

# ZOOLOGY (ZOO)

## Department of Integrative Biology, College of Biological Science

The Major in Zoology offers a broad education in the life sciences while providing a more specialized understanding of the structure, function and ecology of animals. This major qualifies students for post-graduate work in zoology and other life sciences and provides a sound science background for students wishing to pursue careers in teaching, government service or the private sector.

## Major Requirements (Honours)

**This is a major within the degree:** Bachelor of Science  
([calendar.uoguelph.ca/undergraduate-calendar/degree-programs/bachelor-science-bsc/](https://calendar.uoguelph.ca/undergraduate-calendar/degree-programs/bachelor-science-bsc/)).

Students may enter this major in Semester 1 or any semester thereafter. A student wishing to declare the major may wish to consult the Faculty Advisor. A minimum total of 20.00 credits is required to complete the major. At least 6.00 science credits must be at the 3000 or 4000 level, 2.00 of which must be at the 4000 level.

Students lacking Grade 12 or 4U Biology, Chemistry or Physics should follow the revised schedule of study for this major found at [https://www.uoguelph.ca/bsc/revised\\_SS/](https://www.uoguelph.ca/bsc/revised_SS/).

Code	Title	Credits
<b>Semester 1</b>		
BIOL*1070	Discovering Biodiversity	0.50
CHEM*1040	General Chemistry I	0.50
MATH*1080	Elements of Calculus I	0.50
PHYS*1080	Physics for Life Sciences	0.50
0.50 Liberal Education electives		0.50
<b>Semester 2</b>		
BIOL*1080	Biological Concepts of Health	0.50
BIOL*1090	Introduction to Molecular and Cellular Biology	0.50
CHEM*1050	General Chemistry II	0.50
PHYS*1070	Physics for Life Sciences II	0.50
0.50 Liberal Education electives		0.50
<b>Semester 3</b>		
BIOL*2060	Ecology	0.50
BIOL*2400	Evolution	0.50
ZOO*2090	Vertebrate Structure and Function	0.50
1.00 electives or restricted electives <sup>1</sup>		1.00
<b>Semester 4</b>		
BIOC*2580	Introduction to Biochemistry	0.50
MBG*2040	Foundations in Molecular Biology and Genetics	0.50
STAT*2230	Biostatistics for Integrative Biology	0.50
ZOO*2700	Invertebrate Morphology & Evolution	0.50
0.50 electives or restricted electives <sup>1</sup>		0.50
<b>Semester 5</b>		
ZOO*3000	Comparative Histology	0.50
ZOO*3600	Comparative Animal Physiology I	0.50
ZOO*3610	Lab Studies in Animal Physiology I	0.25

ZOO*3700	Integrative Biology of Invertebrates	0.50
Electives or restricted electives to a maximum of 2.75 total credits in this semester		1.00
<b>Semester 6</b>		
BIOL*3060	Populations, Communities and Ecosystems	0.50
ZOO*3050	Developmental Biology	0.50
ZOO*3620	Comparative Animal Physiology II	0.50
ZOO*3630	Lab Studies in Animal Physiology II	0.25
Electives or restricted electives to a maximum of 2.75 total credits in this semester		1.00
<b>Semester 7</b>		
ZOO*4070	Animal Behaviour	0.50
ZOO*4910	Integrative Vertebrate Biology	0.50
1.50 electives or restricted electives		1.50
<b>Semester 8</b>		
2.50 electives or restricted electives		2.50

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CIS\*1200 Introduction to Computing is recommended for those needing to improve their computer skills

## Restricted Electives

**Restricted Electives must include:**

Code	Title	Credits
1. A minimum of 1.00 credits of Liberal Education electives is required <sup>2</sup>		1.00
2. A minimum of 0.50 credits from the following:		
ZOO*4330	Biology of Fishes	0.50
ZOO*4920	Lab Studies in Ornithology	0.25
ZOO*4940	Lab Studies in Herpetology	0.25
ZOO*4950	Lab Studies in Mammalogy	0.25
3. A minimum of 0.50 credits from the following:		
BIOL*4410	Field Ecology	0.75
BIOL*4610	Arctic Ecology	0.75
BIOL*4700	Field Biology	0.50
BIOL*4710	Field Biology	0.25
BIOL*4800	Field Biology	0.50
BIOL*4810	Field Biology	0.25
IBIO*4500	Research in Integrative Biology I	1.00
IBIO*4510	Research in Integrative Biology II	1.00
IBIO*4521	Thesis in Integrative Biology	1.00
IBIO*4522	Thesis in Integrative Biology	1.00
ZOO*4170	Experimental Comparative Animal Physiology	0.50
ZOO*4300	Marine Biology and Oceanography	0.75
Other field or research courses with approval of faculty advisor.		

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The list of Liberal Education electives for B.Sc. students can be found at: <https://www.uoguelph.ca/bsc/>.

## Credit Summary

(20.00 Total Credits)

Code	Title	Credits
	First year science core	4.00
	Required science courses semesters 3 - 8	8.00
	Restricted electives (# 2, and 3 in restricted electives list)	1.00
	Approved Science Electives	3.00
	Liberal Education Electives (#1 in restricted electives)	1.00
	Free Electives - any approved elective for B.Sc. students	3.00
<b>Total Credits</b>		<b>20</b>

Of the total credits required, students are required to complete 16.00 credits in science of which a minimum of 2.00 credits must be at the 4000 level and an additional 4.00 credits must be at the 3000 or 4000 level.

## Minor Requirements (Honours)

**This minor cannot be combined with a major in Zoology, Biodiversity, Wildlife Biology & Conservation or Marine & Freshwater Biology.**

A minor in Zoology requires a minimum of 5.00 credits, 4.00 of which must be from the following list:

Code	Title	Credits
BIOL*2060	Ecology	0.50
BIOL*2400	Evolution	0.50
BIOL*3060	Populations, Communities and Ecosystems	0.50
ZOO*2090	Vertebrate Structure and Function	0.50
ZOO*2700	Invertebrate Morphology & Evolution	0.50
ZOO*3000	Comparative Histology	0.50
ZOO*3050	Developmental Biology	0.50
ZOO*3600	Comparative Animal Physiology I	0.50
ZOO*3610	Lab Studies in Animal Physiology I	0.25
ZOO*3620	Comparative Animal Physiology II	0.50
ZOO*3630	Lab Studies in Animal Physiology II	0.25
ZOO*3700	Integrative Biology of Invertebrates	0.50
ZOO*4070	Animal Behaviour	0.50
ZOO*4330	Biology of Fishes	0.50
ZOO*4910	Integrative Vertebrate Biology	0.50
ZOO*4920	Lab Studies in Ornithology	0.25
ZOO*4940	Lab Studies in Herpetology	0.25
ZOO*4950	Lab Studies in Mammalogy	0.25

The remaining 1.00 credits may also come from this list or from outside this list, in consultation with a faculty advisor.