

### ***Information for Prospective Students: Revisions in the Biology Major***

Beginning in academic year 2011-12, the Biology Department at Colorado College will institute revisions in the Biology major. The new major will encompass two academic tracks (Molecular & Cellular Biology –MCB- and Organisms, Ecology, & Evolution-OEE) with different requirements, especially at the upper levels. While the requirements will be similar at the lower levels, students declaring the Biology major (usually by the end of the sophomore year) will need to declare a particular track.

### ***OVERVIEW OF THE MOLECULAR & CELLULAR BIOLOGY TRACK [MCB]***

#### I. Courses required in *Chemistry*

CH107 General Chemistry I

CH108 General Chemistry II

CH250 Organic Chemistry I

CH251 Organic Chemistry II

\*CH382 Biochemistry (recommended for health professions) OR CH241 Analytical Chemistry may be taken as electives

#### II. Courses required in *Biology*

- BY131 (new course): Introduction to Molecular & Cellular Biology. *For students currently enrolled as Biology majors, this will serve as the equivalent of BY210, which fulfills this requirement.*
- BY231 (new course): Genetics. *For current Biology majors, this will serve as the equivalent of BY361 which fulfills this requirement.*
- 1 course in introductory organismic biology (BY105-Biology of Plants OR BY106-Biology of Animals OR BY107-Biology of Microbes)
- 6 approved electives, at least 3 of which must be Biology (BY) courses with a prerequisite of BY231 Genetics; 1 unit completed as a senior capstone course, often requiring additional or expanded assignments (from eligible list). One unit of electives may be CH382(Biochemistry) or CH 241 (Analytical Chemistry) and one unit may be GY300 (Invertebrate Paleontology) OR PY299 (Neuroscience) OR SC301 (Biomechanics). Other courses may be available by petition. Any Biology course except BY100 and BY 104 may count as an elective. BY101(FYE) counts as one lower level elective.

#### III. Courses required in *Mathematics* [2 units] from

MA125/126 (counts as 1 unit) Pre-Calculus & Calculus OR MA126-Calculus 1; OR MA127-Accelerated Calculus Review; OR MA129-Calculus 2; or AP or IB Calculus credit as awarded by the Registrar, or BY220-Biostatistics and Experimental Design; EV228-Analysis of Environmental Data; OR BY256/MA256-Mathematical Models in Biology. BY220 and BY256/MA256 may not satisfy both the statistics/modeling requirement and count as an approved elective.

*Students interested in pre-health programs or graduate programs should note that 2 units of calculus, 2 units of organic chemistry, and 2 units of physics may be required for admission.*

## ***OVERVIEW OF THE ORGANISMS, ECOLOGY, & EVOLUTION TRACK [OEE]***

### I. Courses required in *Chemistry*

CH107 General Chemistry I

CH108 General Chemistry II

CH250 Organic Chemistry I

### II. Courses required in *Biology*

- BY131 (new course): Introduction to Molecular & Cellular *BY210* also fulfills this requirement.
- BY231 (new course): Genetics [*For students currently enrolled as Biology majors, this will serve as the equivalent of BY361; BY361 also fulfills this requirement*] OR BY280 (new course: Population Genetics, starting 2012-2013)
- 2 course in introductory organismic biology (BY105-Biology of Plants OR BY106-Biology of Animals OR BY107-Biology of Microbes)
- BY208 Ecology
- 5 approved Biology electives of which 3 must be Biology (BY) courses at the 300 level or higher; the other 2 may be any level. One unit of electives must be completed as a senior capstone course, often requiring additional or expanded assignments (from eligible list in department). Any Biology course except BY100 and BY 104 may count as an elective. BY101(FYE) counts as one lower level elective. One unit of the electives may be CH251(Reactions of Organic Molecules), CH382 (Biochemistry), GY205 (Historical Geology), GY300 (Invertebrate Paleontology), SC206 (Exercise Physiology) or SC301 (Biomechanics). Other courses may be approved by petition to serve as one unit outside Biology.

### III. Courses required in *Mathematics* (2 units, one from calculus and one from statistics/modelling):

- One unit in calculus from MA125-26 (Pre-Calc/Calculus), OR MA126-Calculus I, OR MA127-Accelerated Calc Review, OR MA129-Calculus 2 **AND**
- One unit in statistics from BY220 (Biostatistics) OR BY256/MA256 (Mathematical Models in Biology).

Appropriate Mathematics AP or IB credit as awarded by the Registrar may count towards the Calculus requirement. BY220 and BY256/MA256 may NOT satisfy both the math requirement and also count as an elective.

*Students interested in pre-health programs or graduate programs should note that 2 units of calculus, 2 units of organic chemistry, and 2 units of physics may be required for admission.*

*Students may declare the Biology major at any time, but are strongly urged to speak with a Biology faculty member about the major and their interests before declaring. During the senior year, all Biology majors must earn a passing grade on a comprehensive examination and submit five written abstracts of departmental seminars.*