

# NORTHWESTERN CONNECTICUT COMMUNITY COLLEGE

## **COURSE SYLLABUS**

**Course Title:** Cell Biology and Organ Systems Lab

**Course #:** BIO\* 127

**Course Description:** This laboratory component provides students with the opportunity to view tissues, organs and structures and systems on a microscopic and macroscopic basis demonstrating concepts in class. It permits an opportunity to provide to explore topics in more depth after being covered in lecture. 0 credits

**Pre-requisite/Co-requisite:** SCI\* 099 or equivalent

**Goals:** To provide students with experiments and activities to reinforce basic biological principles including basic chemistry, cellular structure, genetics, and protein synthesis. To develop proficiency with the compound light microscope and scientific method. To introduce students to basic histology of tissues and organs as well as examples of microscopic examples of various pathological conditions. To introduce concepts of blood typing and transfusion. To introduce students to specific examples of diagnostic tests including X-ray, CT scan and MRI. To view organs and organ systems using computer dissection and specimen dissection.

**Outcomes:** At the end of this laboratory course component, student will be able to:

- Identify and explain the steps of the scientific method
- Identify and explain experiments involving chemical biological principles including diffusion and osmosis, pH, and enzyme activity
- Discuss the steps of protein synthesis when given a nucleotide sequence from DNA and explain the effect of a point mutation and frame shift mutation
- Explain basic genetic principles of human inheritance when given the genotypes for the parents and predict the phenotype and genotype probabilities for their children through examination of autosomal dominant traits, autosomal recessive traits, and sex-linked traits
- Identify examples of tissues from prepared slides including multiple examples of the four tissue types and selected examples of subtypes for each
- Recognize and discuss the structures found in the skin from prepared slides and explain selected skin pathologies including melanoma, squamous cell and basal carcinomas
- Identify selected bones and muscles
- Recognize the parts of a synovial joint in a chicken leg and a model of the knee
- Recognize the parts of a pig's brain and a human brain model and explain their functions
- Recognize and understand functions of the parts of the eye and ear
- Keep a nutritional and activity log
- Calculate their own Basal Metabolic Rate (BMR), Kilocalories (Kcals) expended for each day for physical activities
- Compare their own Kilocalorie intake to their Kcals that have been expended for BMR plus physical activities and make recommendations to improve over all nutrition using the food pyramid
- Identify x-rays, MRIs and CT scans and give examples where each test might be used for diagnostic purposes
- Recognize slides, dissection specimen and model organs and structures for each system including, nervous, respiratory cardiovascular, urinary, endocrine, and reproductive systems

### **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 Orloski	860-738-6416	Business Office Room 201
Patricia Bouffard, Ex-Officio	860-738-6319	Founders Hall Room 103
Savannah Schmitt		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.