# BIOL 337 - Invertebrate Zoology

# Grice Marine Laboratory – College of Charleston

# Maymester 2016 (May 16 – 31 2016)

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This is a study-abroad option of an upper-level course that we offer in our department to our Majors. The course is a Biology core course and required for Marine Biology majors. The course description is the following: “*Classification, morphology, physiology, behavior and life histories of invertebrates. Laboratory work will emphasize the study of living material from the local fauna. Lectures three hours per week; laboratory three hours per week*.” We will travel to Gerace Research Marine Station in San Salvador Bahamas for 13 nights. This marine laboratory has all appropriate research and teaching facilities for intensive field exploration, husbandry of some organisms, and dissecting microscopes.

**Lecture and Laboratory:** Each day, we will have a lecture in the morning for 1-2 hours, travel into the field for 3-4 hours, and then come back to draw, dissect and examine animals. San Salvador is a small island with easily accessible marine (seagrass, coral reef, high-salinity inland lakes) and semi-terrestrial habitats (mangroves).

**Reading material**

* A paper copy of Pechenik’s *Biology of the Invertebrates.* Acceptable versions are 2009 (6th edition; available to purchase online) or 2015 (7th edition; available at the bookstore for $233.65 new or $175.25 used)
* Peer-reviewed articles in CoursePack (available in the bookstore)

**Other required materials:**

• Laptop computer (Mac or PC)

• ImageJ (installed on computer: [http://imagej.net](http://imagej.net/Introduction))

• #2 pencils

• Color pencils

• Pencil sharpener

• Weight belt (we will get weights from the station)

• snorkelling gear (mask, snorkel, fins, booties)

• 3-ring binder with 100 sheets of white paper

• 3-mm wetsuit, shorty (optional but recommended)

• Waterproof digital camera (optional)

• Waterproof flashlight (optional)

**Laboratory notebook:** One time-honored, effective and fun way to learn invertebrates is to draw them. The accompanying “Guide to Laboratory Work” (by CofC Associate Professor Dr. Robert Podolsky) is an excellent summary of the activities you should focus on in lab. Carefully review this before the first class. You can hand in assignments during the following lab. Worksheets will be briefly evaluated and grades assigned based on (1) level of effort in creating useful, labeled, scaled, informative drawings and (2) thoughtfulness in addressing questions. I cannot assess all answers and drawings for accuracy, but am happy to provide feedback on specific questions concerning drawings, conclusions drawn, etc.

**Course Requirements:**

* *Exams (50%)*
	+ One final take-home exam (35%)
	+ Laboratory practical (15%).
* *Laboratory Notebook (30%)*.
* *Participation (20%)*

**Student Learning Objectives:**

1) Students will master terminology used to describe morphological characters, taxonomy, and other aspects of invertebrate biology.

2) Students will describe the distinct body plans/features that distinguish each major taxon.

3) Students will demonstrate familiarity with development/life histories of invertebrate taxa.

4) Students will examine hypotheses concerning invertebrate evolution and become familiar with basic cladistic approaches.

5) Students will discuss recent findings in this discipline.

6) Students will become adept at recording laboratory observations and presenting detailed accounts of these findings in an organized and precise manner.

**Grading Scale:**
93 and above: A 73-76.9: C
90-92.9: A- 70-72.9: C-
87-89.9: B+ 67-69.9: D+
83-86.9: B 63-66.9: D
80-82.9: B- 60-62.9: D-
77-79.9: C+ below 60: F

**Questions/concerns**: This course will be challenging, both intellectually and personally…but hopefully it will also be equally rewarding! Please do not hesitate to talk with me with any concerns and to give feedback.