

Bachelor of Science in Biology + Concentrations (see p. 2)

2024-2025 Catalog

In order to earn the Bachelor of Science in Biology degree from Seattle University, students must complete a minimum of 180 quarter credits with cumulative and major grade point averages of 2.0, including these courses:

			prereqs	credits	quarter?
I. Core Curriculum Requirements:	UCOR 1100	Academic writing seminar	–	5	
	UCOR 1300	Creative expression and interpretation	–	5	
	UCOR 1400	Inquiry seminar in humanities	–	5	
	UCOR 1600	Inquiry seminar in social sciences	–	5	
	UCOR 2100	Theological explorations	UCOR 1100	5	
	UCOR 2500	Philosophy of the human person	UCOR 1100	5	
	UCOR 2900	Ethical reasoning	UCOR 2500	5	
	UCOR 3100	Religion in a global context	UCOR 2100	5	
	UCOR 3400	Humanities and global challenges	75 credits + UCOR 1400	5	
	UCOR 3600	Social science and global challenges	75 credits + UCOR 1600	5	

Note: UCOR 1200 and UCOR 1800 are not listed above; they are fulfilled by other Biology major requirements.

II. Biology Requirements:*	BIOL 1400	Biology First Year Experience	1	F	
	BIOL 1610+1611	Cell and Molecular Biology + Lab	4+1	WS	
	BIOL 1620+1621	Evolution and Ecology + Lab	4+1	FW	
	BIOL 1630+1631	Physiology and Development + Lab	4+1	SF	
	BIOL 2600	Ecology	5	FS	
	BIOL 2700	Genetics	5	FWS	
	BIOL 2750+51/3150/ 4700/ 4750+51 (Cell/Molecular)	Biotechnology+Lab, Virology, Molecular Genetics, or Cell Biology+Lab	5-6	FS//F //W//FW	
	BIOL 2350/2520/3500/3650 (Field Biology/ Biodiversity)	Invertebrate Zoology & Biodiversity Sciences, Plant Systematics, Evolution, or Marine Biology	5	F//S //W//S	
	BIOL 3250/3300/3850/3880 (Organismal Bio/Physiology)	Vertebrate Anatomy, Developmental Biology, Plant Physiology, or Animal Physiology	5	W//S //W//F	
	BIOL Electives**	= choose from BIOL ≥2210	15		
	BIOL 4991	Senior Synthesis I	2	F	
	BIOL 4992	Senior Synthesis II	2	W	
BIOL 4993+4996	Senior Synthesis III + Seminar	1+1	S		

*** **Biology requirements:**

62*

*Notes: 62 BIOL credits are required, including 25 credits of ≥3000 courses and one plant science (either BIOL 2520, 2530, or 3850). In prerequisite courses, grades of at least C are required in biology courses and at least a C- are required in other sciences.

III. Other Major Requirements					
Math/ Stats (pick a or b)	a:	MATH 1334	Calculus I	5	FWS
		MATH 1335	Calculus II	5	FWS
	b:	MATH 1210	Statistics for Life Sciences	5	FWS
		MATH 1230	Calculus for Life Sciences	5	FS
Physics (pick a or b)	a:	PHYS 1050+1051	Mechanics	4+1	F
		PHYS 1060+1061	Waves, Sound, Electricity, and Magnetism	4+1	W
		PHYS 1070+1071	Thermodynamics, Optics, and Modern Physics	4+1	S
	b:	PHYS 1210+1211	Mechanics	4+1	WS
		PHYS 1220+1221	Electricity and Magnetism	4+1	SF
		PHYS 1230+1231	Waves and Optics	4+1	FW
		CHEM 1500+1501	General Chemistry I + Lab I	4+2	FW
		CHEM 1510+1511	General Chemistry II + Lab II	4+2	WS
		CHEM 1520 or 1590	General Chemistry III or Research-Focus GC III	4-5	SF//S
Natural & Physical Sci.		Pick ≥10 credits from: CHEM ≥2000; CPSC ≥1220; ENSC 3500, 3700; MATH ≥1210	10		

*** **Other science requirements:**

50

*** **Total Major Curriculum Requirement credits required for graduation:**

112

IV. Two tracks are embedded within the BS.BIOL curriculum:

Some courses (*) fulfill BIOL restricted elective requirements on Page 1.

BS in Biology with Biomedical Sciences Concentration

This track satisfies typical health care professional school course requirements. Prerequisites vary among disciplines and schools; consult graduate or professional schools for required and recommended prerequisite courses.

II. Biology Requirements

Recommended BIOL elective courses include:

BIOL 2210 - Anatomy and Physiology II	BIOL 3820 - Neurobiology
BIOL 3100 - Microbiology	BIOL 3880* - Animal Physiology
BIOL 3150* - Virology	BIOL 4100 - Medical Microbiology
BIOL 3180 - Therapeutics of Disease	BIOL 4150 - Immunology
BIOL 3250* - Comparative Anatomy of the Vertebrates	BIOL 4700* - Molecular Genetics
BIOL 3300* - Developmental Biology	BIOL 4750 + 4751* - Cell Biology + Lab

III. Other Major Requirements

Chemistry:	CHEM 1500+1501, 1510+1511, 1520/1590	General Chemistry I, II, III
	CHEM 2500+2501	Organic Chem I: Structure and Reactivity + Lab
	CHEM 2510+2511	Organic Chem II: Functional Group Interconv + Lab

Math and Physics: Either Option a or b is sufficient for most programs.

Note: A **Minor in Chemistry** can be earned with the BS in Biology by taking 1) CHEM 2500+2501, CHEM 2510+2511, CHEM 3000 and 2) three more CHEM credits, such as CHEM 3600 (Introductory Biochemistry), a recommended course for health careers.

BS in Biology with Data Science Concentration

This track provides options for careers that combine biology with bioinformatics, mathematics, and computer science. Prerequisites for graduate or professional schools vary among disciplines; consult individual institutions for required and recommended courses.

II. Biology Requirements

Recommended BIOL elective courses include:

BIOL 2350* - Invertebrate Zoology and Biodiversity Science (5 credits)	BIOL 2750+2751* - Biotechnology + Lab (4+2 cr)
BIOL 2450 - Data Science for Biologists (2 cr)	BIOL 3770 - Bioinformatics Project Lab (5 cr)
BIOL 2520* - Plant Systematics (5 cr)	BIOL 3850* - Plant Physiology (5 cr)
BIOL 2730 - Bioinformatics (5 cr)	BIOL 3990 - Research: Development & Practice (1-2 cr)

III. Other Major Requirements

Chemistry:	CHEM 1500+1501, 1510+1511, 1520/1590	General Chemistry I, II, III
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Math and Physics: Option a may be a prerequisite for some related courses; Option b is sufficient for other programs.

Natural and Physical Sciences: Choose 10 credits from: CHEM \geq 2100; CPSC \geq 1220; ENSC 3500, 3700; MATH \geq 1210

Recommended courses include:

CPSC 1220 - Data-driven Problem Solving and Programming
CPSC 2300 - Introduction to Databases
MATH 1210 - Statistics for Life Sciences
MATH 2310 - Probability and Statistics for the Sciences and Engineering

Note: A **Minor in Data Science** can be earned with the BS in Biology by taking six courses: **BIOL 2730** or CHEM 3000, **CPSC 1220** and **2300**, **MATH 1210** or **2310**, and DATA 3310 and 3320. **Bold** courses are in BS.BIOL course options.