## NEW COURSE PROPOSAL FORM

**TO:** CURRICULUM COMMITTEE

**ACADEMIC AREA:** MATH AND SCIENCES

**PROPOSEd by**: Peggy Romeo

**PRESENTER:** peggy Romeo

**DATE:** 1/14/2011

**COURSE PREFIX, NUMBER AND TITLE:**

### PCB 3063C GeneticsSECTION I

**COURSE INFORMATION: TYPE iN THE APPROPRIATE INFORMATION FOR EACH ITEM:**

**DEPARTMENT:** Biology

**COURSE PREREQUISITE(S):** BSC1010/1010L (Biological Science I with Lab) and BSC1011/1011L (Biological Science II with Lab) and CHM 2045/2045L (General Chemistry I with Lab) all with a “C” or better

**MINIMUM GRADE OF prereqUISITE(s):** C

**COURSE COREQUISITE(S):** none

**COURSE CREDITS OR CLOCK HOURS:** 3 credits

**credit type:** COLLEGE CREDIT (TRANSFERABLE)

**CONTACT HOURS:** 3 CONTACT

**COURSE DESCRIPTION:**

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.

**GENERAL 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

**LEARNING OUTCOMES:**

TYPE IN ALL OF THE LEARNING OUTCOMES, ASSESSMENTS AND GEN ED COMPETENCIES AS THEY SHOULD BE DISPLAYED IN THE SYLLABUS

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| --- | --- | --- |
| LEARNING OUTCOMES | ASSESSMENTS | GENERAL EDUCATION COMPETENCIES |
| Compare and contrast genetic concepts using modern genetic terminology. | Successfully complete one or more of the following: exams; quizzes; writing assignments; debates; oral, written, or electronic presentations; discussion forums; or data interpretation and analysis exercises. |  |
| 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. | Successfully complete one or more of the following: exams; quizzes; writing assignments; oral, written, or electronic presentations; discussion forums; or data interpretation and analysis exercises. |  |
| Analyze, evaluate, interpret and map authentic genetic data. | Successfully complete one or more of the following: exams; quizzes; writing assignments; debates; case studies; oral, written, or electronic presentations; discussion forums; collaborative problem solving exercises; or data interpretation and analysis exercises. | TIM, COM, CT, QR |
| 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. |  |  |

### SECTION II

**ICS CODE FOR THIS COURSE:** ADVANCED AND PROFESSIONAL - 1.11.04 - BIOLOGICAL SCIENCE

**IF YOU INTEND TO RESTRICT STUDENT REGISTRATION BASED ON THE STUDENTS’ MAJOR(S), ENTER ALL APPLICABLE MAJOR RESTRICTION CODE(S):** Click here to enter text.

**GRADE MODE:** STANDARD GRADING

**IS THIS A GENERAL EDUCATION COURSE?** NO

**IS THIS A WRITING INTENSIVE COURSE?** NO

**iS THIS AN HONORS COURSE?** NO

**IS THIS A REPEATABLE COURSE?** NO

**IF SO, WHAT IS THE MAXIMUM NUMBER OF CREDITS A STUDENT CAN EARN FOR THIS COURSE?** ENTER NUMBER

**DO YOU EXPECT TO OFFER THIS COURSE THREE TIMES OR LESS?** NO

**WILL THIS NEW COURSE HAVE AN IMPACT ON OTHER COURSES, PROGRAMS OR DEPARTMENTS?** NO

**eXPLAIN:**

CLICK HERE TO ENTER TEXT.

**IF YES, HAVE YOU DISCUSSED THIS PROPOSAL WITH ANYONE (FROM OTHER DEPARTMENTS AND/OR PROGRAMS) REGARDING THE IMPACT? WERE ANY AGREEMENTS REACHED?**

CLICK HERE TO ENTER TEXT.

**DO YOU ANTICIPATE THAT STUDENTS WILL BE TAKING ANY OF THE PREREQUISITES LISTED FOR THIS COURSE IN DIFFERENT PARTS OF THE SAME TERM?** NO

**IS ANY COREQUISITE LISTED ON THIS COURSE ALSO LISTED AS A COREQUISITE ON ITS PAIRED COURSE?** NO

eXAMPLE: CHM 2032 IS A COREQUISITE FOR CHM 2032L AND CHM 2032L IS A COREQUISITE FOR CHM 2032.

### SECTION III

**PROVIDE JUSTIFICATION FOR CURRICULUM ACTION (OTHER EXPLANATORY INFORMATION):**

PCB3063C IS ALREADY A REQUIRED COURSE IN OUR SECONDARY SCIENCE EDUCATION PROGRAM. IT IS CURRENTLY ONLY TAUGHT AT FGCU. WE ARE IN THE PROCESS OF MOVING THIS COURSE TO OUR OWN CAMPUS SO OUR STUDENTS DO NOT HAVE TO TRAVEL TO FGCU. ALSO, in case we develop A FOUR-YEAR BIOLOGY DEGREE, THIS COURSE WILL BE A REQUIRED COURSE IN THAT PROGRAM.

**NOTE:**

CHANGES FOR THE UPCOMING FALL TERM MUST BE SUBMITTED AND APPROVED NO LATER THAN THE FEBRUARY CURRICULUM COMMITTEE MEETING PRIOR TO THE START OF THE NEXT ACADEMIC YEAR. CHANGES DURING MID-SCHOOL YEAR ARE NOT ALLOWED. EXTREME CIRCUMSTANCES WILL REQUIRE APPROVAL FROM THE VICE PRESIDENT OF ACADEMIC AND STUDENT AFFAIRS TO BEGIN IN THE SPRING TERM. THE PROPOSED CHANGES MUST BE PRESENTED AND APPROVED BY THE SEPTEMBER CURRICULUM COMMITTEE PRIOR TO THE SPRING SEMESTER.

**TERM IN WHICH PROPOSED ACTION WILL TAKE PLACE:** FALL 2011

 VPASA SIGNATURE (IF NECESSARY) TO APPROVE CURRICULUM ACTION MID-YEAR:

 APPROVED EFFECTIVE TERM

**FACULTY ENDORSEMENTS:**PLEASE SEPARATE FACULTY MEMBERS WITH A COMMA (,)

Dr. Peggy A. Romeo, Dr. Erin Harrel. PCB3063C is currently a required course in our Secondary Education Biology Program and the transition of the course from FGCU to our campus is fully supported by the Science Department and the School of Education.

**DEPARTMENT CHAIR / PROGRAM COORDINATOR ENDORSEMENT:**

 1/14/2011

**ASSOCIATE / ACADEMIC DEAN ENDORSEMENT:**

 1/14/2011

**STUDENT ASSESSMENT COMMITTEE CHAIR ENDORSMENT:**

 1/21/2011

**DISTRICT DEAN OF INSTRUCTION ENDORSEMENT:**

 1/26/2011

AFTER REVIEWING AND SIGNING THIS PROPOSAL, THE DISTRICT DEAN WILL RETURN THE PROPOSAL TO THE DEPARTMENT CHAIR OR PROGRAM COORDINATOR WILL SUBMIT THE PROPOSAL TO THE VPASA OFFICE.

THE DEPARTMENT CHAIR/PROGRAM COORDINATOR WILL SEND THIS PROPOSAL ALONG WITH ANY OTHER PROPOSALS FROM HIS/HER DEPARTMENT BEING SUBMITTED FOR REVIEW BY THE CURRICULUM COMMITTEE TO THE STUDENT ASSESSMENT COMMITTEE FOR REVIEW. ONCE APPROVED BY THE STUDENT ASSESSMENT COMMITTEE, SUBMIT THE PROPOSAL(S) TO THE OFFICE OF THE VICE PRESIDENT OF ACADEMIC AND STUDENT AFFAIRS AT LEAST TWO FRIDAYS PRIOR TO THE NEXT SCHEDULED CURRICULUM COMMITTEE MEETING.

FOR MORE DETAILS, PLEASE REFER TO THE CURRICULUM COMMITTEE GUIDELINES, CURRICULUM PROCESS FLOW CHART AND THE CRITICAL DATES TABLE BY CLICKING CURRICULUM COMIITTEE ON THE FACULTY/STAFF LINK FROM THE EDISON HOMEPAGE (CLICK ON THE CURRICULUM PROCESS LINK).

REVISED: 8/25/10