Department of Biology

PROGRAMS OFFERED

Biology (BA)
Biology (BS)
Biology Minor
Teacher Certification







FACULTY

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Information About the Program

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MISSION STATEMENT

The Department of Biology supports the mission of the college by offering both bachelor of science and bachelor of arts majors, a minor in biology, courses that prepare students for graduate and professional study, support for education majors who plan to teach on the secondary level, courses which are appropriate for inclusion in the liberal studies major, and courses that support the general education objectives of the campus.

Introduction

Biology, the study of life, constitutes one of the most relevant fields of study in an individual's total education. The study of biology enables students to understand the workings of their bodies in health and disease, makes them aware of their place in a world of living organisms, and awakens in them an appreciation of the beauty and complexity in the design of life.

The aim of the Biology Department is to provide a broad background in the biological sciences sufficient to meet the needs of students who intend to enter graduate or professional schools, to teach biology, and to pursue various biology-oriented careers.

OBJECTIVES

The Biology Department aims to achieve the following objectives:

- To assist students in acquiring a broad knowledge of the basic facts and theories of the discipline of biology, and to accomplish this objective through outstanding teaching.
- To help students situate their knowledge of biology in a world-view which is biblical.
- 3. To teach students to think critically about sources of knowledge and knowledge claims, as well as to constantly try to integrate their knowledge, both within biology as well as with other disciplines of study.
- 4. To promote understanding of the scientific process, including its strengths and limitations.
- 5. To give students opportunities to learn to communicate their ideas effectively.
- 6. To encourage and support a sense of curiosity and a realization of the excitement and reward that goes with discovery of the beauty and complexity of the living world, and to inspire in students the importance and benefits of life-long learning.
- 7. To help students see the importance of using their knowledge and talents in service to others, and to encourage them to contribute in significant ways to society and the church as professionals and as citizens.

CAREER OPPORTUNITIES

A biology major provides excellent preparation for students who wish to enter professional programs in medicine, dentistry, veterinary science, or certain paramedical programs. Employment opportunities for biology graduates are available at federal, state, and local agencies as biologists, ecologists, naturalists, wildlife managers, and, with some additional training, as laboratory technicians or researchers. The Seventh-day Adventist denomination and the public school system provide opportunities for science teachers at the secondary level. Many of these career opportunities as well as admission into other educational programs require a minimum GPA of 3.0.

ADMISSION INFORMATION

Students entering the Biology Department are expected to have a strong background in science and mathematics. Secondary school courses in biology I and II, algebra I and II, geometry, chemistry, physics, and trigonometry are strongly recommended.

DEPARTMENTAL REQUIREMENTS

Eligibility to Remain in the Program

The Department of Biology reserves the right to administratively withdraw a student if, for any reason, the student's scholastic achievement, mental health, integrity, and/or ability to work with people proves unsatisfactory.

Progression Requirements

- a. All biology students must have a cumulative GPA of 2.50 or higher upon attaining junior class standing.
- b. All biology students must achieve at least a "C" grade in all required biology and cognate courses.
- c. Biology students must repeat any required biology or cognate course in which a "WF", "WP", or grade lower than "C" is received. A student may not repeat any required biology or cognate course more than once, nor may he or she repeat more than two required courses within the biology and cognate areas of study.

BACHELOR OF ARTS IN BIOLOGY

The Bachelor of Arts program in biology is available for those students seeking a general background suited for teaching biology in secondary schools or preparation for pursuit of the Master of Arts in Teaching degree. With appropriate selection of cognate courses, the Bachelor of Arts program will meet entrance requirements for professional or graduate school while providing a broad range of elective credits. Senior students are required to take the Major Field Achievement Test (MFAT) examination in biology.

BIOLOGY MAJOR		32 Hours
BIOL 161	College Biology	4
BIOL 162	College Biology	4
BIOL 265	Animal Diversity	4
BIOL 266	Plant Diversity	4
BIOL 305	Genetics	4
BIOL 425	Life Origins and Speciation	2
BIOL	Upper division biology electives	6
	(One course in field biology is recommended)	
	One of the following courses:	
BIOL 315 180	Histology	4

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BIOL 330	Animal Physiology	4
BIOL 405	Cell and Molecular Biology	4
BIOL 410	Developmental Biology	4
CHEM 461	Biochemistry -AND-	3
CHEM463	Biochemistry Lab	1
REQUIRED C	Cognates 20-28	B HOURS
CHEM 151	College Chemistry	4
CHEM152	College Chemistry	4
CHEM 110	Principles of Organic & Physiological Chemistry -OR-	4
CHEM 221;22		4; 4
MATH110	Probability and Statistics	4
PHYS 160	Survey of Physics -OR-	4
PHYS 271;272	· · · · · · · · · · · · · · · · · · ·	4; 4
	· ·	1, 1
	DED COGNATES	
CHEM 221	Organic Chemistry	4
CHEM 222	Organic Chemistry	4
CPTR 150	Computer Science I	4
ENWR235	Technical Writing	3
MATH126	Pre-calculus	4
FREN/SPAN	Modern Languages	3, 3
FLNG	(for students who are planning to attend graduate sch	iool)
PHYS 271	College Physics -OR- PHYS 281	4
PHYS 272	College Physics -OR- PHYS 282	4
COOP 210	Introduction to Career Planning	1
COOP 351	Parallel Work Experience –AND/OR-	0
COOP 360	Alternating Work Experience	0
GENERAL E		5 HOURS
(See details unde	r section on General Education Program.) Computer proficiency	is required.
ENGL 101	Composition	3
ENGL 102	Research and Literature	3
COMM105	Introduction to Human Communication	3
INTD 105	First-Year Experience	1
RELB/RELT	Religion Electives	12
PSYC 105	Introduction to Psychology –OR–	3
SOCI 105	General Sociology	3
HIST	History Elective	3
	Social Science Elective	3
LITR	Literature Elective	3
	Humanities Elective	3
PEAC	Phys Ed Activity Elective	1
	Health Elective	2
	Foreign Language or Computer Language	6 181
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ELECTIVES 22-30 HOURS

Upper division courses must total at least 36 hours.

A minor or a second major in an area not listed under the Biology

Department is required.

Total 128 hours

BACHELOR OF SCIENCE IN BIOLOGY

The Bachelor of Science program in biology is designed for students seeking further education in the biological sciences either in graduate school or in professional school. Senior students are required to take the Major Field Achievement Test (MFAT) examination in biology.

BIOLOGY M	AJOR	42 HOURS	
BIOL 161	College Biology	4	
BIOL 162	College Biology	4	
BIOL 265	Animal Diversity	4	
BIOL 266	Plant Diversity	4	
BIOL 305	Genetics	4	
BIOL 405	Cell and Molecular Biology	4	
BIOL 425	Life Origins and Speciation	2	
BIOL 491	Senior Seminar	1	
BIOL 492	Senior Seminar	1	
BIOL	Biology Electives	10	
At least 8 hours must be upper division. Biochemistry and one course in field biology recommended.)			
	One of the following courses:		
BIOL 315	Histology	4	
BIOL 330	Animal Physiology	4	
BIOL 410	Developmental Biology	4	
REQUIRED C	Cognates	32 HOURS	
CHEM151	College Chemistry	4	
CHEM152	College Chemistry	4	
CHEM 221	Organic Chemistry	4	
CHEM222	Organic Chemistry	4	
MATH110	Probability and Statistics	4	
MATH126	Pre-calculus	4	
PHYS 271	College Physics -OR- PHYS 281	4	
PHYS 272	College Physics -OR- PHYS 282	4	
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Recommended Cognates			
CHEM331	Quantitative Analysis	4	
CHEM332	Quantitative Analysis	4	
CPTR 150	Computer Science I	4	
CPTR 230	Computer Languages	2	
ENWR235	Technical Writing	3	
MATH 151	Contemporary Calculus I	4	
COOP 210	Introduction to Career Planning	1	
COOP 351	Parallel Work Experience -AND/OR-	0	
COOP 360	Alternating Work Experience	0	
FREN/SPAN/	A modern language	3, 3	
FLNG	(for students who are planning to attend graduate school)		
GENERAL ED	DUCATION 43 HO	DURS	
(See details under	section on General Education Program.) Computer proficiency is req	juired.	
ENGL 101	Composition	3	
ENGL 102	Research and Literature	3	
COMM105	Introduction to Human Communication	3	
CPTR 105	Introduction to Computers	3	
INTD 105	First-Year Experience	1	
RELB/RELT	Religion Electives	12	
PSYC 105	Introduction to Psychology -OR-	3	
SOCI 105	General Sociology	3	
HIST	History Elective	3	
	Social Science Elective	3	
LITR	Literature Elective	3	
	Humanities Elective	3	
PEAC	Physical Education Activity Elective	1	
	Health Elective	2	
E LECTIVES	11 но	OURS	
U	Ipper division courses must total at least 36 hours.		
Тотаь	128 но	DURS	

BIOLOGY MINOR

BIOLOGY MINOR		18 HOURS
BIOL 161 BIOL 162	College Biology College Biology	4
BIOL	Electives	4
	(BIOL 265 or 266 required for prospective teachers)	·
BIOL 305	Genetics	4
BIOL 425	Life Origins and Speciation	2

Rosario Beach Marine Biological Field Station

The Rosario Beach Marine Station is a teaching and research facility operated by Walla Walla College. Located seven miles south of Anacortes, Washington, the station occupies 40 acres of beach and timberland on Puget Sound. A number of field biology courses are taught each summer at the marine station (See "Course Descriptions" section of *Bulletin* and *Field Station Summer Schedule* for specific courses taught).

Upper division students attending the summer session at the station must enroll for a minimum of two upper division courses, one of which must be a marine-oriented course.

All WAU students attending these summer courses register and receive credit from WAU. For additional information concerning the field station program, please contact the WAU Affiliation Director, Dr. Glen Bennett.

Teacher Certification

Students interested in obtaining Maryland State or Seventh-day Adventist denominational teacher certification to teach biology in secondary school should major in biology and complete a minor in secondary education. Consult the Education Department at 301-891-4064 for certification requirements and procedures.

