



COURSE: BTC 250 PRINCIPLES OF GENETICS

HOURS: Lecture: 3 Lab: 0 Shop/Clinical: 0 Credits: 3

COURSE DESCRIPTION:

This course covers the basic principles of genetics. Topics include Mendelian inheritance, gene mapping, molecular genetics, regulation of gene expression, population genetics, quantitative genetics, and the genetics of cancer. Upon completion, students should be able to demonstrate a broad understanding of genetics and the principles of heredity.

PREREQUISITE(S): BIO 111

COREQUISITE(S): None

TEXTBOOK(S) & OTHER SPECIAL REQUIREMENTS:

Pierce, Benjamin. *Genetics: A Conceptual Approach, 5th ed.* New York, NY: WH Freeman & Co, 2014. Print. ISBN 9781464150852(loose leaf)/9781464109461 (hardcover)
OR
e-Book for Genetics: A Conceptual Approach (LaunchPad – 6 month access). Multimedia. ISBN 9781464150906

STUDENT LEARNING OUTCOMES:

Upon successful completion of this course, the student will be able to:

1. Identify the major components of DNA, how it is replicated, and processed into RNA and proteins.
2. Discuss the theories of heredity and Mendelian principles.
3. Describe the process of mapping chromosomes and genes.
4. Outline the techniques utilized in molecular genetics.
5. Discuss how genes are expressed and controlled in different organisms.
6. Identify and describe the main methods directing population genetics.
7. Demonstrate the ability to quantitatively calculate outcomes for inherited traits.
8. Describe the genetic correlations of cancer, Oncogenes and Tumor Suppressors.

SYLLABUS INFORMATION:

The Student Learning Outcomes listed in this syllabus are those required actions that a student who successfully completes the course must be able to perform. The educational experience, however, is a two-way, interactive

process involving both the student and the instructor. The student must play an active role in the learning process in order to be successful. Instructors will provide an Instructor's Syllabus at the first class meeting explaining how they measure each of the Student Learning Outcomes. A student who is unable to accomplish the outcomes will not receive a passing grade in the course.

The information in this BCC Syllabus may not be accurate beyond the current semester. Textbooks and other course materials are subject to change. Students should verify the textbooks at the first class meeting with their instructor prior to purchasing.

GRADING SYSTEM:

Brunswick Community College employs a system of letter grades and corresponding quality points per grade to evaluate a student's performance in meeting the stated goals and objectives for each course. The grading system is published in the [BCC Catalog and Student Handbook](#).

ATTENDANCE POLICY:

Each student has individual responsibility for attending class regularly and for meeting course objectives. A student is expected to attend all class meetings in a course. Rules on tardiness and leaving class early are addressed in each instructor's syllabus. Instructors are required to record absences and report excessive absenteeism to the Registrar.

If a student is absent for any reason in excess of 20 percent of the class hours, he or she is in violation of the Brunswick Community College attendance policy. Unless the student officially withdraws from the course prior to the 65 percent point of the 16 week semester (or equivalent days for courses of other duration), he or she may receive a grade of "F."

Students who receive an "EXCESSIVE ABSENTEEISM NOTICE" are advised to contact their instructors immediately to review the conditions for withdrawing from the course or for continuing the course.

STUDENTS WITH DISABILITIES:

Brunswick Community College complies with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act, which require that no qualified student with a disability be excluded from participation in or be denied the benefits of any services, programs or activities on the basis of his or her disability. If a student has a disability that is covered by the Americans with Disabilities Act and requires accommodations in the classroom and/or in extracurricular activities, the student must request the accommodations in writing and submit the request to the Disability Services Coordinator. Instructors will not provide accommodations without notification from the Disability Services Coordinator. Brunswick Community College will make every effort to provide reasonable accommodations.