

BIOHEALTH SCIENCES UNDERGRADUATE MAJOR (BS, HBS)

This major offers the following option(s):

- Pre-Clinical Laboratory Science (<http://catalog.oregonstate.edu/college-departments/science/school-life-sciences/microbiology/biohealth-sciences-bs-hbs/pre-clinical-laboratory-science-option/>)
- Pre-Dentistry (<http://catalog.oregonstate.edu/college-departments/science/school-life-sciences/microbiology/biohealth-sciences-bs-hbs/pre-dentistry-option/>)
- Pre-Medicine/Pre-Podiatry (<http://catalog.oregonstate.edu/college-departments/science/school-life-sciences/microbiology/biohealth-sciences-bs-hbs/pre-medicinpre-podiatry-option/>)
- Pre-Optometry (<http://catalog.oregonstate.edu/college-departments/science/school-life-sciences/microbiology/biohealth-sciences-bs-hbs/pre-optometry-option/>)
- Pre-Pharmacy (<http://catalog.oregonstate.edu/college-departments/science/school-life-sciences/microbiology/biohealth-sciences-bs-hbs/pre-pharmacy-option/>)
- Pre-Physical Therapy (<http://catalog.oregonstate.edu/college-departments/science/school-life-sciences/microbiology/biohealth-sciences-bs-hbs/pre-physical-therapy-option/>)
- Pre-Physician Assistant (<http://catalog.oregonstate.edu/college-departments/science/school-life-sciences/microbiology/biohealth-sciences-bs-hbs/pre-physician-assistant-option/>)

Administered by the Department of Microbiology under the School of Life Sciences.

The undergraduate BS degree in BioHealth Sciences is designed for students seeking an interdisciplinary background in the life sciences, public health, and social sciences. The major consists of a comprehensive core with a strong biological and physical science foundation combined with a variety of health and social science courses in a unique blend formulated to meet the needs of students interested in a career in the healthcare field. BioHealth Sciences majors receive excellent training for a variety of professional programs.

Students may elect to complete one transcript-visible option in Pre-Clinical Laboratory Science, Pre-Dentistry, Pre-Medicine/Pre-Podiatry, Pre-Optometry, Pre-Pharmacy, Pre-Physical Therapy, or Pre-Physician Assistant. An option is not required. Options in the BHS major require additional credits beyond the basic BHS major, although most students can complete the BHS core plus the additional course work in four years.

Major Code: 606

- Apply scientific knowledge from multiple fields to critically analyze health-related problems.
- Communicate science and health concepts, data, and analytical arguments clearly, professionally, and concisely; both verbally and in writing.
- Practice flexible professional skills needed for careers in health sciences professional fields.
- Recognize, evaluate, and respond appropriately to the needs of a diverse demographic population.

Students in the BHS major must complete the following courses (or the honors version) with a C– or better:

Code	Title	Credits
BI 221 & BI 222 & BI 223	*PRINCIPLES OF BIOLOGY: CELLS and *PRINCIPLES OF BIOLOGY: ORGANISMS and *PRINCIPLES OF BIOLOGY: POPULATIONS	12
CH 231 & CH 261	GENERAL CHEMISTRY and *LABORATORY FOR CHEMISTRY 231	5
CH 232 & CH 262	GENERAL CHEMISTRY and *LABORATORY FOR CHEMISTRY 232	5
CH 233 & CH 263	GENERAL CHEMISTRY and *LABORATORY FOR CHEMISTRY 233	5
CH 331	ORGANIC CHEMISTRY	4

BioHealth Sciences Core Courses

Code	Title	Credits
BHS 110	BIOHEALTH SCIENCES ORIENTATION	1
<i>Mathematics and Statistics Core</i>		
ST 201 or ST 351	PRINCIPLES OF STATISTICS INTRODUCTION TO STATISTICAL METHODS	4
Select two MTH courses from the following:		8
MTH 111	*COLLEGE ALGEBRA	
MTH 112	*ELEMENTARY FUNCTIONS	
MTH 227	*CALCULUS AND PROBABILITY FOR THE LIFE SCIENCES I	
MTH 228	CALCULUS AND PROBABILITY FOR THE LIFE SCIENCES II	
MTH 251	*DIFFERENTIAL CALCULUS	
MTH 252	INTEGRAL CALCULUS	
<i>Chemistry and Physics Core</i> ⁺		
CH 231 & CH 261	GENERAL CHEMISTRY and *LABORATORY FOR CHEMISTRY 231	5
CH 232 & CH 262	GENERAL CHEMISTRY and *LABORATORY FOR CHEMISTRY 232	5
CH 233 & CH 263	GENERAL CHEMISTRY and *LABORATORY FOR CHEMISTRY 233	5
CH 331 & CH 332	ORGANIC CHEMISTRY and ORGANIC CHEMISTRY	8
CH 337	ORGANIC CHEMISTRY LABORATORY	4
PH 201 & PH 202 & PH 203	*GENERAL PHYSICS and *GENERAL PHYSICS and *GENERAL PHYSICS	15
<i>Biological Sciences Core</i>		
BB 314	CELL AND MOLECULAR BIOLOGY	4
BB 450 & BB 451	GENERAL BIOCHEMISTRY and GENERAL BIOCHEMISTRY	7
BHS 329	MECHANISMS OF DISEASE: INTRODUCTION TO GENERAL PATHOLOGY	3
BI 221 & BI 222 & BI 223	*PRINCIPLES OF BIOLOGY: CELLS and *PRINCIPLES OF BIOLOGY: ORGANISMS and *PRINCIPLES OF BIOLOGY: POPULATIONS	12
MB 302	GENERAL MICROBIOLOGY	3
MB 303	GENERAL MICROBIOLOGY LABORATORY	2
MB 310 or BI 311	BACTERIAL MOLECULAR GENETICS GENETICS	3-4
MB 416 or BHS 316	IMMUNOLOGY PRINCIPLES OF IMMUNOLOGY	3
<i>Writing Intensive Course</i>		
Select one of the following WIC courses:		3
BHS 323	*MICROBIAL INFLUENCES ON HUMAN HEALTH	
MB 385	*EMERGING INFECTIOUS DISEASES AND EPIDEMICS	
<i>Health and Social Sciences Core</i>		
H 210	*INTRODUCTION TO THE HEALTH CARE SYSTEM	3
H 225	*SOCIAL AND INDIVIDUAL HEALTH DETERMINANTS	4
PHAR 210	TERMINOLOGY OF THE HEALTH SCIENCES	2

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PSY 201	*GENERAL PSYCHOLOGY	4
PSY 202	*GENERAL PSYCHOLOGY	4
Select two of the following Cultural Competency courses:		6-8
ANTH 240	INTRODUCTION TO BIOLOGICAL ANTHROPOLOGY	
ANTH 345	*BIOLOGICAL AND CULTURAL CONSTRUCTIONS OF RACE	
ANTH 361/FCSJ 361	*FOOD JUSTICE	
ECON 383	*THE ECONOMICS OF DISCRIMINATION	
ES 351	*ETHNIC MINORITIES IN OREGON	
ES 353	*ENVIRONMENTAL RACISM	
HDFS 201	*CONTEMPORARY FAMILIES IN THE U.S.	
MB 330	*DISEASE AND SOCIETY	
PHL 280	*ETHICS OF DIVERSITY	
PSY 426	*PSYCHOLOGY OF GENDER	
PSY 466/WGSS 466	*FAT STUDIES	
QS 262/WGSS 262	*INTRODUCTION TO QUEER STUDIES	
SOC 426	*SOCIAL INEQUALITY	
SPAN 221	SPANISH FOR MEDICAL PROFESSIONS I	
SPAN 222	SPANISH FOR MEDICAL PROFESSIONS II	
WGSS 414	*SYSTEMS OF OPPRESSION IN WOMEN'S LIVES	
<i>Upper-division Science Courses ¹</i>		
Select two courses from the following:		6-8
BB 331	*INTRODUCTION TO MOLECULAR BIOLOGY	
BB 332	*MOLECULAR MEDICINE	
BB 360	INTRODUCTION TO NEUROSCIENCE	
BB 460	ADVANCED CELL BIOLOGY	
BB 485	APPLIED BIOINFORMATICS	
BI 309	TEACHING PRACTICUM	
BI 409	ADVANCED TEACHING PRACTICUM	
ST 352	INTRODUCTION TO STATISTICAL METHODS	
Z 431	VERTEBRATE PHYSIOLOGY I	
Z 432	VERTEBRATE PHYSIOLOGY II	
Z 438	BEHAVIORAL NEUROBIOLOGY	
UD CH 300-CH 498 ²		
UD MB 400-MB 498 ³		
Remaining Bacc Core and/or electives to reach the 180 credit requirement		52-58
Total Credits		180-185

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Baccalaureate Core Course (BCC)

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Writing Intensive Course (WIC)

1
This requirement is automatically met if any BHS option is completed

2
Not to include CH 331, CH 332, CH 334, CH 335, CH 336, CH 337 or CH 374

3
Not to include MB 416

Code	Title	Credits
No more than 3 credits may come from the following courses:		
BI 309	TEACHING PRACTICUM	
BI 409	ADVANCED TEACHING PRACTICUM	
CH 401	RESEARCH	
CH 403	THESIS	
CH 405	READING AND CONFERENCE	
CH 406	PROJECTS	
CH 407	SEMINAR	
CH 410	INTERNSHIP	

MB 401	RESEARCH
MB 403	THESIS
MB 405	READING AND CONFERENCE
MB 406	SPECIAL PROJECTS
MB 407	SEMINAR
MB 410	OCCUPATIONAL INTERNSHIP

Major Code: 606

First Year		Credits
Fall		
BHS 110	BIOHEALTH SCIENCES ORIENTATION	1
CH 231	GENERAL CHEMISTRY	4
CH 261	*LABORATORY FOR CHEMISTRY 231	1
MTH 111	*COLLEGE ALGEBRA	4
HHS 231	*LIFETIME FITNESS FOR HEALTH	2
HHS 241	*LIFETIME FITNESS	1
Elective		2
Credits		15
Winter		
CH 232	GENERAL CHEMISTRY	4
CH 262	*LABORATORY FOR CHEMISTRY 232	1
MTH 112	*ELEMENTARY FUNCTIONS	4
WR 121	*ENGLISH COMPOSITION	3
Elective		3
Credits		15
Spring		
CH 233	GENERAL CHEMISTRY	4
CH 263	*LABORATORY FOR CHEMISTRY 233	1
PSY 201	*GENERAL PSYCHOLOGY	4
ST 201	PRINCIPLES OF STATISTICS	4
or ST 351	or INTRODUCTION TO STATISTICAL METHODS	
Speech		3
Credits		16
Second Year		
Fall		
BI 221	*PRINCIPLES OF BIOLOGY: CELLS	4
CH 331	ORGANIC CHEMISTRY	4
PHAR 210	TERMINOLOGY OF THE HEALTH SCIENCES	2
PSY 202	*GENERAL PSYCHOLOGY	4
Elective		2
Credits		16
Winter		
BI 222	*PRINCIPLES OF BIOLOGY: ORGANISMS	4
CH 332	ORGANIC CHEMISTRY	4
H 225	*SOCIAL AND INDIVIDUAL HEALTH DETERMINANTS	4
Writing II		3
Credits		15
Spring		
BI 223	*PRINCIPLES OF BIOLOGY: POPULATIONS	4
CH 337	ORGANIC CHEMISTRY LABORATORY	4
H 210	*INTRODUCTION TO THE HEALTH CARE SYSTEM	3
Western Culture		3
Credits		14
Third Year		
Fall		
BB 450	GENERAL BIOCHEMISTRY	4
PH 201	*GENERAL PHYSICS	5
Elective		3

BHS 323 or MB 385	*MICROBIAL INFLUENCES ON HUMAN HEALTH or *EMERGING INFECTIOUS DISEASES AND EPIDEMICS	3
Credits		15
Winter		
BB 314	CELL AND MOLECULAR BIOLOGY	4
BB 451	GENERAL BIOCHEMISTRY	3
PH 202	*GENERAL PHYSICS	5
Cultural Diversity		3
Credits		15
Spring		
MB 302	GENERAL MICROBIOLOGY	3
MB 303	GENERAL MICROBIOLOGY LABORATORY	2
PH 203	*GENERAL PHYSICS	5
Literature and the Arts		4
Elective		1
Credits		15
Fourth Year		
Fall		
BHS 316 or MB 416	PRINCIPLES OF IMMUNOLOGY or IMMUNOLOGY	3
Elective		4
Two Cultural Competency courses		8
Credits		15
Winter		
BI 311 or MB 310	GENETICS or BACTERIAL MOLECULAR GENETICS	4
Synthesis: Science, Technology, and Society		3
Elective		8
Credits		15
Spring		
BHS 329	MECHANISMS OF DISEASE: INTRODUCTION TO GENERAL PATHOLOGY	3
Synthesis: Contemporary Global Issues		3
Elective		1
Two upper-division science courses		7
Credits		14
Total Credits		180

1

Not to include CH 331, CH 332, CH 334, CH 335, CH 336, CH 337 or CH 374.

2

Not to include MB 416.

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Baccalaureate Core Course (BCC)

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Writing Intensive Course (WIC)