

INDIAN RIVER STATE COLLEGE

TENTATIVE COURSE SYLLABUS - Fall 2016

COURSE TITLE:*General Ecology***COURSE NUMBER:**

PCB 4043 (Ref #219430)

Class Period: MW 930 - 1045

COURSE DESCRIPTION:

PCB 4043 is an introduction to living systems at the population and community/ecosystem levels. It includes how organisms interact with their physical and biological environment; population structure and dynamics; community organization; and energy flow and nutrient cycling in ecosystems. This course addresses specific Sunshine State Standards, subject matter competencies and pedagogy pertinent to the discipline and required for teacher certification.

PREREQUISITE:

BSC 2010/2010L, BSC 2011/2011L, & CHM 1046/1046L

**INSTRUCTOR
INFORMATION:**

Dr. Bill Tyler

Office: S207, Pruitt campus

Phone: 772-336-6260

Email: wtyler@irsc.edu

Office hours are posted on instructor's website

REQUIRED TEXTBOOKS:

Cain, M. L., W. D. Bowman and S. D. Hacker. 2014. *Ecology*, 3rd Ed., Sinauer Assoc.
McMillan, V. E. 2012. *Writing Papers in the Biological Sciences*. 5th ed. Boston: Bedford/St. Martin's. (2006 - 4th ed. is also acceptable)

COMPANION WEBSITES: Blackboard course websitewww.wtyler-irsc.weebly.com<http://www.sinauer.com/ecology/>

***TENTATIVE ASSIGNMENT SCHEDULE:**

Dates	Lecture Topic	Chapters
1 - Aug 24	Introduction; Web of Life	1
2 - Aug 29/31	Physical Environment; Biosphere	2; 3
3 - Sep 5/7	<i>Holiday</i> ; Environ. Variation: Temp. & Water (<i>Topic</i>)	4
4 - Sep 12/14	Environ. Variation: Energy; Evolution and Ecology	5, 6
5 - Sep 19/21	Exam 1 (Ch 1 - 6); Life History (<i>Outline</i>)	7
6 - Sep 26/28	Behavioral Ecology; Distribution & Abundance	8, 9
7 - Oct 3/5	Population Growth & Regul.; Popul. Dynamics (<i>1st Draft</i>)	10; 11
8 - Oct 10/12	Competition;	12
9 - Oct 17/19	Exam 2 (Ch 7 - 12); Predation & Herbivory	13
10- Oct 24/26	Communities	16
11- Oct 31/Nov 2	Change in Communities; Biogeography (<i>Final Draft</i>)	17; 18
12- Nov 7/9	Species Diversity; <i>Holiday</i> ;	19
13- Nov 14/16	Exam 3 (Ch 13 - 17); Production	20
14- Nov 21/23	Energy Flow/Food Webs; <i>Holiday</i>	21
15- Nov 28/30	Conservation Biology; Exam 4 (Ch 18-22);	23
16- Dec 5	Final Comprehensive Exam	

GRADING POLICIES:

The final course grade is derived from exams (80%) and a short review paper (20%). Four **Unit Exams** will be given during the semester. The *lowest* grade out of these *unit exam* grades will be dropped. *The grade for the Comprehensive Final Exam will be equivalent to a unit exam, and will not be dropped.*

For essential guidance in meeting requirements of the different components of the review paper, read Chapters 1, 5, 6, 7 and 8 in McMillan (2012, 2006); these components must be submitted within Blackboard Assignments. Online "handouts" will detail paper format and grading rubric. Any missed deadlines will result in a five point deduction, *per day*, assessed at end of the assignment.

The required review paper has several components and deadlines to help maintain progress on the paper, as follows (*readings in McMillan 2012*):

- **Topic** (with two of five primary literature sources; *Ch. 1, 5*) - **Sept. 7** (W)
- **Outline** (with at least three primary sources; *Ch. 5*) - **Sept 21** (W)
- **First draft** (with all five primary sources, proper CSE style and grammar, 10% of final grade; *Ch. 5-7; Dr. T's Pet Peeves*) - **Oct. 5** (W)
- **Final draft** (revisions, 10% of final grade; *Ch. 8*) - **Nov. 2** (W)

The **final course grade** will be calculated as the average of four exam grades after dropping the lowest unit exam (80%) plus the review paper (10% + 10% = 20%).

Exams and writing assignments are scheduled as indicated above. ***NO*** makeup exams will be given. If a student misses an exam or quiz *for any reason*, that exam or quiz will be dropped (except for the final). If you must miss an exam, make arrangements with the instructor ***before*** the exam/quiz date.

The semester average is based on the percentage of total percentage points:

90 -100 = A	60 - 69 = D
80 - 89 = B	below 60 = F
70 - 79 = C	

W - deadline is Tuesday, Nov. 1; **I** - if passing but emergency prevents taking final

COURSE OBJECTIVES:

- To understand how organisms interact with their environment.
- To identify the primary processes of energy exchange.
- To understand how climate and other abiotic (physical) factors affect the distribution and abundance of organisms.
- To identify the characteristics of populations and how they change over time.
- To understand interactions within and between species, and how these factors affect distribution and abundance of species and populations.
- To understand how human interactions affect plant and animal populations.
- To understand communities of organisms and factors affecting changes in communities over time.
- To understand what ecosystems are and their components.
- To understand production and how it affects trophic structure of an ecosystem.
- To understand nutrient cycling in ecosystems, and how these are related to global changes.

STUDENT LEARNING OUTCOMES:

Upon completion of PCB 4043, General Ecology, students will have the ability to:

- Communicate major ecological concepts and relate how these are connected within various areas of the biological and physical sciences.
- Develop the knowledge skills, attitudes and values necessary for positions of responsibility in a variety of Life Science industries.

ACTIVITIES AND REQUIREMENTS:

CHEATING: Cheating, including *plagiarism*, of ANY kind will not be tolerated by this instructor or the Biology department. Any student caught cheating or plagiarizing will receive an immediate zero for that assignment/exam and potentially will receive an F in the course (no withdrawal allowed.) Any student witnessing an act of cheating must report it to the instructor. Plagiarism is defined by the use of five or more identical, consecutive words of another author(s) that is inappropriately used or cited. See also the course website ("Scientific Report Writing"), McMillan (2006, 2012) and the IRSC Website

(<http://www.irsc.edu/pdf/libraries/plagiarism.pdf>) for the college's definition of plagiarism and examples.

MEANS OF ACCOMPLISHING OUTCOMES:

Methods of instruction: Lecture, class discussions, online literature search, written review paper, and exams.

ATTENDANCE AND PROCEDURES:

MAKE-UP POLICY: *No make-up exams will be given.* Students will be allowed to *drop one* unit exam grade during the semester (this does not include the final). This should cover illnesses, emergencies, etc. You should bank this opportunity thereby allowing you to DROP one unit exam if you have taken all tests. Contact instructor *before* exam or assignment due date if you plan to miss it.

ATTENDANCE: Students are expected to be prepared & participate in lecture sessions. Students are responsible for material covered in each session & must be aware of any changes in lecture or exam schedule.

EXTRA CREDIT: No extra credit is given. Students need to spend their time on required material.

LIBRARY AND ON-LINE REFERENCE MATERIALS:

The **Miley Library** serves as IRSC's main library. The library is an information resource providing professional assistance, library books and media, and access to the library's electronic resources. There is an extensive online database system also available through IRCC's website www.irsc.edu

STUDENTS WITH DISABILITIES POLICY:

In compliance with the Rehabilitation Act of 1973, Section 504, and the Americans with Disabilities Act of 1990, professional disability specialists and support staff at the Student Disability Services (SDS) facilitate a comprehensive range of academic support services and accommodations for qualified students with disabilities. IRSC offers many disability resources at on-campus labs. Students who wish to request an accommodation for a documented disability should contact the SDS at 772-462-7782 or 772-462-7808.

NON-DISCRIMINATION & NON-HARASSMENT POLICY:

Indian River State College (College) is committed to maintaining a fair and respectful employment and educational environment. In accordance with federal, state and local equal opportunity laws, Indian River State College prohibits discrimination on the basis of race, color, national origin, ethnicity, sex, religion, age, disability, sexual orientation, marital status, veteran status, or genetic information.

STATEMENT TO STUDENTS:

If you are experiencing difficulty in your course, your first obligation is to work directly with your instructor to resolve the issue. If you are unable to settle your concerns with the assistance of your instructor, you can contact the Department Chair (Dr. Jennifer Capers, 462-7556, jcapers@irsc.edu), who will assist you or advise you about contacting the Academic Dean (Dr. Paul Horton, 462-7503,) or Vice President (Dr. Marta Cronin, Vice President of Academic Affairs 462-7215).

STUDENT SUPPORT:

IRSC's **River Support** system is available for any difficulties during the semester, including personal, financial and academic problems. It may be accessed at <https://esweb.irsc.edu/Mariner/student/ssp/faq.jsp> or from the IRSC home page.

FEAPS AND CRITICAL ASSIGNMENTS

FEAP 4 Critical Thinking - Apply problem solving, analytical, and communication skills based on the scientific method that will provide the foundation for lifelong learning and career development.

Activities - Assimilate information from primary and secondary scientific literature; write first draft following CSE style and rewrite final version of a review paper on a selected topic in Ecology.

Assessment - Successfully revise and complete review paper in response to instructor's editorial comments on the first draft.

FEAP 8 Knowledge of Subject Matter - Communicate major ecological concepts and relate how these are connected within various areas of the biological and physical sciences.

Activities - Read textbook assignments and review notes from lectures.

Assessment - Successfully complete unit and final exams.

FEAP 12 Technology - Make use of technology to organize, acquire, and convey information relevant to the biological sciences.

Activities - Conduct literature search and accumulate information from online library databases.

Assessment - Include minimum of five verifiable references from the primary scientific literature in final review paper and access lecture materials from faculty/course websites.

FLORIDA STATE STANDARDS ADDRESSED IN COURSE:

1.4, 1.6, 1.8, 1.9, 1.12, 1.13, 1.14, 1.15, 1.16, 1.17, 1.18, 2.1, 2.3, 2.4, 2.5, 3.9, 8.12, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 9.11, 9.12, 9.13, 10.2, 10.5, 10.6, 10.7