| **PROFESSOR:** |  |
| --- | --- |
| **OFFICE LOCATION:** |  |
| **OFFICE HOURS:** |  |
| **PHONE NUMBER:** |  |
| **E-MAIL:** |  |
| **SEMESTER:** |  |
| **DELIVERY METHOD:** |  |

# COURSE NUMBER AND TITLE, CATALOG DESCRIPTION, CREDITS:

## PCB 3063C Genetics (3 Credits)

This combined lecture/lab course examines fundamental properties of both prokaryotic and eukaryotic organisms. It is designed to meet the requirements for upper division majors in biology, secondary education, or other pre-professional programs. The course addresses and integrates the basic concepts associated with the nature, organization, transmission, expression, recombination, and function of genetic materials. Consideration will also be given to population genetics, evolution, and modern advances in DNA technology.

## PREREQUISITES FOR THIS COURSE:

BSC 1010/1010L and CHM 2045/2045L with a grade of “C” or higher in each course; Prior to enrolling in any upper level course (course number beginning with a 3 or 4), students must complete the following courses with a grade of “C” or better: ENC 1101 English Composition I, ENC 1102 English Composition II, and three semester hours of college level mathematics; or permission from the appropriate academic dean.

### CO-REQUISITES FOR THIS COURSE:

None

## GENERAL COURSE INFORMATION:

Topic Outline

DNA Structure and Replication in Prokaryotic and Eukaryotic Cells

RNA Transcription and Translation in Prokaryotic and Eukaryotic Cells

Mutations

Gene Expression

Cell Cycle, Mitosis, Meiosis

Mendelian Genetics

Chromosome Mapping

Extranuclear Genetics

Quantitative Genetics

Population Genetics

## ALL COURSES AT FLORIDA SOUTHWESTERN STATE COLLEGE CONTRIBUTE TO THE GENERAL EDUCATION PROGRAM BY MEETING ONE OR MORE OF THE FOLLOWING GENERAL EDUCATION COMPETENCIES:

**C**ommunicate clearly in a variety of modes and media.

**R**esearch and examine academic and non-academic information, resources, and evidence.

**E**valuate and utilize mathematical principles, technology, scientific and quantitative data.

**A**nalyze and create individual and collaborative works of art, literature, and performance.

**T**hink critically about questions to yield meaning and value.

**I**nvestigate and engage in the transdisciplinary applications of research, learning, and knowledge.

**V**isualize and engage the world from different historical, social, religious, and cultural approaches.

**E**ngage meanings of active citizenship in one’s community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student’s general education along with the general education competency it supports.

General Education Competency: Evaluate

Course Outcomes or Objectives Supporting the General Education Competency Selected:

Compare and contrast genetic concepts using modern genetic terminology.

Critically discuss the organization, transmission, and variations of genetic material in prokaryotic and eukaryotic cells.

Compare and contrast the similarities and differences between modern molecular biology and classical genetics.

Analyze, evaluate, interpret and map authentic genetic data.

Compare and contrast cell cycles of prokaryotic and eukaryotic cells and associated controls.

Solve genetic problems and apply appropriate statistical analyses.

Critically discuss the importance of modern genetics as it relates to medicine, agriculture, industry, and society.

Appraise the role of genetics with population changes and evolution.

## DISTRICT-WIDE POLICIES:

### PROGRAMS FOR STUDENTS WITH DISABILITIES

Florida SouthWestern State College, in accordance with the Americans with Disabilities Act and the College’s guiding principles, offers students with documented disabilities programs to equalize access to the educational process. Students needing to request an accommodation in this class due to a disability, or who suspect that their academic performance is affected by a disability should contact the Office of Adaptive Services at the nearest campus. The office locations and telephone numbers for the Office of Adaptive Services at each campus can be found at <https://www.fsw.edu/adaptiveservices>.

### REPORTING TITLE IX VIOLATIONS

Florida SouthWestern State College, in accordance with Title IX and the Violence Against Women Act, has established a set of procedures for reporting and investigating Title IX violations including sexual misconduct. Students who need to report an incident or need to receive support regarding an incident should contact the Equity Officer at [equity@fsw.edu](mailto:equity@fsw.edu). Incoming students are encouraged to participate in the Sexual Violence Prevention training offered online. Additional information and resources can be found on the College’s website at <https://www.fsw.edu/sexualassault>.

## REQUIREMENTS FOR THE STUDENTS:

List specific course assessments such as class participation, tests, homework assignments, make-up procedures, etc.

## ATTENDANCE POLICY:

The professor’s specific policy concerning absence. (The College policy on attendance is in the Catalog and defers to the professor.)

## GRADING POLICY:

Include numerical ranges for letter grades; the following is a range commonly used by many faculty:

| **Grade Percent** | **Letter Grade** |
| --- | --- |
| 90 - 100 | A |
| 80 - 89 | B |
| 70 - 79 | C |
| 60 - 69 | D |
| Below 60 | F |

(Note: The “incomplete” grade [“I”] should be given only when unusual circumstances warrant. An “incomplete” is not a substitute for a “D,” “F,” or “W.” Refer to the policy on “incomplete grades.)

## REQUIRED COURSE MATERIALS:

(In correct bibliographic format.)

## RESERVED MATERIALS FOR THE COURSE:

Other special learning resources.

## CLASS SCHEDULE:

This section includes assignments for each class meeting or unit, along with scheduled Library activities and other scheduled support, including scheduled tests.

## ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES:

(Which would be useful to the students in the class.)