

## BIOL 4010, TOPICS IN BIOLOGY II, MAYMESTER 2000, VALDOSTA STATE UNIVERSITY

### “FIELD NATURAL HISTORY OF NORTHERN RUSSIA”

Format: Intensive field exercises, with periodic on-site lectures, and special projects  
Credit Hours: 4  
Prerequisites: 12 semester hours of majors Biology coursework (generally, this will mean BIOL 2010, 2230 & 2270 or equivalents) or consent of instructor  
Schedule: (Also see “Itinerary”) 21-day in-country schedule includes 14 full days and evenings of study at biological field stations and preserves, 2 days of meetings with SSU biologists and government scientists, 4 travel days, and 2-3 city excursion days (including visits to Natural History museums).  
Required Texts: Instructor-prepared notes plus compilation of recent research articles (TBA)

Students will keep two journals: one, a daily transcript of field observations and lecture notes, including sketches, as appropriate; the other, a catalogue of species encountered, taxonomically arranged, annotated with notes on habit, habitat, geographic distribution and ecological importance.

There will be two written exams administered, during the middle and end of the trip, covering assigned readings and periodic lectures given on-site. Each student will undertake a special research project, to be completed while at Vychegda field station (and possibly Pechora-Ilych preserve). A final paper will be prepared relating to that project and will be due ca. 1 week after our return to the U.S. Journals will also be turned in for grading at the end of the trip.

Grading & Point Allocation:		Grading Scale:	
Journal #1-	200 pts	900-1000	A
Journal #2	200	800-899	B
Exams (2)	200	700-799	C
Specimen preparation, collection	100	600-699	D
Special Project/Paper	300		
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TOTAL	1000 pts		

### TOPICS COVERED (Also see attached Itinerary)

	Approx. # Days:
Ecology, flora and fauna of Northern European deciduous forests	3
Ecology, flora and fauna of pine forests in the boreal zone	3
Ecology, flora and fauna of spruce forests in the boreal zone	3
Post-fire ecology and management of boreal forests	1
Ecology, flora and fauna of riverine and lacustrine/ palustrine habitats	2
Science of Natural History Museums, exhibits, research, techniques	2

Included in Above Schedule:

Botanical Collection and Preparation (including lichens, fungi)	4-6
Vertebrate Sampling-	
Small mammal collecting & preparation	2
Bird netting, identification and field observation	4
Fish/frog netting and i.d.	2
Invertebrate Sampling (insect collections, mollusc et al. i.d.)	3

Students who successfully complete the course should be able to:

1. Relate the major structural and plant species compositional attributes of several important forest ecosystem types (both deciduous and boreal) found in northeasternmost Europe,
2. Understand the geologic, climatic, and evolutionary factors shaping these ecosystems,
3. Explain the role that fire and silviculture have on these ecosystems,
4. Be able to compare and contrast, ecologically and taxonomically, these Eurasian forests to temperate North American forests,
5. Identify many examples of characteristic species of mammals, birds, frogs, insects, molluscs and fishes of these forests and associated aquatic habitats,
6. Identify several characteristic native species of non-vascular plants, fungi, and lichens,
7. Understand in some detail the ecological roles played in these forest ecosystems by a few example species within each of these major taxa,
8. Understand and appreciate the methodologies of fieldwork employed in ecological and faunistic/floristic studies, and demonstrate some proficiency at these techniques in the preparation and annotation of a systematic collection of some taxon,
9. Design, undertake, and complete a short-term field research investigation of their own choosing, and prepare a written summary of it in scientific manuscript format,
10. Understand the role of daily and thorough journal recording of field observations.

Instructor's Qualifications:

The instructor traveled to Russia in 1995 to meet with SSU Biology faculty and students and to assess the status of field station facilities and the feasibility of offering such a course. He has worked closely with Dr. Vladimir Guryev on his past two stays in Georgia (1995 and 1997) and also with Dr. Veronica Tarbaeva during her visiting appointment to VSU in Fall, 1999. Both Dr. Guryev (a zoologist) and Dr. Tarbaeva (a botanist) will be assisting with arrangements for the course in Russia.

Dr. Bergstrom has been teaching Ecology and Mammalogy, both upper-division field biology courses, for the past 13 years at VSU and has also taught Ornithology 4 times since 1995. One or more multi-day fieldtrips (from 2-5 nights duration) has been taken each term in each of these courses, with destinations including Sapelo Island (UGA Marine institute), Blue Ridge Mts. of North Carolina (Highlands Biol. Station) and the Everglades and Florida Keys (including Dry Tortugas National Park).

Dr. Bergstrom's graduate work and subsequent research have been primarily field oriented, including extensive travel to domestic and foreign locations.