

**Lower Division Department Requirements for the Biology Major:**

University of Oregon Courses	Qtr. Credits	PCC Course Equivalents	Qtr. Credits
CH 221, 222, 223 General Chemistry I, II, II+ labs CH 227, 228, 229	18	CH 221, 222, 223 General Chemistry I, II, III	15
CH 331 and 335 or 336 Organic Chemistry	8	No PCC equivalent	-
MATH 246, 247 Calculus for the Biological Sciences I & II <b>or</b> MTH 251, 252 Calculus I, II	8	MTH 251, 252 Calculus I, II	9
PHY 201, 202, 203 General Physics <b>or</b> PHY 251, 252, 253 General Physics with Calculus	12	PHY 201, 202, 203 General Physics <b>or</b> PHY 211, 212, 213 General Physics with Calculus	12 or 15
Foundations of Biology Sequence: <i>A molecular, developmental, mechanistic approach for students with a strong background in Biology and Chemistry or those planning on attending medical or dental school.</i> Organic Chemistry corequisite for BI 251. BI 251, 252, & 253 <b>or</b> General Biology Sequence: <i>A whole organism Biology or Ecology approach for students interested in more systems and organismal physiology. (General Chemistry prerequisite for BI 211)</i> BI 211, 212, 213, & 214	15-16	<i>Students with a strong background in Biology and Chemistry or who intend on attending medical or dental school should take Biology 251, 252, 253 at U of O.</i> <b>or</b> BI 211, 212, 213 (completion of the this PCC sequence will allow transfer students to enter U of O's BI 214, Biochemistry and Genetics and Organic Chemistry sequence)	-  15

In addition to the departmental requirements listed above, students must also complete coursework for university admission, general education requirements, and BA/BS requirements. Meet with a PCC Academic Advisor to develop an effective transfer plan that will meet your individual needs.

**PCC DEGREE/TRANSFER INFORMATION:**

**Associate of Arts/Oregon Transfer (AAOT) Degree** – The courses listed above may be included in the AAOT degree. Students who complete this degree and are accepted at Oregon public universities will be admitted as having completed all lower division comprehensive and General Education requirements for a baccalaureate degree.

**Associate of Science (AS) Degree** – The courses listed above may be included in the AS degree. The degree does NOT guarantee that students will be accepted as having completed all lower division comprehensive and General Education requirements for a baccalaureate degree. Student should work with an Academic Advisor to plan for transfer to the school and major of their choice.

**Transfer without a PCC Degree** – Students may elect to earn credits and transfer to a four-year institution without earning a PCC degree. Please meet with an Academic Advisor for an individualized plan of study.

*PCC endeavors to create accurate transfer guides for students; however, requirements may change without notice. Students are responsible for working with PCC advisors and their transfer institution to ensure that their academic plan will meet requirements and timelines.*

## Department of Biology

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### **A brief review of some of the requirements for the Biology major:**

#### ***MATH***

Most students take mathematics their first year at U of O. Unless you have prior Advanced Placement/International Baccalaureate/College Now credit for college calculus you will need to take a math placement test (usually during IntroDUCkTion) to determine which class is the most appropriate. The test will more accurately reflect your level if you review the math you've done in the past. Placement information and sample questions can be viewed at <http://www.uoregon.edu/~testing/math.htm>. The math sequence for Biology majors is MATH 111 (College Algebra), MATH 112 (Elementary Functions), and MATH 246 & 247 (Calculus for the Biological Sciences I & II).

#### ***CHEMISTRY***

General - The CH 221, 222, 223 sequence with labs (CH 227, 228, 229), is the one taken most commonly by Biology majors. To be eligible for this sequence you must have had chemistry in high school and have completed or be enrolled in MATH 111 College Algebra. If you haven't had previous chemistry, you should take CH 111 Introduction to Chemical Principles (offered in the Summer & Fall terms), prior to taking CH 221.

Organic - For the Biology Major, a minimum of two Organic Chemistry courses are required. After CH 331 Organic Chemistry I, Biology majors are required to successfully complete one additional Organic Chemistry course, either CH 335 Organic Chemistry II or CH 336 Organic Chemistry III. Those interested in graduate programs in medicine, dentistry, biomedicine or allied health should complete a full year of Organic Chemistry lectures (CH 331, 335, 336) with two laboratories (CH 337, 338). Many medical schools require upper-division Genetics and/or Biochemistry, thus we suggest BI 320 Molecular Genetics and/or CH 360 Physiological Biochemistry. Students are urged to contact specific institutions to confirm admission requirements.

#### ***PHYSICS***

The Biology major requires a year sequence of General Physics, most commonly PH 201, 202, 203, which has MATH 112 as a prerequisite. Some students prefer to take physics with calculus, which requires MATH 246/251 as a pre- or corequisite. Physics laboratories are not required for the Biology major, but do remember that medical schools and many other graduate and health professional programs often require physics with laboratories.

#### ***BIOLOGY***

Biology majors have two options for completing lower division Biology to prepare them for upper division course work: (1) the Biology Foundations sequence or (2) the General Biology sequence. The Biology Foundations sequence consists of three 5-credit courses each with laboratories beginning in the Fall term: BI 251 Biochemistry & Cell Physiology, BI 252 Genetics, and BI 253 Evolution & Biodiversity. This sequence is based on a molecular, genetic, developmental, mechanistic approach and is for students with a strong background in Biology and Chemistry or those planning on attending medical or dental school. To begin BI 251, usually during the first term of their Sophomore year, students must have completed or be enrolled in CH 331 Organic Chemistry I. The General Biology sequence consists of four 4-credit courses each with laboratories/discussions beginning in either the Fall or Winter term: BI 211 Cells, BI 212 Organisms, BI 213 Populations, and BI 214 Biochemistry & Genetics. The General Biology sequence uses a whole organism or an ecology-evolution approach and is for students interested in more systems and organismal physiology. To begin BI 211, students must have completed a college-level, general chemistry course (eg, CH 221 General Chemistry I or CH 111 Introduction to Chemical Principles). After completing the Foundations or General Biology sequence, students must successfully complete ( $\geq$  C-/P) 44 credits of upper-division Biology. Please see the green handout *Requirements for the Biology Major* for specific details about upper division requirements.

#### ***INTERNATIONAL BACCALAUREATE (IB) OR ADVANCED PLACEMENT (AP) CREDIT***

A score of 5 or more on the IB higher level Biology exam provides 12 credits for the General Biology courses BI 211 Cells, 212 Organisms, 213 Populations. An AP Biology Score of 4 or higher provides eight general education University credits of 100-level Biology (BI 1xxT, BI 1xxT) and 4 credits for the first course in our General Biology sequence (BI 211 Cells). AP credit for Chemistry is granted as CH 221, 222, 223 with scores of 3, 4 or 5. Credit is not awarded for the laboratory so students are required to take the laboratory sequence (CH 227, 228, 229). We encourage you to discuss your placement and options with us.