



# Program Map: Biology Emphasis SCOPE (AA), with Calculus

*Completion Award*  
**AA Degree, DTA/MRP**

*Program Length*  
**6 Quarters**

*Program Code*  
**AAES**

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This is the AA Biology Emphasis program map for the Math & Science Area of Study, designed to share courses with SCOPE program. It is intended for students who are ready for college calculus. This map is intended as a general guide for a suggested course of study. Please work with your academic advisor regarding your specific goals and transfer requirements.

### *Suggested Order*

<b>Order</b>	<b>Category</b>	<b>Course</b>	<b>Credits</b>
1	Communication Skills	ENGL& 101: Composition I*	5
2	Natural Science 1	BIOL& 221L Ecology and Evolution	5
3	Humanities 1/College Success	IS 107:History of Reason*	5
4	Elective	MATH& 146	5
5	Natural Sciences 2	BIOL& 222L: Molecular and Cellular Biology	5
6	Humanities	<i>Suggested:</i> FILM 110: Literature and Film*	5

### 30 Credits

7	Social Science 1	ECON& 201: Microeconomics*	5
8	Natural Sciences 3	BIOL& 223L: Organismal Biology	5
9	Social Science 2	SOC 115: Understanding Diversity*	5

### 45 Credits

10	Summer Optional Field Experience	BIOL 290-294: Undergraduate Research in Biology*	1-5
11	Quantitative Skills	MATH& 151: Calculus I: Analytic Geometry	5
12	Elective	BIOL 290-294: Undergraduate Research in Biology*	5
13	Natural Sciences 4	CHEM& 161L: General Chemistry with Lab I	4
14	Social Science 3	<i>Suggested:</i> POLS& 202: American Government*	5

*Suggested Order*

<b>Order</b>	<b>Category</b>	<b>Course</b>	<b>Credits</b>
<b>15</b>	Humanities 3	<i>Suggested (choose one):</i> CMST&220: Public Speaking ENGL 250: Intercultural Literature PHIL 130: Ethics	5
<b>16</b>	Natural Sciences 5	CHEM& 162L: General Chemistry with Lab II	7
<b>17</b>	Communication Skills	ENGL&102: Composition II*	5
<b>18</b>	Natural Sciences 6	CHEM& 163L: General Chemistry with Lab III	5
<b>19</b>	Elective	BIOL 290-294: Undergraduate Research in Biology*	1-5

**Total credits required:**

**90**

\*If possible, take sections that align to the SCOPE Pathway.



# Math & Science

## Area of Study Outcomes

### Communication Competencies

- Comprehend the difference between written opinions vs ideas supported by scientific inquiry.
- Demonstrate the ability to communicate scientific ideas and the process of science.

### Quantitative Reasoning

- Manipulate numbers (large and small), use common measurement systems, and solve simple linear algebraic problems.
- Recognize functional relationships between and among measurable phenomena.
- Apply systematic approaches and logic to solving quantitative problems.
- Translate mathematical symbols into words and words into mathematical symbols.
- Demonstrate the ability to use modeling and simulation to solve scientific problems.

### Information Competencies

- Recognize the difference between questions of high scientific impact vs those unlikely to provide critical information about a scientific phenomenon or process.
- Ability to apply the process of science.

### Critical Thinking

- Identify and troubleshoot scientific problems.
- Demonstrate the ability to use quantitative reasoning and analyze data.
- Demonstrate the ability to apply the process of science.

### Personal and Interpersonal Competencies

- Gain an understanding of the relationships between science and society.
- Gain familiarity with and an appreciation for the interdisciplinary nature of science.
- Demonstrate the ability to collaborate and understand the importance of collaboration in science.

## Career Pathways

By earning a degree or certificate in the area of Math & Science you'll be on your way to any of the following career opportunities listed below:

- Astronomer
- Atmospheric scientist
- Bioengineer
- Biologist
- Chemist
- Computer Scientist
- Engineer
- Environmental scientist
- Mathematician
- Materials scientist
- Physicist
- Sustainable agriculturist

## Program Notes

The SCOPE Program uses the natural and cultural history of the Olympic Peninsula as a unifying theme. SCOPE courses are integrated and provide opportunities for project-based learning and field experiences. Students are guided through a multi-quarter capstone learning experience of their own design.

Most courses on this map are contextualized to the SCOPE program. Be sure to talk with your SCOPE advisor to make sure you register for the SCOPE sections of these courses and to identify appropriate substitute courses if the course offerings change or do not fit your schedule.

Please note that many universities require a foreign language and intermediate algebra (Math 98 at PC) as admissions criteria. Select from three subject areas to fulfill Social Science, Natural Science, and Humanities Distribution requirements. Please refer to the AA degree guide for additional information.

### Possible additional pre-college classes depending upon placement level:

- Engl 90 (5 credits) and Math 63/90 (5-10 credits).
- CHEM&121L or a 2.0 in high school Chemistry is a prerequisite for CHEM&161L. If needed, CHEM&121L could be counted as an additional requirement.

**NOTE:** Students not eligible to take MATH& 151 will need to take MATH& 141 and MATH& 142.