**DEPARTMENT:** BIOLOGICAL SCIENCES  
**COLLEGE:** COLLEGE OF SCIENCE

**RECOMMENDED COURSE IDENTIFICATION:**
- **PREFIX:** ZOO  
- **COURSE NUMBER:** 6695  
- **LAB CODE** (L or C)  

**COMPLETE COURSE TITLE:** Bivalve Biology and Physiology

**CREDITS:** 3

**TEXTBOOK INFORMATION:**

**GRADING (SELECT ONLY ONE GRADING OPTION):** REGULAR _X_ SATISFACTORY/UNSATISFACTORY

**COURSE DESCRIPTION, NO MORE THAN THREE LINES:** Course examines bivalve mollusc biology, such as feeding, reproduction, stress response and population genetics, in relation to natural life history, invasion potential and culture.

**PREREQUISITES:** Undergraduate General Biology or Invertebrate Biology or Permission of the instructor

**COREQUISITES:**

**REGISTRATION CONTROLS (MAJOR, COLLEGE, LEVEL):**

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**MINIMUM QUALIFICATIONS NEEDED TO TEACH THIS COURSE:** PH.D. in the relevant field

Faculty contact, email and complete phone number:
- Dr. John Scarpa  
- jscarpa1@fau.edu  
- (772) 242-2404

Please consult and list departments that might be affected by the new course and attach comments.

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**Approved by:**
- Department Chair:  
- College Curriculum Chair:  
- College Dean:  
- UGPC Chair:  
- Graduate College Dean:  
- UFS President:  
- Provost:  
- Date: 1/30/14  
- 2/10/14  
- 2/16/14  
- 2/26/14  
- 3/16/14

3. Consent from affected departments (attach if necessary)

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Email this form and syllabus to **UGPC@fau.edu** one week before the University Graduate Programs Committee meeting so that materials may be viewed on the UGPC website prior to the meeting.

FAUnewcourseGrad—Revised September 2013
Course Syllabi for Bivalve Biology and Physiology

1. Course title/number, number of credit hours
   Bivalve Biology and Physiology - ZOO 6695, 3 credits

2. Course prerequisites or corequisites
   a. Prereq: Undergraduate General Biology or Invertebrate Biology
      or
   b. Permission of the instructor

3. Course logistics
   a. Term – FALL 2014
   b. Notation if online course – N/A
   c. Class location and time (if classroom-based course) – HBOI, room TBD

4. Instructor contact information
   a. Instructor’s name – John Scarpa
   b. Office address – HBOI-ACTED Bldg, Room 112
   c. Office hours – TBD each semester and by appointment
   d. Contact telephone number – Office (772) 242-2404, Fax (772) 466-6590
   e. E-mail address – jscarpa1@fau.edu

5. TA contact information (if applicable): not applicable

6. Course description
   This course will expose students to the basic biology and physiology of bivalve molluscs, with an emphasis on the eastern oyster and northern hard clam, through lecture, readings assignments, discussion and demonstrations. Potential topics include taxonomy, anatomy, feeding, reproduction, larval development, shell formation, stress response, immune system, culture techniques for research, population genetics, and invasive species.

7. Course objectives/student learning outcomes
   This course aims to introduce fundamental biology and physiology of bivalve molluscs. Upon completion of this course students will be able to: a) delineate taxonomic positions, b) identify major anatomical features, c) describe feeding mechanisms, d) describe gametogenesis, e) describe larval development and metamorphic cues, f) relate physiological response to stressors, g) describe cellular immune response, h) apply basic culture techniques, i) understand population genetics and gene flow, and j) relate environment to success of invasive species for bivalve molluscs.

8. Course evaluation method
   There will be graded homework assignments accounting for 10% of the student’s cumulative performance, a midterm exam accounting for 40% of the student’s
cumulative performance, a final exam accounting for 40% of the student’s cumulative performance, and a written research report accounting for 10% of the student’s cumulative performance. The overall grade in the course is derived from the cumulative performance according to the following table.

9. Course grading scale

<table>
<thead>
<tr>
<th>Cumulative Performance</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;92%</td>
<td>A</td>
</tr>
<tr>
<td>&gt;88% - 92%</td>
<td>A-</td>
</tr>
<tr>
<td>&gt;85% - 88%</td>
<td>B+</td>
</tr>
<tr>
<td>&gt;82% - 85%</td>
<td>B</td>
</tr>
<tr>
<td>&gt;78% - 82%</td>
<td>B-</td>
</tr>
<tr>
<td>&gt;75% - 78%</td>
<td>C+</td>
</tr>
<tr>
<td>&gt;72% - 75%</td>
<td>C</td>
</tr>
<tr>
<td>&gt;68% - 72%</td>
<td>C-</td>
</tr>
<tr>
<td>&gt;65% - 68%</td>
<td>D+</td>
</tr>
<tr>
<td>&gt;62% - 65%</td>
<td>D</td>
</tr>
<tr>
<td>&gt;58% - 62%</td>
<td>D-</td>
</tr>
<tr>
<td>&lt;58%</td>
<td>F</td>
</tr>
</tbody>
</table>

10. Policy on makeup tests, late work, and incompletes

Attendance for lectures and exams is required. No exam grade will be dropped. If an exam is missed with proper prior notification, the test may be taken as soon as possible after the exam date, but no later than the following class day. If the exam is not taken a grade of zero (0) will be entered. No extra credit assignments will be given. If a student cannot turn in a homework project on time due to circumstances beyond their control then the instructor may assign appropriate make-up work. Students will not be penalized for absences due to participation in University-approved activities, including athletic or scholastics teams, musical and theatrical performances, and debate activities. Students who are absent due to participation in University-approved activities are required to make up missed assignments and material. Reasonable accommodation will also be made for students participating in a religious observance. Grades of Incomplete (“I”) are reserved for students who are passing a course but have not completed all the required work because of exceptional circumstances. A grade of “I” will only be given under certain conditions and in accordance with the academic policies and regulations put forward in FAU’s University Catalog. The student must show exceptional circumstances why requirements cannot be met. A request for an incomplete grade has to be made in writing with supporting documentation, where appropriate. As per university policy, an incomplete grade will only be given to a student who fulfills all of the following criteria:

a. misses multiple exams or the final examination due to a legitimately documented emergency as defined by the FAU Academic Policies and Regulations:
b. has a grade of C or better

c. submits evidence of the emergency and signs an incomplete agreement.

11. **Special course requirements (if applicable) – N/A**

12. **Classroom etiquette policy**

University policy on the use of electronic devices states: “In order to enhance and maintain a productive atmosphere for education, personal communication and electronic devices, such as cellular telephones and pagers, are to be disabled during class sessions.”

13. **Disability policy statement**

In compliance with the Americans with Disabilities Act (ADA), students who require special accommodation due to a disability to properly execute coursework must register with the Office for Students with Disabilities (OSD) – in Boca Raton, SU 133 (561-297-3880); in Davie, MOD 1 (954-236-1222); or in Jupiter, SR 117 (561-799-8585); – and follow all OSD procedures. [Please check on phone numbers.]

14. **Honor Code policy statement**

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty, including cheating and plagiarism, is considered a serious breach of these ethical standards, because it interferes with the University mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the University community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see University Regulation 4.001 at http://www.fau.edu/ctl/4.001_Code_of_Academic_Integrity.pdf

15. **Required texts/readings**

There is no required textbook. Reading assignments related to the topics under discussion will be drawn from the current scientific literature and will form the basis of homework assignments. Examples follow:


16. Supplementary/recommended readings (optional)


30 - The Mollusca, 12-volume set, 1980s, Karl M. Wilbur (Editor-in-Chief), Academic Press, NY

17. Course topical outline

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>H.W* or Reading (# above)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Class Introduction</td>
<td>Read # 2, 26, 27 assign chapt</td>
</tr>
<tr>
<td>2</td>
<td>Bivalve Taxonomy</td>
<td>Read # 7, 26, 27 assign chapt</td>
</tr>
<tr>
<td>3</td>
<td>Bivalve Anatomy</td>
<td>Read # 3 to 5</td>
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<tr>
<td>4</td>
<td>Gill Structure/Feeding/Particle Handling</td>
<td>Read # 6</td>
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<tr>
<td>5</td>
<td>Gametogenesis/Larvae Development</td>
<td>Read # 8, 9</td>
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<tr>
<td>6</td>
<td>Metamorphosis/Shell Development</td>
<td>Read # 10 to 14</td>
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<tr>
<td>7</td>
<td>Physiological Response to Stresses</td>
<td>Study for Exam, Res. Rpt. Topic</td>
</tr>
<tr>
<td>8</td>
<td>Midterm Exam/Res. Rpt. Topic due</td>
<td>Read # 26, 27 assign chapt</td>
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<tr>
<td>9</td>
<td>Immune System (Hemocytes)</td>
<td>Read # 26, 27 assign chapt</td>
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<tr>
<td>10</td>
<td>Parasitic Diseases</td>
<td>Read # 1, 26, 27 assign chapt</td>
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<tr>
<td>11</td>
<td>Culture Systems for Research</td>
<td>Read # 26, 27 assign chapt</td>
</tr>
<tr>
<td>12</td>
<td>Culture Techniques for Research</td>
<td>Read # 15 to 20</td>
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<tr>
<td>13</td>
<td>Population Genetics/Connectivity</td>
<td>Read # 21, 22, 25</td>
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<tr>
<td>14</td>
<td>Invasive Molluscan Species</td>
<td>Read # 23, 24, 25</td>
</tr>
<tr>
<td>16</td>
<td>Research Report due/Final Exam</td>
<td></td>
</tr>
</tbody>
</table>

*Other homework will be assignment of students who will lead discussion of reading material for each topic each week.