, CA Latitude / Longitude: 37.2317 / -122.1158

originally printed on Eurka!100 100% post-consumer waste unbleached recycled paper