



**BIOLOGY  
MAJOR  
PLANNER  
2014-2015  
(for use with MyDegrees)**

**Department of Integrative Biology  
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<http://ib.oregonstate.edu/>**

# ADVISING INFORMATION

**Advising Appointments:** Make appointments at <http://ib.oregonstate.edu/advising/appointments>

	Fall	Winter	Spring
<b>First year student</b>	X	X	X
<b>Sophomores</b>		X	
<b>Juniors</b>			X
<b>Transfer students meet their first term after transferring</b>	?	?	?
<b>Seniors meet as needed to review graduation</b>	?	?	?

- **MyDegrees:** Accessed in your Student Online Services, MyDegrees contains your checklist and course plan.
- **Listserves:** Current students are automatically subscribed to the major listserve. Students interested in health professions should go to <http://www.science.oregonstate.edu/node/125>.
- **Chemistry Minor:** The Chemistry Minor can be completed by taking one additional course (most students choose CH 324 or CH 390) which also counts as an upper division science elective – talk to the Chemistry Department for approval and details.
- **Double counting courses:** Appropriate minor, double major, WIC and Bacc Core Synthesis courses may also count for the major upper division science electives requirement – see those categories for details.
- **No double or dual majors are allowed in Biology and either Zoology or Biohealth Sciences.**
- **Student club, study abroad, internships, and research information** <http://ib.oregonstate.edu/undergraduates>
- **Transcript-visible options in Biology** are optional and include Genetics, Marine Biology, Pre-Education and Pre-Veterinary Medicine – see the option planners on the website for details <http://ib.oregonstate.edu/advising/planners>.
- **Pre-health track information:** Pre-health programs are not official options, but students should review the appropriate planners at <http://ib.oregonstate.edu/advising/planners> and the orientation courses below. Schedules may vary from those listed below.

## BIOLOGY FOUR-YEAR PLANS

- **Major courses are listed in order of priority.** Students planning to finish in four years should average 15 credits a term.
- **OSU math sequences for Biology students:** MTH 102 (or 065), 103 (or 095), 111, 112, 251, MTH 268 or 252

### 1<sup>st</sup> Year Tracks I and II

Placed MTH 251 or higher (sometimes MTH 112) – start math winter

- BI 198 Fall Term
- BI 211, 212, 213
- CH 231 & 261, 232 & 262, 233 & 263
- 1 Baccalaureate Core (Bacc. Core) course a quarter
- MTH each term starting fall or winter

### Track III

Placed MTH 102(065), 103(095), 111 or 112

#### **1<sup>st</sup> Year**

- Start MTH fall term
- BI 198 Fall Term
- CH 231 & 261, 232 & 262, 233 & 263
- Two Bacc. Core courses each term

#### **2<sup>nd</sup> Year**

- BI 211, 212, 213
- CH 331, 332, 337
- One Bacc. Core course a quarter
- Finish MTH course then fill in with more Bacc. Core.

#### **3<sup>rd</sup> Year**

- PH 201, 202, 203 OR ST 351, 352
- BB 450, 451
- Fill in 1 BI course a quarter from this: BI 370, 314, 311, Organismal Biol.
- One Bacc. Core a term until finished

#### **4<sup>th</sup> Year**

- ST 351, 352 OR PH 201, 202, 203
- Complete BI courses not taken 3<sup>rd</sup> year
- Take HSTS/MB 302 & 303/Physiology/BI 445
- Two upper division elective courses
- Complete coursework totaling 180/60 upper div. credits
- BI 499/ST Senior Biology Major Field Test – Summer graduates take spring term, all others take last OSU term.

### Track I

If one or no math courses remaining

#### **2<sup>nd</sup> Year**

- CH 331, 332, 337
- PH 201, 202, 203
- One Bacc. Core Course a quarter
- Finish MTH then 1 BI course a quarter: BI 370/BI 314/ BI 311

#### **3<sup>rd</sup> Year**

- BB 450, 451
- ST 351, 352
- 1 Bacc. Core a term until finished
- BI course(s) not taken 2<sup>nd</sup> year, then 1 BI course below a quarter: HSTS/Organismal Biol./ MB 302&303/Physiology

#### **4<sup>th</sup> Year**

- BI course(s) not taken 3<sup>rd</sup> year
- BI 445
- 2 upper division elective courses
- Complete 180/60 upper div. credits
- BI 499 Biology Major Field Test – Summer graduates take spring, all others take last OSU term.

### Track II

If two or more math courses remaining

#### **2<sup>nd</sup> Year**

- CH 331, 332, 337
- One Bacc. Core Course a quarter
- Fill in 1 BI course a quarter from: BI 370/BI 314/BI 311
- Finish MTH then Organismal Biology and/or Bacc Core course(s)

#### **3<sup>rd</sup> Year**

- PH 201, 202, 203
- BB 450, 451
- ST 351, 352 (can be taken 4<sup>th</sup> year)
- 1 Bacc. Core a term until finished
- BI course(s) not taken 2<sup>nd</sup> year, then HSTS/ MB 302&303/Physiology

#### **4<sup>th</sup> Year**

- BI course(s) not taken 3<sup>rd</sup> year
- BI 445
- 2 upper division elective courses
- Complete 180/60 upper div. credits
- BI 499 Biology Major Field Test – Summer graduates take spring, all others take last OSU term.

## GRADUATION REQUIREMENTS

File for graduation with the Registrar three terms ahead and review your MyDegrees online checklist with an advisor
Complete the BI 499 Biology Major Field Test your final term or during spring term if planning to graduate in summer
Complete 180 total credits (major and Bacc Core courses do not total 180) and 60 upper division credits (300-400 level)
Complete 45 of your last 75 credits in residence at OSU – Ecampus and approved abroad programs count for this
No more than 11 PAC, 12 MUP and 15 ALS credits can be used to reach the 180 credits required for graduation
Maintain a 2.0 average for your degree and major courses – see MyDegrees for these numbers

## BACCALAUREATE CORE REQUIREMENTS

Complete one course per category - details at <http://catalog.oregonstate.edu/bcc.asp>

√	Category	Notes
<b>Skills</b>		
	Fitness (HHS 231) & Fitness Lab (HHS Lab or PAC)	
√	Math (C- or better required in math course prerequisites)	<b>Completed as part of major below;</b> must complete in 1 <sup>st</sup> 45 OSU credits
	Writing I = WR 121 (A-G Fall, H-N Winter, O-Z Spring)	Must complete in 1 <sup>st</sup> 45 OSU credits
	Writing II = <b>HC 199, PHL 121, WR 222, 327 or 362 for Biology majors</b>	<b>Completed as listed here;</b> must complete in 1 <sup>st</sup> 90 credits, (45 if transfer)
	Speech = <b>COMM 111 OR COMM 218 for Biology majors</b>	<b>Completed as listed here;</b> must complete in 1 <sup>st</sup> 90 credits, (45 if transfer)
<b>Perspectives – No more than two courses from any one department may be used to satisfy the Perspectives requirements.</b>		
√	Biological and Physical Science and second course	<b>Completed as part of major below</b>
	Cultural Diversity	
	Literature and the Arts	
	Social Processes and Institutions	PSY & SOC courses for health professions students – see planners
	Western Culture	
<b>Difference, Power and Discrimination</b>		
	Difference Power and Discrimination	
<b>Synthesis Courses – Courses used to fulfill the Synthesis requirements may not be from the same department.</b>		
?	Contemporary Global Issues (CGI)	Taken junior/senior, some count in major for upper division science
?	Science Tech. and Society (STS)	Taken junior/senior, some count in major for upper division science and history of science

## BIOLOGY REQUIREMENTS (see <http://catalog.oregonstate.edu/> to confirm term offered)

√	Course	Term Offered				Pre(Co)Requisites / Comments
		F	W	Sp	Su	
	BI 198 Biology Freshman Seminar	X				Required
	MTH 251 Calculus (4)	X	X	X	X	C- or better in MTH 112
	MTH 268 Math. Ideas in Biology (4)	X		X		C - or better in MTH 251, *see catalog
	<b>OR</b> MTH 252 Calculus (4)	X	X	X	X	C - or better in MTH 251
	CH 231 & 261 General Chem. and Lab (4+1)	X	X		X	MTH 111 placement & HS chemistry or one term CH 121
	CH 232 & 262 General Chem. and Lab (4+1)		X	X	X	CH 231
	CH 233 & 263 General Chem. and Lab (4+1)			X	X	CH 232
*NOTE: CH 121, 122 & 123 are taught the same terms at CH 231, 232 and 233 above, require HS algebra and meet major requirements						
	BI 211 Principles of Biology (4)	X			X	
	BI 212 Principles of Biology (4)		X		X	CH 121 or 231
	BI 213 Principles of Biology (4)			X	X	CH 121 or 231
	CH 331 Organic Chemistry (4)	X	X		X	One yr CH
	CH 332 Organic Chemistry (4)		X	X	X	One yr CH; CH 331
	CH 337 Organic Chemistry Lab (4)	X		X	X	CH 332
	PH 201 General Physics (5)	X			X	MTH 112
	PH 202 General Physics (5)		X		X	MTH 112
	PH 203 General Physics (5)			X	X	MTH 112
	BI 314 Cell & Molecular Biology (4)	X	X	X	X	C- in BI 211, 212, 213; CH 331 pre\coreq
	<b>OR</b> BI 460 Cell Biology & 461 Lab (3+2)		X			C- in year BI; Pre/coreq BB 350 <b>OR</b> BB 450
	BB 450 General Biochemistry (4)	X	X		X	CH 332; must be taken in order
	BB 451 General Biochemistry (3)		X	X	X?	CH 332; must be taken in order
	ST 351 Intro. Stat. Meth. (4)	X	X	X	X	MTH 111
	ST 352 Intro. Stat. Meth. (4)	X	X	X	X	ST 351
	BI 311 Genetics (4)	X	X	X	X	C- in BI 211, 212, 213
	BI 370 Ecology (3)	X	X	X	X	C- in BI 211, 212, 213
	MB 302 Gen. Microbiol. & 303 Lab (3+2)	X	X	X	X	CH 332 <b>AND</b> BI 212 and 213; BI 314 recommended
	BI 445 Evolution (3)	X	X	X		BI 311

√	Course	F	W	Sp	Su	Pre(Co)Requisites / Comments
√	<b>Organismal Biology (take 1 of the following) NOTE: The Marine Biology Option completes this requirement</b>					
	BI 358 Biology of Symbiosis (3)		X*			C- in BI 211, 212, 213 and year of CH; *taught alternate years
	BOT 313 Plant Structure (4)		X			One year biology
	BOT 321 Plant Systematics (4)			X		One year biology
	BOT 416 Aquatic Botany (4)	X				One year biology
	BOT 461 Introduction to Mycology (4)	X				One year biology
	MB 480 General Parasitology (3)			X*		BI 314, BB 450, Z361 or MB 302; *Taught alternate years
	Z 361 Invert. Biology & Z 362 Lab (3+2)			X		C- in BI 211, 212, 213; May be taken alone or with Z 362
	Z 365 Biology of Insects (4)	*				C- in BI 211, 212, 213; * taught alternate years
	Z 371 Vertebrate Biology & Z 372 Lab (3+2)	X				C- in BI 211, 212, 213; May be taken alone or with Z 372
	Z 422 Comparative Anatomy (5)	X				C- in BI 211, 212, 213
	Z 477 Aquatic Entomology (4)		X			C- in BI 211, 212, 213, junior standing
√	<b>Physiology (take 1 of the following)</b>					
	BOT 331 Plant Physiology (4)		X			BI 213, CH 223 <u>OR</u> CH 123
	BOT 488 Env. Physiology of Plants (3)		X			A plant physiology course <u>OR</u> ecology course
	Z 423 Environmental Physiology (3)	X				C- in BI 211, 212, 213
	Z 425 Embryology & Development (5)	X				BI 311 and BI 314, junior standing
	Z 431 Vertebrate Physiology (3)		X			C- in BI 211, 212, 213 and CH 332
	Z 432 Vertebrate Physiology (3)			X		C- in BI 211, 212, 213 and CH 332
	Z 437 Vertebrate Endocrinology (4)			X		BI 314
√	<b>Writing Intensive Course (WIC) (take 1 of the following)</b>					
	BI 306/306H Environmental Ecology	*	*	*	*	* See Catalog, one year of biology and chemistry
	BI 315 Molecular Biology Laboratory			X		BI 314 or BB 331, also major upper division science course
	BI/BB 317 Scientific Theory and Practice (4)	X		X		BI 211, 212, 213, also major upper division science course
	BI 371 Ecological Methods (3)			X		BI 370, also major upper division science course
	BI 388 Special Topics: Topics vary (3)	*	*	*	*	*Terms and topics vary, also major upper division science
	BI 385 Emerging Infect. Disease. & Epid. (3)			X		BI 211, 212, 213, also major upper division science course
	BI 450 Marine Biology (16)			X*		*By application the fall before, part of Marine Biology Option
	BOT 323 Flowering Plants of the World (3)		X			BI 211, 212, 213, also major upper division science course
	HSTS 415 Evolution. & Modern Bio. (4)	*	*	*	*	* See Catalog, counts as Bacc Core STS & major HSTS\PHL
	HSTS 417 History of Medicine (4)	*	*	*	*	* See Catalog, counts as Bacc Core STS & major HSTS\PHL
	HSTS 419 Studies in Sci. Controversies (4)	*	*	*	*	* See Catalog, counts as Bacc Core STS & major HSTS\PHL
	HSTS 422 Hist. Stud. Science & Politics (4)	*	*	*	*	* See Catalog, counts for Bacc Core STS & major HSTS\PHL
	HSTS 425 Hist. of the Life Sciences (4)	*	*	*	*	* See Catalog, also counts as major HSTS\PHL course
	HSTS 437 Hist. of Animals in Science (4)	*	*	*	*	* See Catalog, also counts as major HSTS\PHL course
	MB 311 Molecular Microbiology Lab (3)		X			MB 303, 310, also major upper division science course
	OC 334 Polar Oceanography (3)			X		OC 201 (formerly OC 331)
	PHL 474 Philosophy of Biology (3)	*	*	*	*	* See catalog, previous biology or philosophy coursework
√	<b>History or Philosophy of Science (HSTS\PHL) (take one of the following)</b>					
	HSTS 414 Hist. of 20 <sup>th</sup> Century Science (4)	*	*	*	*	* See catalog, also counts as Bacc Core STS course
	HSTS 415 Evolution & Modern Biology (4)	*	*	*	*	* See catalog, also counts as Bacc Core STS course
	HSTS 416 Hist. of Medicine Pre-1800 (4)	*	*	*	*	* See catalog, also counts as Bacc Core STS course
	HSTS 417 History of Medicine (4)	*	*	*	*	* See catalog, also counts as Bacc Core STS course
	HSTS 418 Science and Society (4)	*	*	*	*	* See catalog, also counts as Bacc Core STS course
	HSTS 419 Studies in Sci. Controversies (4)	*	*	*	*	* See catalog, also counts as WIC and Bacc Core STS course
	HSTS 422 Hist. Stud. Science & Politics (4)	*	*	*	*	* See catalog, also counts as Bacc Core STS course
	HSTS 425 Hist. of the Life Sciences (4)	*	*	*	*	* See catalog, also counts as WIC and Bacc Core STS course
	HSTS 437 Hist. of Animals in Science (4)	*	*	*	*	* See catalog, also counts as WIC course
	HSTS 470 Hist. & Ecol. Columbia Basin (4)	*	*	*	*	* See catalog, also counts as Bacc Core STS course
	PHL 325 Scientific Reasoning (4)	*	*	*	*	* See catalog, also counts as Bacc Core STS course
	PHL 444 Biomedical Ethics (4)	*	*	*	*	* See catalog, also counts as Bacc Core STS course
	PHL 470 Philosophy of Science (3)	*	*	*	*	* See catalog, 6 credits of philosophy
	PHL 474 Philosophy of Biology (3)	*	*	*	*	* See catalog, previous biology or philosophy coursework
√	<b>Complete 2 Additional 3+ credit, upper division (300-400 level) science elective courses not used above <u>OR</u> an option:</b> Courses from BB, BI, BOT, CH, MB, MTH, PH, ST, & Z including double major, minor, Bacc. Core Synthesis (CGI and STS) or Writing Intensive Course (WIC) courses. Others science courses by approval from Brock McLeod. <b>Excluded:</b> Courses from departments above numbered between 401-410 (e.g. 401 Research, 410 Internships), as well as BB 350, BB 490-492, CH 334-336, ST 314, BI or Z 331-333 & BI or Z 341-343.					
√	<b>Complete the BI 499 Senior Biology Major Field Test your FINAL TERM or spring if graduating in summer.</b>					

**Pre-Professional Orientation Courses – generally taken in first year**

	BI 107 Pre Dental Orientation (1)		X			
	BI 109 Pre-Medical Orientation (1)			X		
	EXSS 132 Intro. to Allied Health Profs. (1)	X	X	X		
	PHAR 201 Pre-Pharmacy Orientation (1)	X		X		
	VMB 110 Pre-Vet. Med. Orientation (1)	X				