

# Biological Sciences



## GENERAL INFORMATION

Biological Sciences include the study of diverse types of living organisms at all levels of their organization. Specialties include **Cellular and Molecular Biology, Botany, Zoology, Microbiology, Genetics, Physiology, Evolutionary Biology and Ecology**. Students whose eventual goal is medical, dental or veterinary school usually major in some area of the biological sciences; separate EvCC guides are also available for those programs. In all of these cases, the student will need to finish at least a baccalaureate (4-year) degree. The first two years of courses (or more if pre-college level courses are required) can be taken at the community college, and the junior and senior year completed at a 4-year college or university.

EvCC offers two degrees that are part of a statewide agreement that smooths the transfer process for students. Both degrees offer qualified students priority for admission with junior status at most 4-year institutions in Washington. Students interested in colleges and universities outside of Washington may also find the requirements of these degrees to be appropriate. It is essential to speak with a program advisor before selecting the degree path, as each university has different requirements.

The **Associate of Science** degree requires that the student complete all freshman and sophomore math and science courses and a limited number of courses in English, Humanities and Social Science. Upon transfer, the student will be eligible for junior level science courses, but will need to complete the remaining distribution requirements before graduation with a baccalaureate degree.

The **Associate of Arts and Sciences - Option II** degree enables the student to complete basic distribution requirements in Math, English, Humanities, Social Sciences and Natural Sciences, and to begin the major course of study. However, the student will have to take additional freshman and sophomore level science courses at the university before being eligible for junior level courses in a science major.

## CAREER OPTIONS

Students pursuing an undergraduate (baccalaureate) degree in Biology have a broad variety of career options. They may eventually work in field or laboratory research or consulting, teach secondary level biology, pursue further academic work in the biological sciences (masters or doctorate degree), or enter medical, dental, veterinary or other health professional graduate programs.

## SUGGESTED PREPARATION

To begin college study in the biological sciences, students should have solid writing and communication skills, a strong algebra background, and high school courses in biology, chemistry and physics. Students who do not have that background may gain it at the community college before starting the courses that will count toward their degree.

During the first two years of college study, students should develop a strong background in English (2 quarters), Math (calculus and statistics) and Chemistry (one year inorganic and one year organic), as well as a year of introductory Biology (see recommended courses on the next page). Most transfer institutions will also require two to three quarters of college level foreign language; in some cases study of a foreign language in high school will be accepted as a substitute. For specific requirements in your area of interest or for the school to which you wish to transfer, it is strongly recommended that you contact an EvCC biology advisor (below) and contact the transfer institution.

Websites of biology departments at common transfer institutions:

[April 2009]

Central Washington University:

[www.cwu.edu/~biology/](http://www.cwu.edu/~biology/)

Eastern Washington University:

[www.ewu.edu/x7424.xml](http://www.ewu.edu/x7424.xml)

The Evergreen State College:

[www.evergreen.edu](http://www.evergreen.edu)

University of Washington:

[www.biology.washington.edu/](http://www.biology.washington.edu/)

Washington State University:

<http://futurestudents.wsu.edu/academics/fos/study.asp?ID=BIOL>

Washington State University (Vancouver):

[www.vancouver.wsu.edu/programs/sci/BSbiol.html](http://www.vancouver.wsu.edu/programs/sci/BSbiol.html)

Western Washington University:

[www.wvu.edu/biology/](http://www.wvu.edu/biology/)

## PROGRAM ADVISORS

- ◆ Fayla Schwartz, Shuksan 117, 425-388-9451, [fschwartz@everettcc.edu](mailto:fschwartz@everettcc.edu)
- ◆ René Kratz, Shuksan 121, 425-388-9503, [rkratz@everettcc.edu](mailto:rkratz@everettcc.edu)
- ◆ Pamela Pape-Lindstrom, Shuksan 118, 425-388-9480, [ppape@everettcc.edu](mailto:ppape@everettcc.edu)

## GETTING STARTED AT EVCC

Our Enrollment Services Office provides information about application, advising, orientation and registration for new and continuing students. Though advising is voluntary, all prospective and current students are invited to contact the Enrollment Services Office or the Counseling Advising and Career Center (CACC) if they would like to speak one-to-one with an advisor about getting started.

Contact:

- ◆ Enrollment Services, Jackson Ctr, 425-388-9219  
[admissions@everettcc.edu](mailto:admissions@everettcc.edu)
- ◆ CACC, Third Floor, Parks Bldg. 435-388-9263

# Associate of Science - Biology

This checklist is targeted at transfer students with an interest in **Biology**. Students should meet with an advisor and maintain this checklist while at Everett Community College. The quarter before expected completion, this checklist should be submitted with a diploma application to the Enrollment Services Office. Note: Though courses in a foreign language are not required in the Associate of Science degree, some universities may require two or three quarters of foreign language for admission or for graduation.

Courses listed with an ampersand in the course number (e.g. ENGL&101) reflect the new Common Course Numbering System.

Courses in [brackets] are the "old" course numbers and may be used to satisfy requirements. For more information, go to [www.everettcc.edu/ccn](http://www.everettcc.edu/ccn)

Student: \_\_\_\_\_

**COMPLETION of Diversity Course**

	(Where Completed/Course Title)	(Year Completed)	(Grade)
Course Number	Course Title	Credits	Quarter Completed

**COMMUNICATIONS SKILLS** (5 credits)

*ENGL& 101	English Composition I	5	_____
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**MATHEMATICS** (15 credits selected from MATH& 151, 152, 153, 254, 146 [152, 153, 154, 252, 281]; including at least one from MATH& 153, 254, 146 [154, 252, 281]. The UW strongly recommends 3 quarters of calculus, and statistics.)

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**HUMANITIES AND SOCIAL SCIENCE** (15 credits, in three different disciplines, selected from both the Humanities and Social Science course list for the Associate of Science – see separate guide.)

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**SCIENCE** (See Note 1.)

*BIOL& 221 [180]	Majors Ecology/Evolution	5	_____
*BIOL& 222 [200]	Majors Cell/Molecular	5	_____
*BIOL& 223 [220]	Majors Organismal Phys	5	_____
*CHEM& 161 [140]	General Chemistry with Lab I	5.5	_____
*CHEM& 162 [150]	General Chemistry with Lab II	5.5	_____
*CHEM& 163 [160]	General Chemistry with Lab III	5.5	_____
*CHEM& 261 [200]	Organic Chemistry with Lab I	6	_____
*CHEM& 262 [201]	Organic Chemistry with Lab II	6	_____
*CHEM& 263 [202]	Organic Chemistry with Lab III	6	_____
PHYS& 121 [117]	General Physics I	5	_____
PHYS& 122 or 123 [118 or 119] (both recommended for WWU and UW)	General Physics II, III	5	_____
BOTANY 113 (for Botany majors)	Plants of the Pacific Northwest	5	_____
BIOL 130 (optional for Zoology majors)	Marine Biology of the Pacific NW	5	_____
BIOL 147 (optional for all majors)	Human Genetics	5	_____

**Total: minimum 90 credits required, minimum 2.0 GPA. See Note 2.**

**Note 1.** Prerequisites: This program of study assumes the student has college level English and math skills. All new students are required to take the EvCC English and Math placement tests. All science courses require completion of ENGL 98 or placement into ENGL& 101. Chemistry courses require completion of Math 99 [65] or equivalent placement, as well as completion of CHEM& 140 [98] or a high school chemistry course, completed within the last three years. BIOL& 221[180] may be taken after or concurrently with CHEM& 161 [140]. BIOL& 222 and 223 [200, 220] must be taken after CHEM& 161 [140]. CHEM& 261, 262, 263 [200, 201, 202] is offered in a sequence of Fall, Winter, Spring only; students must start in the Fall. Students who initially place in a high level math course do not need to take math courses below that level.

**Note 2:** Completion of required and recommended courses may result in more than 90 credits being earned for the degree. The advantage is that the completion of these courses will enable you to progress more efficiently in your major at a university. Alternatively, some of the more advanced courses may be done at the university instead. Please consult with an advisor to decide the best option for you.

\* Required

# Associate of Arts and Sciences – Option II

This checklist is targeted at transfer students with an interest in **Biology**. Students should meet with an advisor and maintain this checklist while at Everett Community College. The quarter before expected completion, this checklist should be submitted with a diploma application to the Enrollment Services Office. This checklist refers to requirements listed in the curriculum guide titled “Associate in Arts and Sciences – Option II”, which lists all the courses which are approved for the various categories of requirements. Note: Though courses in a foreign language are not required in the Option II degree, some universities may require two or three quarters of foreign language for admission or for graduation.

Courses listed with an ampersand in the course number (e.g. ENGL&101) reflect the new Common Course Numbering System.

Courses in [brackets] are the “old” course numbers and may be used to satisfy requirements. For more information, go to [www.everettcc.edu/ccn](http://www.everettcc.edu/ccn)

Student Name: \_\_\_\_\_

- |   |                                |                  |         |
|---|--------------------------------|------------------|---------|
| <input type="checkbox"/> <b>PROFICIENCY in Intermediate Algebra</b> | (Where Completed/Course Title) | (Year Completed) | (Grade) |
| <input type="checkbox"/> <b>COMPLETION of Diversity Course</b>      | (Where Completed/Course Title) | (Year Completed) | (Grade) |

Course Number	Course Title	Credits	Quarter Completed	Grade
<b>BASIC COMMUNICATIONS SKILLS</b> (Minimum of 10 credits from approved list.)				
*ENGL& 101	English Composition I	5	_____	_____
ENGL& 102 or ENGL 103	_____	5	_____	_____
<b>BASIC QUANTITATIVE SKILLS</b> (5 credits)				
MATH& 141 [140]	Precalculus: College Algebra	5	_____	_____
<b>HUMANITIES</b> (15 credits from the Option II approved Humanities List. See Note 1.)				
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
<b>SOCIAL SCIENCE</b> (15 credits from the Option II approved Social Science List. See Note 1.)				
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
<b>SCIENCE AND MATH</b> (See Notes 1 and 2.)				
*BIOL& 221 [180]	Majors Ecology/Evolution	5	_____	_____
*BIOL& 222 [200]	Majors Majors Cell/Molecular	5	_____	_____
*BIOL& 223 [220]	Majors Organismal Physiology	5	_____	_____
*CHEM& 161 [140]	General Chemistry with Lab I	5.5	_____	_____
*CHEM& 162 [150]	General Chemistry with Lab II	5.5	_____	_____
*CHEM& 163 [160]	General Chemistry with Lab III	5.5	_____	_____
*CHEM& 261 [200]	Organic Chemistry with Lab I	6	_____	_____
*CHEM& 262 [201]	Organic Chemistry with Lab II	6	_____	_____
*CHEM& 263 [202]	Organic Chemistry with Lab III	6	_____	_____
+MATH& 144 [147]	Pre-Calculus I & II: A Review	5	_____	_____
+MATH& 151 [152]	Calculus I	5	_____	_____
+MATH& 152 [153]	Calculus II	5	_____	_____
+MATH& 146 [281]	Introduction to Statistics	5	_____	_____
PHYS& 121 [117]	General Physics I	5	_____	_____
PHYS& 122 or 123 [118 or 119]	General Physics II,III	5	_____	_____
BOTANY 113 (for Botany majors)	Plants of the Pacific Northwest	5	_____	_____
BIOL 130 (for Zoology majors)	Marine Biology of the Pacific NW	5	_____	_____
BIOL 147 (optional for all majors)	Human Genetics	5	_____	_____

**Minimum 90 credits required, with minimum 2.0 GPA. See Note 3.**

**Note 1:** Courses must be from three different disciplines. No more than 10 credits in any one discipline may be used in Humanities, Social Science and Science.

**Note 2:** Prerequisites: This program of study assumes the student has college level English and math skills. All new students are required to take the EvCC English and Math placement tests. All science courses require completion of ENGL 98 or placement into ENGL& 101. Chemistry courses require completion of MATH 99 [65] or equivalent placement, as well as completion of CHEM& 140 [98] or a high school chemistry course, completed within the last three years. BIOL& 221[180] may be taken after or concurrently with CHEM& 161 [140]. BIOL& 222 and 223 [200 and 220] must be taken after CHEM& 161 [140]. Chemistry 261, 262, 263 [200, 201, 202] are offered in a sequence of Fall, Winter, Spring only; students must start in the Fall. Students who initially place in a high level math course do not need to take math courses below that level. It may be advisable to complete physics in the junior year.

**Note 3:** Completion of required and recommended courses may result in more than 90 credits being earned for the degree. Please discuss this option, comparing it with the Associate of Science degree option, with an advisor.

**\* Required      +Recommended**

## SUGGESTED COURSE SEQUENCE

This plan assumes the student is academically ready for college level Math, English and Chemistry courses. Most students take 3 years to complete all of these courses, in addition to any lower level English or Math courses they may have to take as prerequisites.

Note that the two degrees require basically the same courses, with the difference being the amount of math and the number of Humanities and Social Science courses required. English &102 is not required for the AS degree, but it is strongly recommended before transfer to a university.

Fall CHEM& 161 [140] BIOL& 221 [180] MATH& 141	Winter CHEM& 162 [150] BIOL& 222 [200] MATH& 142	Spring CHEM& 163 [160] BIOL& 223 [220] MATH& 151 [152]	Summer ENGL& 101 or 101D HUMANITIES or SOCIAL SCIENCE
Fall MATH& 152 [153] CHEM& 261 [201] PHYS& 121 [117]	Winter MATH& 146 [281] CHEM& 262 [202] PHYS& 122 [118]	Spring BIOL& 260 [250] optional CHEM& 263 [203] ENGL& 102 or 102D	Summer HUMANITIES SOCIAL SCIENCE



## ABOUT EVERETT COMMUNITY COLLEGE

Improve your personal skills, discover new ideas, prepare for work and/or university transfer, and improve your career prospects through programs at EvCC.

Each term, about 9,800 students enroll in a wide variety of courses. Day, evening, distance, and workplace-based options are available. Students may enroll on a full-time or part-time basis. EvCC offers two-year associate degrees, short-term certificates, endorsements and industry certifications.

Student life can be active. Currently, EvCC offers athletic programs in basketball, baseball, and soccer, to name a few.

Student clubs range from Phi Theta Kappa (the Honor Society) to the United Native American Council to the International Club to the German Club, and more. Our Student Government and Programs Board are always on the go with activities that make college life fun. There are also opportunities to develop leadership skills.

Student services are designed to support students in their studies, remove barriers, and enrich student life. Financial aid services offer grant and loan opportunities, as well as scholarships. Our Counseling, Advising and Career Center has a rich array of information and personal assistance for students. The Diversity and Equity Center supports student activities and College programs that promote growth and opportunity toward cultural understanding.

Former EvCC students have found employment in business and industry, in community service agencies, in schools, and in other locales. Our transfer students are known to do very well at the UW, WWU and other schools.

### EvCC's University Center

Looking for educational options close to home?

Check out our new University Center, offering a variety of Bachelor's and Master's degrees –

**Right here.  
Right now.**

[www.uceverett.org](http://www.uceverett.org)

Everett Community College does not discriminate on the basis of race, religion, creed, color, national origin, age, sex, sexual orientation, marital status, the presence of any physical, sensory or mental disability, genetic information or status as a disabled or Vietnam era veteran in its program and activities, or employment. The Vice President of Instruction and Student Services has been designated to handle inquiries regarding student-related non-discrimination policies and can be reached at 2000 Tower Street, Everett, WA 98201, or by phone at (425)388-9216. The Vice President of Administrative Services/Human Resources has been designated to handle employment-related inquiries regarding the non-discrimination policies and can be reached at 2000 Tower Street, Everett, WA 98201, or by phone at (425)388-9232. This publication is effective **SEPTEMBER 2010**. The College reserves the right to change courses, programs, degrees and requirements. It is the student's responsibility to be aware of correct information by routinely checking with Enrollment Services and/or the advisors listed in this publication. Requirements applicable to all certificates and degrees are published in the College Catalog. Nothing contained herein shall be construed to create any offer to contract or any contractual rights. For more information, call 425-388-9219, Everett Community College, 2000 Tower Street, Everett, WA 98201. [www.everettcc.edu](http://www.everettcc.edu)