

## **EEOB 3310 - Evolution**

Semester Credit Hours – 4 undergraduate

### **PREREQUISITES**

Biology 1114 or 1114H (Biological Sciences: Form, Function, Diversity, and Ecology), or equivalent, or permission of instructor. Not open to students with credit for 400.

### **OBJECTIVES**

Evolutionary theory ties together the entire field of biology, yet most evolution courses are taught in lecture halls. Charles Darwin, however, began developing the theory of natural selection partly using evidence gathered from islands. Stone Lab provides a unique opportunity to study evolution in a field-based environment, much as biologists continue to do in the Galapagos. We will review the intellectual developments that led to Darwin's theory of evolution by natural selection, and subsequent thinking that combined natural selection and Mendelian genetics in the Modern Synthesis. We will then review recent developments in evolutionary biology, including other evolutionary mechanisms, speciation, evolution and development, systematics, and paleobiology. We will take full advantage of the facilities of Stone Lab and surrounding islands to illustrate these concepts in action. Field projects will include measuring variation in local species, visiting a hybrid salamander population, searching for fossils, and testing some of the assumptions of natural selection in wild populations. We will also be banding birds as part of a long-term project on trait variation among islands.

### **ASSESSMENT**

Your grade will be based on daily quizzes, a field project, a few assignments, 2 exams, and a final.

### **TEXT**

Freeman and Herron *Evolutionary Analysis* 5<sup>th</sup> ed.  
Weiner *The Beak of the Finch*

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