

**NORTHWESTERN CONNECTICUT COMMUNITY COLLEGE**  
**COURSE SYLLABUS**

**Course Title:** General Biology II

**Course #:** Bio 122

**Description:** This course focuses on the biology of organisms and includes a survey of living things. Plant and animal structures and functions, nutritional requirements, life cycles and ecological relationships are studied. The origins and evolution of life are also covered. Prerequisite: Science 099 or equivalent and eligibility for English 101 or satisfactory test scores. Computer skills, including email, word processing, and web navigation are critical for this course.

**Goals:** The goal of this course is introduce students to the diversity of life and to provide a foundation for more advanced courses in Biology and related sciences.

**Outcomes:** Upon completion of this course students should be able to:

- a. State the theoretical basis for modern classification systems
- b. Describe the criteria used to assign species to each kingdom
- c. Write scientific names using the binomial classification system
- d. Discuss the difference between a virus and a cell.
- e. Describe the mechanisms of viral infection
- f. Describe the distinguishing characteristics of Prokaryotic cells
- g. Explain how drug and antibiotic resistance occurs in bacteria
- h. Summarize the ecological significance of bacteria
  - i. List the distinguishing characteristics of Protozoans and Algae
  - j. Describe the adaptive advantages that algae posses
- k. Trace the evolutionary advances of land plants in each of the following:
  - l. Non vascular Plants, Seedless Vascular plants, Gymnosperms and Angiosperms
  - m. Explain what alternation of generations is
  - n. Describe the evolutionary advances seen in each of the major animal phyla
    - o. Distinguish between acoelamte, pseudocoelamoate and coelomate animals
    - p. Name the three germ layers and their fates during embryonic development
    - q. Understand the planes of body symmetry
    - r. Distinguish between protostome and deuterostome development
    - s. List the distinguishing characteristics and evolutionary developments of annelids, molluscs, arthropods, echinoderms and chordates
    - t. Describe the distinguishing characteristics and evolutionary advances of the following vertebrate groups: jawless fish, chondrichthyes, amphibians, reptiles, turtles, birds and mammals.
    - u. List the adaptations that made it possible for vertebrates to live on land
    - v. Describe the structure and functions of the organs involved in each of the following human systems: Digestive, Circulatory, Respiratory, and Nervous as well as the Muscle and Skeletal System
    - w. Compare the functions of these systems with those found in lower vertebrates and invertebrates.
    - x. Describe the characteristics of the major biomes found on earth
    - y. Outline the flow of energy through an ecosystem

## **Competencies:**

*Scientific Reasoning:* Upon successful completion of the course student will be able to:

1. Explain the methods of scientific inquiry that lead to the acquisition of knowledge. Such methods include observations, testable hypotheses, logical inferences, experimental design, data acquisition, interpretation, and reproducible outcomes.
2. Apply scientific methods to investigate real-world phenomena, and routine and novel problems. This includes data acquisition and evaluation, and prediction.
3. Represent scientific data symbolically, graphically, numerically, and verbally.
4. Interpret scientific information and draw logical references from representations such as formulas, equations, graphs, tables, and schematics.
5. Evaluate the results obtained from scientific methods for accuracy and/or reasonableness.

*Scientific Knowledge and Understanding:* Upon successful completion of the course student will be able to:

1. Communicate using appropriate scientific terminology.
2. Use representations and models to communicate scientific knowledge and solve scientific problems.
3. Plan and implement data collection strategies appropriate to a particular scientific question.
4. Articulate the reasons that scientific explanations and theories are refined or replaced.
5. Evaluate the quality of scientific information on the basis of its source and the methods used to generate it.

## **College Policies**

**Plagiarism:** Plagiarism and Academic Dishonesty are not tolerated at Northwestern Connecticut Community College. Violators of this policy will be subject to sanctions ranging from failure of the assignment (receiving a zero), failing the course, being removed/expelled from the program and/or the College. Please refer to your “Student Handbook” under “Policy on Student Rights,” the Section entitled “Student Discipline,” or the College catalog for additional information.

**Americans with Disabilities Act (ADA):** The College will make reasonable accommodations for persons with documented learning, physical, or psychiatric disabilities. Students should notify Dr. Christine Woodcock, the Counselor for Students with Disabilities. She is located at Green Woods Hall, in the Center for Student Development. Her phone number is 860-738-6318 and her email is [cwoodcock@nwcc.edu](mailto:cwoodcock@nwcc.edu).

**School Cancellations:** If snowy or icy driving conditions cause the postponement or cancellation of classes, announcements will be made on local radio and television stations and posted on the College’s website at [www.nwcc.edu](http://www.nwcc.edu). Students may also call the College directly at **(860) 738-6464** to hear a recorded message concerning any inclement weather closings.

Students are urged to exercise their own judgment if road conditions in their localities are hazardous.

**Use of Electronic Devices:** Some course content as presented in Blackboard Learn is not fully supported on mobile devices at this time. While mobile devices provide convenient access to check in and read information about your courses, they should not be used to perform work such as taking tests, quizzes, completing assignments, or submitting substantive discussion posts.

**Sexual Assault and Intimate Partner Violence Resource Team:** NCCC is committed to creating a community that is safe and supportive of people of all gender and sexual identities. This pertains to the entire campus community, whether on ground or virtual, students, faculty, or staff.

Sexual assault and intimate partner violence is an affront to our national conscience, and one we cannot ignore. It is our hope that no one within our campus community will become a victim of these crimes. However, if it occurs, NCCC has created the SART Team - Sexual Assault and Intimate Partner Violence Resource Team - to meet the victim's needs.

SART is a campus and community based team that is fully trained to provide trauma-informed compassionate service and referrals for comprehensive care. The team works in partnership with The Susan B. Anthony Project to extend services 24 hours a day, 7 days a week throughout the year.

The NCCC team members are:

Ruth Gonzalez, Ph.D.	860-738-6315	Green Woods Hall Room 207
Susan Berg	860-738-6342	Green Woods Hall Room 223
Kathleen Chapman	860-738-6344	Green Woods Hall Room 110
Michael Emanuel	860-738-6389	Founders Hall Annex Room 308
Seth Kershner	860-738-6481	Library
Jane O'Grady	860-738-6393	Founders Hall Annex Room 212
Robin Orlomoski	860-738-6416	Business Office Room 201
Patricia Bouffard, Ex-Officio	860-738-6319	Founders Hall Room 103
Savannah Schmitt		Student Representative
Jacob Wujcik		Student Representative

At NCCC we care about our students, staff and faculty and their well-being. It is our intention to facilitate the resources needed to help achieve both physical and emotional health.