

Essential minimum information required by STC

South Texas College
Biology Department
Section Outline

Biology 2406.V60
(Online)

Environmental Biology
Summer III 2015

THIS ONLINE CLASS HAS NO CLASSROOM MEETINGS! All assignments, communications and activities are submitted online!

Instructor Information

1. Dr. Jan A. Nilsson

2. Office: Room 2.1204 / Building J, Pecan Campus.

3. Office Telephone Number: (956) 872-2334

(Please use Blackboard Help Desk for class questions, and Blackboard e-mail for private questions.)

4. FAX Number: (956) 872-2117 (Department FAX -- not direct access to the instructor)

5. E-mail Address: Blackboard e-mail for your class (student e-mail sent to the STC email box nilsson@souttexascollege.edu will not be answered unless it is an emergency)

6. Office Hours and teaching load: In online classes office hours are **ONLINE** -- Tu & Tr 6 - 8.30pm, in the Class Help Desk in the Blackboard course shell. For all practical purposes the instructor will, when possible, answer questions in the Blackboard help desk every day. Additional time for face-to-face web-enhanced classes and hybrid classes, as given in the classroom. Keep in mind that the

instructor teaches overloads some semesters. For your convenience I recommend that you try to communicate with the instructor on the Blackboard Class Help Desk (available 24/7).

STC Biology Program Information

1. Biology Program Learning Outcomes

1. The student will be able to apply laboratory techniques and the scientific method to perform experiments, and to collect, summarize and interpret data in the biological disciplines.
2. The student will have a broad knowledge of cells and can explain metabolism including DNA, genetics, and biotechnology.
3. The student can discuss the principles of evolution, how evolution has shaped life on earth and how the theory of evolution impacts the study of biology.
4. The student will differentiate among major classifications of organisms, understand comparative anatomy and physiology, and interpret classification schemes in terms of phylogeny.
5. The student will be able to summarize interactions of organisms with each other and with the environment and the effects of climate change on the biosphere.
6. The student can describe cellular organization in tissues and organs, and extend this knowledge to skeletal, muscle, and nervous organ systems.
7. The student will understand systemic physiology including how organ systems function to regulate homeostasis.
8. The student will differentiate microbial mechanisms of pathogenicity, understand the role of the immune system in protecting against microbes, and evaluate effectiveness of anti-microbial agents.
9. The student will be able to research and analyze the scientific literature and develop informed conclusions.
10. The student can skillfully communicate on critical issues concerned with health of individuals, communities, and ecosystems.

2. Core Objectives

- **Critical Thinking Skills (CT):** to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information;
- **Communication Skills (COM):** to include effective development, interpretation and expression of ideas through written, oral and visual communication.
- **Empirical and Quantitative Skills (EQS):** to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions;

- **Teamwork (TW):** to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal;

Course Information (BIOL 2406)

1. Course Name

Environmental Biology (Online)

2. Course Number and Section Number

Biology 2406 -- sections (see top of page)

3. Classroom Location

Online in Dr. Nilsson's CyberClassroom.

4. Days and Time Class Meets

Online at the students convenience (however, there is a minimum rule of thumb for study time). Attendance and participation policy: Students must submit assignments in a timely manner following the Semester Calendar. Students missing "critical deadline" dates (see Semester Calendar) may be removed from the class roster following STC policy.

5. Catalog Course Description

This is a study of human interaction and the effect upon plant and animal communities. Conservation, pollution, energy and other contemporary ecological problems will be discussed. Prerequisites: None. (From South Texas College Course Catalog.)

6. Course Learning Outcomes

- The student will understand science and scientific terminology;
- The student will read and discuss scientific literature;

- The student will connect different concepts in the field of environmental biology/science;
- The student will understand sustainability of natural systems and recognize the roles in ecosystems and biological evolution -- including human systems and evolution;
- The student will understand general principles and tools of scientific investigations.

7. Departmental Course Requirements, Evaluation Methods, and Grading Criteria

Lecture: 75 percent

Lab: 25 percent

For grading details see the online Grading Criteria and Semester Calendar (navigate to the Environmental Biology Hub and click on the Grading Criteria button or the Semester Calendar button) which both are part of the Syllabus for the class. Students with excess absences (for online classes not logging in to Blackboard working on assignments following the timeline of the Semester Calendar) may be removed from the class roster following Division based guidelines and STC Policy 3335 (selected text from the policy is below).

“Dropping a course is the responsibility of the student and not taking the appropriate steps may result in an "F" for the course.

In addition to Division based guidelines related to attendance, faculty may drop students, prior to the withdrawal deadline when, in the opinion of the faculty, the student would have difficulty in successfully completing the course.

8. Textbook

2013, Cunningham and Cunningham. Principles of Environmental Science, 7/e. (Used copies of editions 6 [2011], editions 5 [2009] and 4 [2008] also be acceptable).

9. Each Major Assignment and Examination

List of assignments: This information is also available on the Grading Criteria page (navigate to the Environmental Biology Hub and click on the Semester Calendar button). Instead of a few major large and time consuming exams, this class instead has several smaller and shorter assignments. The shortest quiz only have one question, and will take less than a minute to finish. **Don't worry about the long list** -- it is just a STC standardized requirement for this section outline. MOST of these assignments are very short and fast assignments, but *they must be listed here as an STC requirement.*

Also see this Grade Recorder page for an assignment list that you can print and use to "fill-in grades" as you progress throughout the semester (navigate to the Environmental Biology Hub and click on the Grade Recorder button).

I. Introduction / Collaboration Assignments

Student Contract Quiz
Introduction Post
Start Quiz
Class Discussion "Key" Quiz
Town Hall "Key" Quiz

II. Reading Quizzes

Reading Quiz 01
Reading Quiz 02
Reading Quiz 03
Reading Quiz 04
Reading Quiz 05
Reading Quiz 06
Reading Quiz 07
Reading Quiz 08
Reading Quiz 09
Reading Quiz 10
Reading Quiz 11
Reading Quiz 12
Reading Quiz 13
Reading Quiz 14
Reading Quiz 15

III. Case Studies Quizzes

Case Study 1
Case Study 2

IV. Geography Drills

Geography Drill 1

Geography Drill 2
Geography Drill 3

V. Field Lab Semester Project

Semester Project, selection
Semester Project, final product

VI. General Class Discussions

General Class Discussion (Topic 01)
General Class Discussion (Topic 02)
General Class Discussion (Topic 03)
General Class Discussion (Topic 04)

VII. Town Hall Meeting

Town Hall Meeting (Topic 1)
Town Hall Meeting (Topic 2)
Town Hall Meeting (Topic 3)
Town Hall Meeting (Topic 4)
Town Hall Meeting (Topic 5)
Town Hall Meeting (Topic 6)

VIII. Endterm (Final) Exam

Endterm (Final) "Key" Quiz
Endterm (Final) Exam, part 1
Endterm (Final) Exam, part 2

IX. Learning Self-Assessment

Learning Self-Assessment

10. General description of each lecture or discussion (including Reading Quizzes):

*The course follows the outline as close as possible in the order given below, and the **students work at their own preferred speed at their convenience -- as long as finished by the due dates, before taking the Endterm (Final) Exam and submitting a Learning Self-Assessment.** Note that starting with edition 7, the textbook has 16 chapters. For more details see the online Semester Calendar.*

1. Environment, [Chapter 1](#)

This chapter covers: (i) Understanding our environment, (ii) Problems and opportunities, (iii) Human dimensions of environmental science, (iv) Science helps us understand our environment, (v) Critical thinking, (vi) Where do our ideas about the environment come from.

2. Chemistry and Ecology, [Chapter 2](#)

This chapter covers: (i) Systems describing interactions, (ii) Elements of life, Energy, (iii) Energy for life, (iv) From species to ecosystems, (v) Biochemical cycles and life processes.

3. Evolution and Ecology, [Chapter 3](#)

This chapter covers: (i) Evolution leads to diversity, (ii) Species interactions shape communities of species (iii) The growth of species populations, (iv) Properties of communities depend on species diversity, (v) Communities are dynamic and change over time.

4. Human Populations, [Chapter 4](#)

This chapter covers: (i) Past and current population growth, (ii) Perspectives on population growth, (iii) Factors determining population growth, (iv) Fertility is influenced by culture, (v) Demographic transition, (vi) Family planning, (vii) What kind of future are we creating now?

5. Biomes and Biodiversity, [Chapter 5](#)

This chapter covers: (i) Terrestrial biomes, (ii) Marine environments (iii) Freshwater ecosystems, (iv) Biodiversity, (v) Benefits of biodiversity, (vi) What threatens biodiversity? (vii) Endangered species protection.

6. Conservation, [Chapter 6](#)

This chapter covers: (i) World forests, (ii) Grasslands, (iii) Parks and preserves.

7. Food and Agriculture, [Chapter 7](#)

This chapter covers: (i) Global trends in food and nutrition, (ii) How much food do we need? (iii) What do we eat?, (iv) Living soil, (v) Way we use and abuse soil, (vi) Agricultural inputs, (vii) How have we managed to feed billions? (viii) Sustainable farming strategies, (ix) Consumer help shape farming.

8. Health, [Chapter 8](#)

This chapter covers: (i) Environmental health, (ii) Toxicology (iii) Movement, distribution, and fate of toxins, (iv) Mechanisms for minimizing toxic effects, (v) Measuring toxicity, (vi) Risk assessment and acceptance (vii) Establishing public policy.

----- Edition 6 and earlier -----

9. Climate Change and Air Pollution, [Chapter 9](#)

This chapter covers: (i) What is the atmosphere, (ii) Climate changes over time (iii) How do we know that climate is changing faster than usual? (iv) Envisioning solutions, (v) Air pollution, (vi) Interactions between climate and air pollution, (vii) Effects of air pollution (viii) Air pollution control, (ix) Current conditions and future prospects.

10. Water, [Chapter 10](#)

This chapter covers: (i) Water resources, (ii) Major water compartments, (iii) Water availability and use, (iv) Freshwater shortages, (v) Water management and conservation, (vi) Water pollution, (vii) Water quality today, (viii) Pollution control, (ix) Water legislation.

11. Geology, [Chapter 11](#)

This chapter covers: (i) Earth processes, (ii) Minerals and rocks, (iii) Economic geology and mineralogy, (iv) Environmental effects of resource extraction, (v) Conserving geological resources, (vi) Geologic hazards.

12. Energy, [Chapter 12](#)

This chapter covers: (i) Energy resources and uses, (ii) Fossil fuels, (iii) Nuclear power, (iv) Energy conservation, (v) Energy from biomass, (vi) Wind and solar energy, (vii) Water power, (viii) Fuel cells, (ix) What's our energy future.

13. Waste, [Chapter 13](#)

This chapter covers: (i) What waste do we produce, (ii) Waste disposal methods, (iii) Shrinking the waste stream, (iv) Hazardous and toxic waste.

14. Urbanization, [Chapter 14](#)

This chapter covers: (i) Cities, (ii) Urban planning, (iii) Economics and sustainable development, (iv) Natural resource accounting, (v) Trade, development, and jobs, (vi) Green business and green design.

15. Policy, [Chapter 15](#)

This chapter covers: (i) Environmental policy and law, (ii) Major environmental laws, (iii) How are policies made? (iv) International policies, (v) What can individuals do? (vi) Working together, (vii) Global development goals.

----- Edition 7 -----

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10. Air Pollution, [Chapter 10](#)

This chapter covers: (i) What is the atmosphere, (ii) Climate changes over time (iii) How do we know that climate is changing faster than usual? (iv) Envisioning solutions, (v) Air pollution, (vi) Interactions between climate and air pollution, (vii) Effects of air pollution (viii) Air pollution control, (ix) Current conditions and future prospects.

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16. Policy, [Chapter 16](#)

This chapter covers: (i) Environmental policy and law, (ii) Major environmental laws, (iii) How are policies made? (iv) International policies, (v) What can individuals do? (vi) Working together, (vii) Global development goals.

The online calendar is dynamic and much more detailed.

11. Miscellaneous

PARTICIPATION POLICY FOR ONLINE CLASSES: Students are expected to log in to Blackboard and participate in classes in which they are enrolled -- if needed at least 1 hour per day (or 7 hours per week). **Student missing critical Blackboard deadlines -- without giving a valid excuse and discussing it with the instructor, may be removed from the class roster following STC policy.** If you are unable to complete this course, YOU have the responsibility to withdraw from on or before the last day to withdraw (see Semester Calendar) to get a "W" on your grade report. Withdrawal from a course is a formal procedure, which you must initiate. You may do this in the Admissions Office. If you stop participating in class and miss critical deadlines (see the Semester Calendar) and do not withdraw, the

instructor may withdraw you, however it is the students responsibility to withdraw. If you are still on the official STC class roster at the end of the semester you will receive a performance grade, usually an "F". Note: Students often drop courses when help is available that would enable them to continue. **I encourage you to discuss your withdrawal plans with me if you feel the need to withdraw.**

RETURN OF ASSESSMENTS (TESTS): Blackboard assessments are graded automatically and available immediately after submission.

There are no make-ups. All assignments must be done in a timely manner, paying attention to posted due dates in the Semester Calendar. There are no valid excuses if you miss a deadline, because **all assignments can be submitted over a convenient long period of time** -- for some assignment the whole semester. **Don't wait to the last minute to submit an assignment in case something goes wrong...!** When an assignment closes IT WILL REMAIN CLOSED. If an assignment deadline is missed a zero will be recorded.

THIS IS A SCIENCE CLASS: When you answer questions for assessments it is the current scientific understanding that is correct. If a student's opinion does not agree with the current scientific understanding, the student must still answer questions giving the current accepted scientific explanation in order to earn grade points.

STUDENT CODE OF CONDUCT: Plagiarism, and cheating on tests will result in a grade of F as stated in the STC Student Handbook.

"The penalties for scholastic dishonesty in graded assignments include the possibility of failure in the course. Scholastic dishonesty in examinations will result in a grade of "F" on the examination and an "F" in the course. Students found guilty of scholastic dishonesty are subject to disciplinary action including dismissal from the program and possible dismissal from the College. A student dismissed for dishonesty is not eligible for readmission." (From the STC Student Handbook)

Developmental Studies Policy Statement: The College's Developmental Education Plan requires students who have not met the college-level placement standard on an approved assessment instrument in reading, writing, and/or mathematics to enroll in

Developmental Studies courses including College Success. Failure to attend these required classes may result in the student's withdrawal from ALL college courses.

Statement of Equal Opportunity: No person shall be excluded from participation in, denied the benefits of, or be subject to discrimination under any program or activity sponsored or conducted by South Texas College on the basis of race, color, national origin, religion, sex, age, veteran status or disability.

Alternative Format Statement: This document is available in an alternative format upon request by calling the Biology Department secretary, Ms. Elizondo, (956) 872-2023.

ADA Statement: Individuals with disabilities requiring assistance or access to receive services should contact disABILITY Support Services at (956) 872-2173.

Veterans Statement: The STC Office of Veterans Affairs provides support services to our military veterans and their dependents, and assists them in applying for and obtaining their educational benefits. Contact the Office of Veterans Affairs (Bldg. K2.602, K2.604) at 956-872-6723 for questions or to set an appointment.

The syllabus / section outline / course requirements may be changed due to unforeseen circumstances to meet the needs of a particular class. The instructor therefore reserves the right to alter (add, delete, or revise) any items of the above. The student is responsible for taking note of any such changes and acting accordingly.