This course is available for student registration only after the approval process has been completed.

SUBJECT: EDS
COURSE NO: 1022
CREDIT HOURS: 3
TERM TO BE ADDED TO THE FILE: Spring 2008

CLASS HOURS: 45 hours
LECTURE HOURS: 
LAB HOURS: 
CONTACT HOURS (CEL ONLY): 

DEPARTMENT: Science & Mathematics Education
SCHEDULE TYPE: Virtual Classroom (H)
(e.g., Lab or Seminar)

COLLEGE OF AERONAUTICS-23
COLLEGE OF BUSINESS-24
COLLEGE OF SCIENCE-26
COLLEGE OF ENGINEERING-01
UNIVERSITY COLLEGE EXTENDED STUDIES-27

COMPUTER TITLE: Restricted to 25 characters, including spaces
Gen. Biological Science

CATALOG TITLE: General Biological Science

CATALOG DESCRIPTION OF COURSE: Limited to 150 characters, including spaces
Introduces the concepts and applications of the biological sciences for non-science majors. Includes cell structure, function and reproduction, genetics and genetic engineering, evolution and the environment. (Requirement: Must be enrolled in University Alliance.)

In addition, you may attach a course syllabus and/or more detailed description.

REQUIREMENTS
- Prerequisite
- Corequisite

GRADES TO BE ISSUED
- A, B, C, D, F
- A, B, C, D, F, CEU
- CEU
- S, U
- P, F
- Other

ADDITIONAL RESTRICTION:
For BANNER enforcement, restricted to students enrolled in University Alliance (U)
(e.g., Major, Class Level, Department Head Approval)

If this course replaces a course currently offered in BANNER, please indicate old course information

SUBJECT: Alpha Prefix (e.g., CSB)
COURSE NO: (e.g., 1301)

APPROVALS:
After completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval below and forward to Catalog Director.

Original: [Signature] Date: 4-26-08
Department Head/Program Chair: [Signature] Date: 4-26-08

Dean or Associate Dean: [Signature] Date:
Chat, Undergraduate Curriculum Committee:

CATALOG DIRECTOR: [Signature] Date:

REGISTRAR’S USE ONLY:
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Date

Florida Institute of Technology Office of the Registrar
150 West University Boulevard, Melbourne, FL 32901-6975 • (321) 674-8114 • Fax (321) 674-7827
Edu 1022  General Biological Science  Credit Hours: 3
Pre Req: None


Course Description:
Introduces the concepts and applications of the biological sciences for non-science majors. Includes cell structure, function and reproduction, genetics and genetic engineering, evolution and the environment. (Requirement: Must be enrolled in University Alliance.)

Objectives:
The student will understand and appreciate:
• the methods of science
• cells – structure and function
• homeostasis and energy production and use
• reproduction, inheritance and disease
• evolution
• the plant world
• the animal world
• the ecosystem

Tentative Course Outline:
1. How biological phenomenon are studied
2. Cells
3. Energy for life
4. Genetics
5. Evolution and Diversity
6. Plants – growth, reproduction and the environment
7. Animals – anatomy and physiology
8. Ecology

Grading:
Mini-projects/homework (15)  30%
Exams  40%
Quizzes  20%
Discussion board postings (10)  10%
Description

Known for examples and analogies that resonate with readers, this clearly-written book guides students through biology's complex topics.

For courses in Introductory Biology for non-majors. Every aspect of Biology: A Guide to the Natural World was written and illustrated to guide non-majors through biological concepts and develop their sense of scientific literacy. It has come to be known as a book students enjoy reading. The Third Edition builds upon Krogh's popular strengths--an accessible and engaging writing style, an original illustration program, and a complete instructor and student resource package.

Contents


UNIT 1. ESSENTIAL PARTS: ATOMS, MOLECULES, AND CELLS

2. The Fundamental Building Blocks: Chemistry and Life
3. Water, pH, and Biological Molecules
4. Life's Home: The Cell
5. Life's Border: The Plasma Membrane

UNIT 2. ENERGY AND ITS TRANSFORMATION

7. Vital Harvest: Deriving Energy from Food
8. The Green World's Gift: Photosynthesis

UNIT 3. HOW LIFE GOES ON: GENETICS

9. Introduction to Genetics; Mitosis and Cytokinesis
11. The First Geneticist: Mendel and His Discoveries
12. Chromosomes and Inheritance
13. DNA Structure and Replication
14. How Proteins Are Made: Genetic Transcription, Translation, and Regulation
15. The Future Isn't What It Used to Be: Biotechnology

UNIT 4. LIFE'S ORGANIZING PRINCIPLE: EVOLUTION AND THE DIVERSITY OF LIFE

16. An Introduction to Evolution: Charles Darwin, Evolutionary Thought, and the Evidence for
Evolution
17. The Means of Evolution: Microevolution
18. The Outcomes of Evolution: Macroevolution
19. A Slow Unfolding: The History of Life on Earth
20. Viruses, Bacteria, Archaea, and Protists: The Diversity of Life 1
21. Fungi and Plants: The Diversity of Life 2
22. Animals: The Diversity of Life 3

UNIT 5. A BOUNTY THAT FEEDS US ALL: PLANTS

23. An Introduction to Flowering Plants
24. Form and Function in Flowering Plants

UNIT 6. WHAT MAKES THE ORGANISM TICK? ANIMAL ANATOMY AND PHYSIOLOGY

25. Introduction to Animal Anatomy and Physiology: The Integumentary, Skeletal, and Muscular Systems
27. Defense: The Immune System
29. An Amazingly Detailed Script: Animal Development
30. How the Baby Came to Be: Human Reproduction

UNIT 7. THE LIVING WORLD AS A WHOLE: ECOLOGY AND BEHAVIOR

31. An Interactive Living World: Populations and Communities in Ecology
32. An Interactive Living World: Ecosystems and the Biosphere
33. Animal Behavior

Features

- Accessible writing style—Walks students step by step through complex biological processes and captures their interests with analogies from everyday life, history, art and literature.

- Science as a way of learning—Presents science as a process, highlights how our knowledge has been acquired, and demonstrates the logic of evolutionary thinking.
  - Encourages students to think like scientists and "do" science wherever possible; helps students develop sound thinking and reasoning skills that can be applied to any subject.