**WETLANDS ECOLOGY - BIO 393
DR. TODD HURD -**[**SHIPPENSBURG**](http://www.ship.edu/)**UNIVERSITY**

**Description:**
Students will become familiar with wetland terms and types, wetland hydrology, biogeochemistry (nutrient cycling), succession, and biodiversity. Diverse wetland ecosystems are examined relative to geographical extent, geomorphology, hydrology, chemistry, ecosystem structure, and ecosystem function (succession, productivity, nutrient cycling, etc.). Wetland ecosystems analyzed include: estuaries, tidal freshwater marshes, inland freshwater marshes, peatlands, forested swamps, and riparian wetlands. Wetland values, management, delineation, classification, restoration, and creation are also examined through a combination of classroom (40-50%) and field experiences (50-60%), including trips to diverse coastal and inland wetlands.

**General Description of Field Activities:**
Half or full day field trips will be taken to diverse inland and coastal wetlands, in order to compare and contrast biotic and abiotic characteristics of these wetlands. Wetland delineation will be conducted by the class following federal protocol during at least one field outing, and techniques for wetland wildlife and coastal zone management in the face of global change emphasized in others. Students should be physically capable of hiking and paddling for the field component of the course.

**Prerequisites:**
One course in Introductory Biology, Chemistry, or Earth Science (or by permission)

**Required Textbook or Supplies:**
In Search of Swampland
by Ralph Tiner
Paperback: 352 pages
Publisher: Rutgers University Press; Second edition (September 22, 2005)
Language: English
ISBN-10: 0813536812
ISBN-13: 978-0813536811

Chesapeake Bay: Nature of the Estuary: A Field Guide Paperback
by Christopher P. White
Paperback: 224 pages
Publisher: Schiffer Publishing; 1st edition (October 1, 1989)
Language: English
ISBN-10: 0870333518
ISBN-13: 978-0870333514

**Number of Students**:
Maximum: 14

**Grading**

**Exams (2) 200**

**Field Book 100**

**Project Presentation 100**

**Academic Dishonesty Policy (see See** [**http://www.ship.edu/catalog/**](http://www.ship.edu/catalog/) **ug catalog page 25**

**Attendance Policy: You may not complete this course with a grade if you have more than three absences. If illness results in more than three days absence, a medical withdrawal must be requested.**

**Tentative** **Course Outline**

Date Topic Reading

July 2 AM: Introduction; Wetland Definition and Classification;

 Regional Wetlands (overview). White (3-24)

PM: Project Introduction/Basic Field Techniques (plot and transect sampling, plant ID and field books).

July 3 AM: Salt Marshes and Salt Marsh Zonation White (133-149)

 **PM: Field trip Salt Marsh Paddle**

July 4 AM: Wetland Development; Brackish and Freshwater Tidal Marshes White (97-131)

 PM: **Field Trip Corkers Creek at Shad Landing Paddle**

July 5 AM: Biological Adaptations of Wetland Plants

 PM: **Field Trip: Assateague Island; Plant ID & Pressing**

July 6 AM: **Field Trip Overview of research on Wallops Island**

 PM: Wetland Values; Plan/Execute projects

July 9 Work on project ideas; study for exam

 Field books due by Monday 9 AM exam

July 10 9 AM: Exam 1 – Taxonomy of dominant wetland plants
 10:30: Meet about projects (proposal due)

 PM: **Monitor trawl, plankton tow ponar – Animal ID & Zonation**

July 11 AM: Wetland Hydrology

 PM: **Mudflat trip (Monitor).**

July 12 AM: Wetland Soils and biogeochemistry; Delineation

 PM: **Field Delineation of a wetland boundary**

July 13 **AM: Field Trip to Hickory Point Natural Area (MD) . Remnant Atlantic White Cedar Swamp**

 **PM: Plant ID; Wetland Delineation; Presentation of past wetlands research projects**

July 16 **AM: Coastal Research at Greenbackville**

 **PM: Work on projects and field books**

July 17 AM: Delineation and Field review of wetland plants

 PM: Wetland Management (Wildlife and Construction)

 Take home Exam questions given.

July 18 **AM: Field Trip: Chincoteague NWR – Treatment Wetlands**

 **PM: PM: Blackwater NWR – Wildlife and Marsh Management Techniques**

July 19AM:Non-tidal marshes, peatlands and vernal pools

 PM: Practical Component of Exam II; Presentation of Projects

 Field book Check #2;

July 20 Take home written exam questions due by 12 noon. Lab/van cleanup