

**COURSE PREFIX & NUMBER:     BIO 205 & 206**

**INSTRUCTOR:                   CHRISTOPHER JACKSON**

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**OFFICE HOURS:**

**CLASS SCHEDULE:**

**2009**

<b>COURSE TITLE:</b>	Ecology	<b>PREFIX &amp; NUMBER</b>	BIO 205 & BIO 206
<b>LECTURE HOURS:</b>	3.0	<b>LAB HOURS:</b>	3.0
<b>CONTACT HOURS:</b>	3.0 & 3.0	<b>CREDIT HOURS:</b>	3.0 & 1.0

**PREREQUISITE:** BIO 101 or equivalent

**CO-REQUISITE:** BIO 205 must be taken during the same semester as BIO 206

**CATALOG DESCRIPTION:**

BIO 205 This course introduces basic principles of population biology, ecology and environmental science as applied to the study of the interactions between human kind and the biosphere.

BIO 206 This ecology laboratory experience consists of discussions, demonstrations, experiments, films and field trips pertaining to the relationships of man to the biosphere, human ecology, resource use and environmental impact.

**REQUIRED MATERIALS:**

Lecture: Nybakken & Bertness. (2005). *Marine Biology: An Ecological Approach*. (6th ed.). Benjamin/Cummings.

Lab: Hardee & Benitez-Nelson. (2008). *The Ocean Environment Lab Manual*. (2nd ed.). Kendall/Hunt Publishing Co.

Benitez-Nelson & Hardee. (2008). *Introduction to Biological Oceanography Lab Manual*. (2nd ed.). Kendall/Hunt Publishing Co.

**CORE COMPETENCIES:**

All courses approved for the general education core curriculum develop students' critical thinking and/or communication skills. Students will demonstrate achievements by assessments on the final exam and on testing developed by individual instructors. This course develops critical thinking skill through instruction that emphasizes understanding of the scientific discipline of ecology. The student will demonstrate ability to:

- apply standard scientific methods and interpret laboratory observations and data.
- make inferences justified by data and observations.
- explain relevance of findings to ecological principles or expected results.
- identify key assumptions of ecology.

This course develops communication skills through instruction that emphasizes presentation of ecological ideas in discipline specific, appropriate, and clear language. The student will demonstrate ability to:

- explain ecological concepts, using clear, appropriate, well-reasoned and precise terminology in keeping with established professional usage.
- discuss relevant implications, consequences, and uses for ecological principles.

**COURSE OBJECTIVES:**

**LECTURE**

Upon successful completion of this course the student should be able to complete the following tasks without the use of outside references.

Given an environment, aquatic or terrestrial, the student will be able to:

1. evaluate species interactions and demonstrate in-depth understanding of the basic structure of food webs.
2. identify the biotic and abiotic components of the ecosystem and explain how they interrelate.
3. provide both orally and in writing, a progressive review of the nutrient cycles that support the ecosystem.
4. elaborate upon the role that ecologists and informed citizens play in addressing complex environmental problems.
5. list at least four examples to illustrate man’s impact on the ecology of the coastal environment.

**LAB**

Upon completion of this course, the student should be able to complete the following tasks without the use of outside references.

1. Use the following laboratory/field equipment proficiently to collect lab/field data.
  - a) Chemical analysis kits to test dissolved oxygen, pH, hardness, phosphate, etc.
  - b) Hydrometers or refractometers to determine salinity
  - c) Microscopes and taxonomic keys to identify planktonic/neustonic taxa
  - d) Secchi disks and thermometers to measure turbidity and temperature
2. Describe the application of the scientific method to ecological experimentation
3. Develop proficiency in summarizing, analyzing and reporting of experimental data
4. Explain scientific results clearly and persuasively to peers both verbally and in writing

**GRADING SYSTEM AND POLICY:**

Although this course is listed as a separate lecture (BIO 205) and lab (BIO 206), it will be taught as a unified course. Therefore lecture and lab points will be calculated together and you will receive the same letter grade for both BIO 205 and 206. Grades will be calculated as follows:

<b>METHOD OF EVALUATION:</b>	<b>Final grades will be awarded according to the following grading scale.</b>
Lecture Quizzes & Lab Activities .....20%	
Final Practical.....15%	91 - 100 = A
Capstone Project.....20%	81 - 90 = B
Two Lecture Exams.....30%	71 - 80 = C
Final Exam.....15%	65 - 70 = D
<b>Total Possible</b> <span style="float: right;"><b>100%</b></span>	Below 65 = F

**POLICY FOR INCOMPLETES:**

Rarely, a grade of I (incomplete) may be granted, but the following conditions **must all** be met. The student must:

1. provide documented evidence of a family or medical emergency after W deadline near semester's end.
2. be passing the course when an I grade is requested (zeroes calculated for work missed >24 hrs before request).
3. submit all missing requirements by a deadline that the instructor establishes.
4. accept an automatic F grade, if any requirement is not met by the instructor's deadline.
5. in any event, accept an automatic F grade, if any requirement is not met by midterm of the very next semester.

**SAFETY:**

For your safety, if you have a medical condition that results in seizures, blackouts, etc. (e.g. from epilepsy, diabetes) please inform your instructor. This information will be kept confidential. If you wish to seek accommodations due to a disability, please contact Services for Students with Disabilities, Building 410, Room 210.

**ELECTRONIC COMMUNICATION DEVICES IN CLASSROOMS:**

To minimize classroom disruptions and protect the integrity of test-taking situations, activated electronic communication devices such as pagers and telephones are generally not permitted in classrooms at Trident Technical College. The only exception to this policy will be for on-call emergency personnel (police, fire, EMS), who will be required to notify their classroom instructor of their need for such devices at the beginning of the term and provide documentation verifying their occupation. However, on-call emergency personnel may not leave a testing situation, communicate by electronic means and return to complete an examination. In these cases, instructors should make arrangements for re-testing.

**FOR STUDENTS ENROLLED IN ONLINE OR OTHER DISTANCE-LEARNING SECTIONS:**

To confirm that you are actively involved in this course you need to contact the instructor at least once per week. Forms of contact can include (but are not limited to) posting/receiving emails, participating in online class discussions or chat rooms, and completing and submitting course assignments. Please see the instructor's addendum for any additional instructions.

**ACCOMMODATIONS FOR STUDENTS WITH SPECIAL NEEDS:**

The College will make reasonable accommodations for persons with documented disabilities. Students should notify the Counselor for Students with Disabilities (located in Counseling and Career Development, Building 410, Room 210) and their instructors of any special needs. Instructors should be notified on the first day of classes.

**ATTENDANCE POLICY:**

Before attending classes, you must meet all prerequisites and officially register for all courses. Prompt and regular attendance is your responsibility. You are responsible for all material covered and all assignments made in class. Any time you are absent from a class, laboratory or other scheduled events, it is your responsibility to make satisfactory arrangements for any make-up work permitted by the instructor.

An absence is defined as nonattendance for any reason, including illness, emergency or official leave. If you arrive late to class, you may not be allowed into the classroom and may be considered absent for that period. If you leave before the instructor dismisses class, you may also be considered absent. All class sessions are important. Any time you miss a class you increase your risk of making a failing grade. For example, some departments or individual instructors will count your class participation as a substantial percentage of your grade. Of course, if you are not in class, you will not get the necessary points for your class participation.

If you quit coming or participating in the course and do not officially withdraw by the withdrawal date for each semester, you will receive a grade of F or U. Your instructor cannot assign a grade of W. If you receive financial aid or veterans' aid, your aid may be revised as a result of any changes in your course schedule.

**INSTRUCTOR AVAILABILITY:**

Your instructor is available to you outside of class for academic assistance. Full-time instructors maintain and post scheduled office hours. Part-time instructors are accessible in a variety of ways, which include conferences before and after class, appointments, telephone conferences, or e-mails. If your instructor does not provide contact information in a syllabus addendum, then you should record it on the cover of this syllabus.

**BIO 205 & BIO 206 ATTENDANCE & WITHDRAWAL POLICY:**

**Record the Withdrawal Deadline here:** \_\_\_\_\_

Before attending classes, you must meet all prerequisites and officially register for this course. Prompt and regular attendance is your responsibility. You are responsible for all covered materials and assignments. For any time missed from a lecture, laboratory, or other scheduled event, you must arrange any make-up work permitted by the instructor. Not all work qualifies for make-up. BIO 206 LAB strictly assesses participation, so all missed lab work will be permanent zeroes, regardless of reasons. If personal issues excessively decrease your grade, then withdrawal before the deadline can be used to keep a low grade off your transcript.

Absence is nonattendance for any reason, including illness, emergency or official leave. If you arrive late, you may not be allowed into the classroom and may be considered absent for that class meeting. If you leave before the instructor dismisses class, you also may be considered absent.

**WARNING: If you quit participating in a course and fail to file a Withdrawal Form by the withdrawal deadline for the semester, then you will receive a grade of F or U, which will significantly reduce GPA.** Your instructor cannot file a withdrawal and cannot assign a W grade. Only you have that power. If you properly file a Withdrawal Form, then you will receive a W grade, which will not affect GPA. If you receive financial aid or veterans' aid, your aid may be revised as a result of any changes in your course schedule.

**MAKE-UP TEST POLICY:**

**Failure to contact instructor within 24 hours of a missed exam will result in a permanent zero, unless a documented excuse clearly indicates an unavoidable condition that prevented timely phoning or e-mailing.**

**In BIO 205, only one make-up is permitted, regardless of reasons.** Students automatically get zeroes on all missed work. Make-ups are refused, unless a student provides verifiable documentation of a serious emergency condition that directly conflicts with the test time. Make-up arrangements are at the instructor's convenience and should be in a more difficult format. **A missed make-up gets a zero with no further make-ups allowed.**

**Warning: A make-up quiz eliminates the one allowed make-up for the course!** Any additional missed testing will be zeroes. If an instructor provides a drop quiz, then missed quizzes cannot be made up, for any reason. At the instructor's discretion and convenience, early testing need not count as a make-up. **This is not guaranteed.**

Due to the nature of lab practical tests and lab quizzes, **lab testing CANNOT BE MADE-UP or taken early.** For a missed midterm practical, to avoid a low grade due to the zero, your only option will likely be to withdraw before the Withdrawal Deadline for the semester. For a missed final practical, an incomplete is the only option.

**WARNING:** Instructors cannot accommodate problems with travel to/from class, childcare, vacations, weddings, jobs, or your failure to do any other extra-curricular planning. Put back-up plans in place for all potential problems that could interfere. **For more information on developing a support network & back-up plans, you should seek help from the Counseling & Career Development Services, [counseling@tridenttech.edu](mailto:counseling@tridenttech.edu), Main Campus phone: 574-6131; Palmer Campus phone 722-5516; Berkeley Campus phone: 899-8079.**

**MINOR CHANGES, E.G., ORDER OF TOPICS, MAY BE MADE AT THE INSTRUCTOR'S DISCRETION AND WILL BE ANNOUNCED AHEAD OF TIME.**

**MAYMESTER - CLASS CALENDAR**  
TENTATIVE & SUBJECT TO CHANGE

**Summer sessions are more difficult because they cover the same curriculum in less time.**

Day	Lecture Topic	Chapter	Lab Topic	Book, Lab #
	Nybakken & Bertness, Marine Biology		The Ocean Environment (OE) Biological Oceanography (BO)	
1	Introduction to Marine Environment	1	Plate Tectonics	OE, 4
2	Plankton and Plankton Communities	2	Nutrients and Primary Production	OE, 9
3	Oceanic Nekton	3	Nuts and Bolts Taxonomy	BO, 4
4	Deep Sea Biology	4	Navigation and Bathymetry	OE, 1
5	<b>EXAM 1</b> /Estuaries and Salt Marshes	8	Preparation for Trip	
6	Depart 0900h		Navigation and Seamanship	
7	Shallow-water Subtidal Benthic Associations	5	The Plankton Salinity and Dissolved Oxygen	BO, 1 OE, 7
8	Cumberland Island Field Trip		Coastal Ecosystems and Diversity Coasts and Salt Marshes Field Trip	BO, 8 OE, 11
9	Intertidal Ecology	6	Waves and Coastal Processes	OE, 10
10	Meiofauna/Return 1500h	7	Adaptations of Marine Organisms	BO, 9
11	<b>EXAM 2</b>		Field Trip Analysis	
12	Symbiotic Relationships	10	Field Trip Analysis	
13	Human Impacts on the Sea	11	Field Trip Analysis	
14	Project Presentations			
15	Finish Presentations and Review		Lab Practical	
	<b>FINAL EXAM</b>			