2009-2010 Undergraduate Calendar

The information published in this Undergraduate Calendar outlines the rules, regulations, curricula, programs and fees for the 2009-2010 academic year, including the Summer Semester 2009, the Fall Semester 2009 and the Winter Semester 2010.

For your convenience the Undergraduate Calendar is available in PDF format.

If you wish to link to the Undergraduate Calendar please refer to the Linking Guidelines.

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Contact Information:

University of Guelph Guelph, Ontario, Canada N1G 2W1 519-824-4120 http://www.uoguelph.ca

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University of Guelph 2009

The information published in this Undergraduate Calendar outlines the rules, regulations, curricula, programs and fees for the 2009-2010 academic year, including the Summer Semester 2009, the Fall Semester 2009 and the Winter Semester 2010.

The University reserves the right to change without notice any information contained in this calendar, including fees, any rule or regulation pertaining to the standards for admission to, the requirements for the continuation of study in, and the requirements for the granting of degrees or diplomas in any or all of its programs. The publication of information in this calendar does not bind the University to the provision of courses, programs, schedules of studies, or facilities as listed herein.

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Statistics Canada - Notification of Disclosure

For further information, please see Statistics Canada's web site at http://www.statcan.ca and Section XIV Statistics Canada.

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Depending on the nature and timing of the communication, the University may use one of these addresses to communicate with students. Students are, therefore, responsible for checking all of the following on a regular basis:

Email Address

The University issued email address is considered an official means of communication with the student and will be used for correspondence from the University. Students are responsible for monitoring their University-issued email account regularly. See Section I--Statement of Students' Academic Responsibilities for more information.

Home Address

Students are responsible for maintaining a current mailing address with the University. Address changes can be made, in writing, through Undergraduate Program Services.

Name Changes

The University of Guelph is committed to the integrity of its student records, therefore, each student is required to provide either on application for admission or on personal data forms required for registration, his/her complete, legal name. Any requests to change a name, by means of alteration, deletion, substitution or addition, must be accompanied by appropriate supporting documentation.

Student Confidentiality and Release of Student Information Policy Excerpt

The University undertakes to protect the privacy of each student and the confidentiality of his or her record. To this end the University shall refuse to disclose personal information to any person other than the individual to whom the information relates where disclosure would constitute an unjustified invasion of the personal privacy of that person or of any other individual. All members of the University community must respect the confidential nature of the student information which they acquire in the course of their work. Complete policy at http://www.uoguelph.ca/policies/pdf/ORSInfoReleasePolicy060610.pdf.

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Bachelor of Science in Environmental Sciences [B.Sc.(Env.)]

Program Information

Objectives of the Program

The Environmental Sciences program is designed to provide a strong interdisciplinary grounding in specific environmental sciences including the socioeconomic context in which environmental issues are resolved.

There is an emphasis on management and decision-making skills for the application of scientific knowledge to environmental problems, and the evaluation of appropriate environmental policies. A practical perspective based on defining and resolving problems is central to the program, and this is often done in the context of group work.

Substantial emphasis is placed on communication skills, including the development of competence in both written and oral presentations. These skills will be progressively developed in core courses from the first to the fourth year. Students in the final years of their program will be expected to take part in more intensive communication skill development. Graduates will seek employment in a range of fields, from government agencies to private industry and research.

Academic Counselling

General information on the degree program is available from the Program Counsellor, Faculty of Environmental Sciences. Advising for each major is available through the assigned faculty advisor responsible for the major. Students are encouraged to seek the advice of the faculty advisors when choosing restricted electives and planning course selections.

Degree

The degree granted for the successful completion of this honours program will be the Bachelor of Science in Environmental Sciences--B.Sc.(Env.).

Continuation of Study

Students are advised to consult the regulations for Continuation of Study in Section VIII--Undergraduate Degree Regulations and Procedures of this Calendar.

Conditions for Graduation

In order to graduate from the B.Sc.(Env.) program, students must successfully complete a minimum of 20.00 credits including all the stated course requirements for the program. As well, students must achieve a cumulative average of 60% or higher over all course attempts.

Environmental Sciences (Co-op)

Office of the Associate Dean, Faculty of Environmental Sciences.

A 5-year Honours Program in Environmental Sciences is offered as a Co-operative Education Program. This option is offered within the B.Sc. (Env.) degree and is available to all majors. The program requirements are the same as those listed for the regular B.Sc. (Env.) program, by the Co-operative Education Program and as outlined in the Continuation of Study policy (Section VIII--Undergraduate Degree Regulations & Procedures).

3 co-op work terms (COOP*1000, COOP*2000, COOP*3000) are required. An optional 4th co-op work term (COOP*4000) is available. COOP*1100 must be completed during semester 2.

Year	Fall	Winter	Spring
1	Academic Term 1	Academic Term 2	Off
2	Academic Term 3	COOP*1000	Academic Term 4
3	COOP*2000	Academic Term 5	COOP*3000
4	Academic Term 6	Academic Term 7	COOP*4000 (Optional)
5	Academic Term 8		

Since some of the program requirements in the degree program (core or major) are not offered each semester, careful planning and program consultation with the Faculty Co-op Advisor is essential. In particular, students are encouraged to seek advice when choosing for their Summer academic semester.

The Environmental Sciences Program

The degree in Environmental Sciences consists of a minimum of 20.00 credits, as follows:

- 1. 5.00 First Year Curriculum
- 2. 5.00 Environmental Sciences Core
- 3. 7.00 Environmental Sciences Major
- 4. free electives*

Within these courses, students must include at least 6.00 credits at the 3000 or 4000 level, and no program may include more than 7.00 credits at the 1000 level.

* There are not specific subject requirements for the elective courses, however, you may NOT select the following: BIOL*1500, BOT*1200, CHEM*1100, CIS*1000, GEOL*1100, MATH*1050, MET*1000, MICR*1010, MICR*1020, MBG*1000, PHYS*1600.

X. Degree Programs, Bachelor of Science in Environmental Sciences [B.Sc.(Env.)]

Please note that not all courses in the "One of:" options are available each semester (F, W, S). Students are encouraged to seek advice from the appropriate advisor when selecting and scheduling courses.

First Year Curriculum

The first year courses have been selected to provide students with sufficient background and knowledge to enter any one of the Environmental Sciences majors.

Semester 1		
BIOL*1030	[0.50]	Biology I
CHEM*1040	[0.50]	General Chemistry I
ENVS*1020	[0.50]	Introduction to Environmental Sciences
MATH*1080	[0.50]	Elements of Calculus I
PHYS*1080	[0.50]	Physics for Life Sciences
Semester 2		
BIOL*1040	[0.50]	Biology II
CHEM*1050	[0.50]	General Chemistry II
ECON*1050	[0.50]	Introductory Microeconomics
GEOG*1300	[0.50]	Introduction to the Biophysical Environment
PHYS*1130	[0.50]	Physics with Applications
Note: Co-op stud	lents must s	elect COOP*1100 Introduction to Co-operative Education

Environmental Sciences Core

In addition to the common first year curriculum, students are required to take the following core Environmental Sciences courses in the semesters recommended in the schedule of studies:

BIOL*2060	[0.50]	Ecology
ENVS*2150	[0.50]	Terrestrial Systems
ENVS*3150	[0.50]	Aquatic Systems
ENVS*3160	[0.50]	Atmospheric Systems
ENVS*4011/2	[0.50]	Project in Environmental Sciences
ENVS*4300	[0.50]	Environmental Law & Regulation
PHIL*2070	[0.50]	Philosophy of the Environment
One of:		
AGEC*2700	[0.50]	Survey of Natural Resource Economics
ECON*2100	[0.50]	Economic Growth and Environmental Quality
One of:		
BIOL*4040	[0.50]	Natural Resources Policy
GEOG*3210	[0.50]	Management of the Biophysical Environment
POLS*3370	[0.50]	Environmental Politics and Governance
One of:		
ECON*2740	[0.50]	Economic Statistics
GEOG*2460	[0.50]	Analysis in Geography
STAT*2040	[0.50]	Statistics I
Note: the statistics	course requ	uired is prescribed by the student's choice of major

Note: the statistics course required is prescribed by the student's choice of major.

Environmental Sciences Majors

Earth and Atmospheric Science

Ecology Environmental Biology

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(

Environmental Economics and Policy

Environmental Geography

Environmental Monitoring and Analysis

Environmetrics and Modelling

Natural Resources Management

Requirements for each of these majors are described in the detailed schedules of studies below.

Earth and Atmospheric Science (EAAS)

Department of Land Resource Science, Ontario Agricultural College Major

Please note that not all courses in the "One of:" options are available each semester (F, W, S). Students are encouraged to seek advice from the appropriate advisor when selecting and scheduling courses.

In this major there are fees charged to cover partial costs of some field trips. Students in need of financial assistance should approach the Chair of the department offering the course.

Semester 1

(

BIOL*1030	[0.50]	Biology I
CHEM*1040	[0.50]	General Chemistry I
ENVS*1020	[0.50]	Introduction to Environmental Sciences
MATH*1080	[0.50]	Elements of Calculus I
PHYS*1080	[0.50]	Physics for Life Sciences
Semester 2		
BIOL*1040	[0.50]	Biology II
CHEM*1050	[0.50]	General Chemistry II

X. Degree Progra	ms, Bachelo	r of Science in Environmental Sciences [B.Sc.(Env.)]
ECON*1050	[0.50]	Introductory Microeconomics
GEOG*1300	[0.50]	Introduction to the Biophysical Environment
PHYS*1130	[0.50]	Physics with Applications
Semester 3		
ENVS*2150	[0.50]	Terrestrial Systems
GEOL*1050	[0.50]	Geology and the Environment
MET*2030 STAT*2040	[0.50] [0.50]	Meteorology and Climatology Statistics I
One of:	[0.50]	Statistics I
AGEC*2700	[0.50]	Survey of Natural Resource Economics
ECON*2100	[0.50]	Economic Growth and Environmental Quality
Semester 4		
BIOL*2060	[0.50]	Ecology
GEOL*3060	[0.50]	Groundwater
SOIL*2010	[0.50]	Soil Science
One of: MATH*1210	[0.50]	Calculus II
MATH*2080	[0.50]	Elements of Calculus II
STAT*2050	[0.50]	Statistics II
0.50 electives or r		ctives
Semester 5		
GEOL*2110	[0.50]	Earth Material Science
One of:		
GEOG*3210	[0.50]	Management of the Biophysical Environment
POLS*3370 1.50 electives or r	[0.50] restricted ele	Environmental Politics and Governance
		ostituted for GEOG*3210 or POLS*3370 and would be
taken in Semester		
Semester 6		
ENVS*3150	[0.50]	Aquatic Systems
ENVS*3160	[0.50]	Atmospheric Systems
NRS*3600	[0.50]	Remote Sensing
PHIL*2070 0.50 electives or r	[0.50]	Philosophy of the Environment
Semester 7	estricted ele	clives
ENVS*4011	[0.00]	Project in Environmental Sciences
ENVS*4300	[0.50]	Environmental Law & Regulation
2.00 electives or r		
Semester 8		
ENVS*4012	[0.50]	Project in Environmental Sciences
2.00 electives or r		ctives
Restricted Elec		
Students must cho		
GEOL*3250 MET*4210	[0.50] [0.50]	Field Methods in Geosciences Atmospheric Experimentation and Instrumentation
SOIL*4250	[0.50]	Soils in the Landscape
		arth and Atmospheric Science major are required to choose
2.50 credits from	the followi	ng lists. Students are encouraged to seek advice on their
		at 6.00 credits of their B.Sc.(Env.) degree must be at the
		pproval, students may be able to use courses not on this list
		spheric Science restricted electives.
List A - Enviro		
GEOL*2020	[0.50]	Stratigraphy Classic Carlson
GEOL*2200 GEOL*3130	[0.50] [0.50]	Glacial Geology Agrogeology
GEOL*3190	[0.50]	Environmental Water Chemistry
GEOL*4090	[0.50]	Sedimentology
GEOL*4130	[0.50]	Clay and Humic Chemistry
List B - Soil Sc	ience	
PBIO*4100	[0.50]	Soil Plant Relationships
SOIL*3060	[0.50]	Environmental Soil Chemistry
SOIL*3070	[0.50]	Environmental Soil Physics
SOIL*3080 SOIL*3170	[0.50] [0.50]	Soil and Water Conservation Soil Processes in Landscape
SOIL*3200	[0.50]	Environmental Soil Biology
One of:	[]	

	[0.00]	
GEOL*4090	[0.50]	Sedimentology
GEOL*4130	[0.50]	Clay and Humic Chemistry
List B - Soil Sci	ence	
PBIO*4100	[0.50]	Soil Plant Relationships
SOIL*3060	[0.50]	Environmental Soil Chemistry
SOIL*3070	[0.50]	Environmental Soil Physics
SOIL*3080	[0.50]	Soil and Water Conservation
SOIL*3170	[0.50]	Soil Processes in Landscape
SOIL*3200	[0.50]	Environmental Soil Biology
One of:		
SOIL*4090	[0.50]	Soil Management
SOIL*4130	[0.50]	Soil and Nutrient Management
List C - Water		
ENGG*2550	[0.50]	Water Management
ENGG*3650	[0.50]	Hydrology
GEOG*4150	[0.50]	Sedimentary Processes
GEOL*3190	[0.50]	Environmental Water Chemistry
SOIL*3080	[0.50]	Soil and Water Conservation

List D - Atmosphere

Earth and Atmospheric Science (EAAS:C)

Earth and At	mospher	ic Science (EAAS:C)
Department of L	and Resou	rce Science, Ontario Agricultural College
Major		
•	ot all cours	es in the "One of:" options are available each semester (F,
W, S). Students are	e encourage	d to seek advice from the appropriate advisor when selecting
and scheduling co		
		narged to cover partial costs of some field trips. Students in should approach the Chair of the department offering the
course.		
Semester 1 - Fa	all	
BIOL*1030	[0.50]	Biology I
CHEM*1040	[0.50]	General Chemistry I
ENVS*1020	[0.50]	Introduction to Environmental Sciences
MATH*1080	[0.50]	Elements of Calculus I
PHYS*1080 Semester 2 - W	[0.50]	Physics for Life Sciences
		D'ala an U
BIOL*1040 CHEM*1050	[0.50]	Biology II General Chemistry II
COOP*1100	[0.50] [0.00]	Introduction to Co-operative Education
ECON*1050	[0.50]	Introductory Microeconomics
GEOG*1300	[0.50]	Introduction to the Biophysical Environment
PHYS*1130	[0.50]	Physics with Applications
Semester 3 - Fa	all	
ENVS*2150	[0.50]	Terrestrial Systems
GEOL*1050	[0.50]	Geology and the Environment
MET*2030	[0.50]	Meteorology and Climatology
STAT*2040	[0.50]	Statistics I
One of: AGEC*2700	[0.50]	Survey of Natural Decourse Economics
ECON*2100	[0.50] [0.50]	Survey of Natural Resource Economics Economic Growth and Environmental Quality
Winter Semest		Economic Growth and Environmental Quanty
COOP*1000	[0.00]	Co-op Work Term I
Semester 4 - Su		
		Faclary
BIOL*2060 PHIL*2070	[0.50] [0.50]	Ecology Philosophy of the Environment
SOIL*2010	[0.50]	Soil Science
1.00 electives or r		
Fall Semester		
COOP*2000	[0.00]	Co-op Work Term II
Semester 5 - W	inter	
ENVS*3150	[0.50]	Aquatic Systems
ENVS*3160	[0.50]	Atmospheric Systems
GEOL*3060	[0.50]	Groundwater
NRS*3600	[0.50]	Remote Sensing
One of:	[0.50]	Colorbus II
MATH*1210 MATH*2080	[0.50] [0.50]	Calculus II Elements of Calculus II
STAT*2050	[0.50]	Statistics II
Summer Seme		
COOP*3000	[0.00]	Co-op Work Term III
Semester 6 - Fa		
ENVS*4011	[0.00]	Project in Environmental Sciences
GEOL*2110	[0.50]	Earth Material Science
One of:	(
GEOG*3210	[0.50]	Management of the Biophysical Environment
POLS*3370	[0.50]	Environmental Politics and Governance
1.50 electives or r		
	•	bstituted for GEOG*3210 or POLS*3370 and would be
taken in Semester Semester 7 - W		
		Depictin Environmental Calence
ENVS*4012 2.00 electives or r	[0.50] restricted ele	Project in Environmental Sciences
Summer Semes		
COOP*4000	[0.00]	
Semester 8 - Fa		Co-op Work Term IV
ENVS*4300		Environmental I aw & Degulation
SOIL*4250	[0.50] [0.50]	Environmental Law & Regulation Soils in the Landscape
1.50 electives or r		
-		2000 2010 Underson desets Color der

Last Revision: September 14, 2009

Restricted Electives

Students in the Earth and Atmospheric Science major are required to choose 2.50 credits from the following lists. Students are encouraged to seek advice on their choices and are reminded that 6.00 credits of the B.Sc.(Env.) degree must be at the 3000-4000 level. With prior approval, students may be able to use courses not on this list towards their Earth and Atmospheric Science restricted electives.

List A - Environmental Geology

LIST A - Envirol	nmental C	reology
GEOL*2020	[0.50]	Stratigraphy
GEOL*2200	[0.50]	Glacial Geology
GEOL*3130	[0.50]	Agrogeology
GEOL*3190	[0.50]	Environmental Water Chemistry
GEOL*4090	[0.50]	Sedimentology
GEOL*4130	[0.50]	Clay and Humic Chemistry
List B - Soil Sci	ence	
PBIO*4100	[0.50]	Soil Plant Relationships
SOIL*3060	[0.50]	Environmental Soil Chemistry
SOIL*3070	[0.50]	Environmental Soil Physics
SOIL*3080	[0.50]	Soil and Water Conservation
SOIL*3170	[0.50]	Soil Processes in Landscape
SOIL*3200	[0.50]	Environmental Soil Biology
SOIL*4090	[0.50]	Soil Management
List C - Water		
ENGG*2550	[0.50]	Water Management
ENGG*3650	[0.50]	Hydrology
GEOG*4150	[0.50]	Sedimentary Processes
GEOL*3190	[0.50]	Environmental Water Chemistry
SOIL*3080	[0.50]	Soil and Water Conservation
List D - Atmosp	ohere	
MET*3050	[0.50]	Microclimatology
MET*4210	[0.50]	Atmospheric Experimentation and Instrumentation
MET*4300	[0.50]	Atmospheric Transport and Chemistry
Ecology (ECC	DL)	

College of Biological Science

Major

Please note that not all courses in the "One of:" options are available each semester (F, W, S). Students are encouraged to seek advice from the appropriate advisor when selecting and scheduling courses.

Semester 1

bennester 1		
BIOL*1030	[0.50]	Biology I
CHEM*1040	[0.50]	General Chemistry I
ENVS*1020	[0.50]	Introduction to Environmental Sciences
MATH*1080	[0.50]	Elements of Calculus I
PHYS*1080	[0.50]	Physics for Life Sciences
Semester 2		
BIOL*1040	[0.50]	Biology II
CHEM*1050	[0.50]	General Chemistry II
ECON*1050	[0.50]	Introductory Microeconomics
GEOG*1300	[0.50]	Introduction to the Biophysical Environment
PHYS*1130	[0.50]	Physics with Applications
Semester 3		
CHEM*2300	[0.50]	Chemical Reactivity
ENVS*2150	[0.50]	Terrestrial Systems
MCB*2210	[0.50]	Introductory Cell Biology
STAT*2040	[0.50]	Statistics I
One of:		
CIS*1200	[0.50]	Introduction to Computing
CIS*1500	[0.50]	Introduction to Programming
Semester 4		
BIOC*2580	[0.50]	Introductory Biochemistry
BIOL*3110	[0.50]	Population Ecology
MBG*2000	[0.50]	Introductory Genetics
STAT*2050	[0.50]	Statistics II
	[0.50]	Statistics II
0.50 electives or re		
0.50 electives or re		
0.50 electives or re Semester 5	estricted ele	octives
0.50 electives or re Semester 5 BIOL*3010	estricted ele	Laboratory and Field Work in Ecology Life Strategies of Plants
0.50 electives or re Semester 5 BIOL*3010 One of:	[0.50]	Laboratory and Field Work in Ecology
0.50 electives or re Semester 5 BIOL*3010 One of: BOT*2100	estricted ele [0.50] [0.50]	Laboratory and Field Work in Ecology Life Strategies of Plants
0.50 electives or n Semester 5 BIOL*3010 One of: BOT*2100 ZOO*3200 One of: AGEC*2700	estricted ele [0.50] [0.50]	Laboratory and Field Work in Ecology Life Strategies of Plants Comparative Animal Physiology I Survey of Natural Resource Economics
0.50 electives or n Semester 5 BIOL*3010 One of: BOT*2100 ZOO*3200 One of:	estricted ele [0.50] [0.50] [0.50] [0.50] [0.50]	Laboratory and Field Work in Ecology Life Strategies of Plants Comparative Animal Physiology I Survey of Natural Resource Economics Economic Growth and Environmental Quality

Semester 6		
BIOL*3120	[0.50]	Community Ecology
ENVS*3150	[0.50]	Aquatic Systems
ENVS*3160	[0.50]	Atmospheric Systems
PHIL*2070	[0.50]	Philosophy of the Environment
0.50 electives or r	estricted ele	ectives
Semester 7		
BIOL*4110	[0.75]	Ecological Methods
ENVS*4011	[0.00]	Project in Environmental Sciences
One of:		·
GEOG*3210	[0.50]	Management of the Biophysical Environment
POLS*3370	[0.50]	Environmental Politics and Governance
1.25 electives or r	estricted ele	ectives
Note: BIOL*4040	may be sub	stituted for GEOG*3210 or POLS*3370 and would be taken
in Semester 8.		
Semester 8		
BIOL*4120	[0.50]	Evolutionary Ecology
ENVS*4012	[0.50]	Project in Environmental Sciences
ENVS*4300	[0.50]	Environmental Law & Regulation
1.00 electives		-
Note: Ecology ma	ajors are not	required to complete BIOL*2060 as a core course.
Restriced Elect	tives	
One of:		
BIOL*3020	[0.50]	Population Genetics
BIOL*3400	[0.50]	Evolution
One of:		
BOT*3410	[0.50]	Plant Anatomy
ZOO*2090	[0.50]	Vertebrate Structure and Function
Ecology (ECO	OL:C)	

College of Biological Science

Major

Please note that not all courses in the "One of:" options are available each semester (F, W, S). Students are encouraged to seek advice from the appropriate advisor when selecting and scheduling courses.

Semester 1 - Fall

BIOL*1030	[0.50]	Biology I	
CHEM*1040	[0.50]	General Chemistry I	
ENVS*1020	[0.50]	Introduction to Environmental Sciences	
MATH*1080	[0.50]	Elements of Calculus I	
PHYS*1080	[0.50]	Physics for Life Sciences	
Semester 2 - V	Winter		
BIOL*1040	[0.50]	Biology II	
CHEM*1050	[0.50]	General Chemistry II	
COOP*1100	[0.00]	Introduction to Co-operative Education	
ECON*1050	[0.50]	Introductory Microeconomics	
GEOG*1300	[0.50]	Introduction to the Biophysical Environment	
PHYS*1130	[0.50]	Physics with Applications	
Semester 3 - I	Fall		
CHEM*2300	[0.50]	Chemical Reactivity	
ENVS*2150	[0.50]	Terrestrial Systems	
MCB*2210	[0.50]	Introductory Cell Biology	
STAT*2040	[0.50]	Statistics I	
One of:			
CIS*1200	[0.50]	Introduction to Computing	
CIS*1500	[0.50]	Introduction to Programming	
Winter Semes	ster		
COOP*1000	[0.00]	Co-op Work Term I	
Semester 4 - S	Summer		
BIOC*2580	[0.50]	Introductory Biochemistry	
MBG*2000	[0.50]	Introductory Genetics	
PHIL*2070	[0.50]	Philosophy of the Environment	
1.00 electives or	restricted ele	ectives	
Fall Semester	•		
COOP*2000	[0.00]	Co-op Work Term II	
Semester 5 - V	Winter		
BIOL*3110	[0.50]	Population Ecology	
ENVS*3150	[0.50]	Aquatic Systems	
ENVS*3160	[0.50]	Atmospheric Systems	
STAT*2050	[0.50]	Statistics II	
0.50 electives or restricted electives			
Summer Sem	ester		
COOP*3000	[0.00]	Co-op Work Term III	

Semester 6 - Fall

Semester 6 - Fa	all	
BIOL*3010	[0.50]	Laboratory and Field Work in Ecology
ENVS*4011	[0.00]	Project in Environmental Sciences
One of:		
AGEC*2700	[0.50]	Survey of Natural Resource Economics
ECON*2100	[0.50]	Economic Growth and Environmental Quality
1.50 electives or 1		ectives
Semester 7 - W	inter	
BIOL*3120	[0.50]	Community Ecology
BIOL*4120	[0.50]	Evolutionary Ecology
ENVS*4012	[0.50]	Project in Environmental Sciences
1.00 electives or 1	restricted ele	ectives
Summer Seme	ster (Opti	onal)
COOP*4000	[0.00]	Co-op Work Term IV
Semester 8- Fa	11	
BIOL*4110	[0.75]	Ecological Methods
ENVS*4300	[0.50]	Environmental Law & Regulation
One of:		
GEOG*3210	[0.50]	Management of the Biophysical Environment
POLS*3370	[0.50]	Environmental Politics and Governance
0.75 electives or 1		
	•	bstituted for GEOG*3210 or POLS*3370 and would be
taken in Semester		
		required to complete as a core course.
Restricted Elec	ctives	
One of:		
BIOL*3020	[0.50]	Population Genetics
BIOL*3400	[0.50]	Evolution
One of:	F0 F 03	
BOT*2100	[0.50]	Life Strategies of Plants
ZOO*3200	[0.50]	Comparative Animal Physiology I
One of:	10 501	
BOT*3410	[0.50]	Plant Anatomy Visite hands Structure and Franction
ZOO*2090	[0.50]	Vertebrate Structure and Function
Environment	ai Biolog	Y (ENVB)

Department of Environmental Biology, Ontario Agricultural College

Major

Please note that not all courses in the "One of:" options are available each semester (F, W, S). Students are encouraged to seek advice from the appropriate advisor when selecting and scheduling courses.

Semester 1

DIOI #4000	FO	
BIOL*1030	[0.50]	Biology I
CHEM*1040	[0.50]	General Chemistry I
ENVS*1020	[0.50]	Introduction to Environmental Sciences
MATH*1080	[0.50]	Elements of Calculus I
PHYS*1080	[0.50]	Physics for Life Sciences
Semester 2		
BIOL*1040	[0.50]	Biology II
CHEM*1050	[0.50]	General Chemistry II
ECON*1050	[0.50]	Introductory Microeconomics
GEOG*1300	[0.50]	Introduction to the Biophysical Environment
PHYS*1130	[0.50]	Physics with Applications
Semester 3		
CHEM*2300	[0.50]	Chemical Reactivity
ENVS*2150	[0.50]	Terrestrial Systems
TOX*2000	[0.50]	Principles of Toxicology
One of:		
AGEC*2700	[0.50]	Survey of Natural Resource Economics
ECON*2100	[0.50]	Economic Growth and Environmental Quality
0.50 electives or re	estricted ele	ctives
Semester 4		

BIOC*2580	[0.50]	Introductory Biochemistry		
BIOL*2060	[0.50]	Ecology		
MBG*2000	[0.50]	Introductory Genetics		
STAT*2040	[0.50]	Statistics I		
0.50 electives or restricted electives				

Semester 5

One of:

GEOG*3210 [0.50] Management of the Biophysical Environment POLS*3370 [0.50] Environmental Politics and Governance 2.00 electives or restricted electives Note: BIOL*4040 may be substituted for GEOG*3210 or POLS*3370 and would be taken in Semester 8.

Semester 6		
ENVS*3150	[0.50]	Aquatic Systems
ENVS*3160	[0.50]	Atmospheric Systems
PHIL*2070	[0.50]	Philosophy of the Environment
1.00 electives or re	stricted elec	ctives
Semester 7		
ENVS*4011	[0.00]	Project in Environmental Sciences
ENVS*4300	[0.50]	Environmental Law & Regulation
2.00 electives or re	stricted elec	ctives
Semester 8		
ENVS*4012	[0.50]	Project in Environmental Sciences
2.00 electives or re	stricted elec	ctives
Restricted Elect	ives	
		l Biology major are required to choose 5.00 credits from
		encouraged to seek advice on their choices and are reminded
that 6.00 credits of	the B.Sc.(E	Env.) degree must be at the 3000-4000 level.
BIOL*3130	[0.50]	Conservation Biology *
BIOL*3450	[0.50]	Introduction to Aquatic Environments
BIOL*4150	[0.50]	Wildlife Conservation and Management
BIOL*4350	[0.50]	Biology of Polluted Waters
ENVB*2010	[0.50]	Food Production and the Environment
ENVB*2030	[0.50]	Current Issues in Forest Science
ENVB*2040	[0.50]	Plant Health and the Environment
ENVB*3010	[0.50]	Climate Change Biology
ENVB*3030	[0.50]	Pesticides and the Environment
ENVB*3040	[0.50]	Natural Chemicals in the Environment
ENVB*3230	[0.50]	Agroforestry Systems
ENVB*3250	[0.50]	Forest Health and Disease
ENVB*3270	[0.50]	Forest Biodiversity
ENVB*3280	[0.50]	Waterborne Disease Ecology
ENVB*3300	[0.50]	Applied Ecology and Environment
ENVB*4020	[0.50]	Water Quality and Environmental Management *
ENVB*4130	[0.50]	Chemical Ecology: Principles & Practice *
ENVB*4240	[0.50]	Biological Activity of Pesticides
ENVB*4550	[0.50]	Ecotoxicological Risk Characterization *
ENVB*4780	[0.50]	Forest Ecology *
ENVS*4220	[0.50]	Environmental Impact Assessment
GEOG*3020	[0.50]	Global Environmental Change
GEOL*3190	[0.50]	Environmental Water Chemistry
MICR*4140	[0.50]	Soil Microbiology and Biotechnology
MICR*4180	[0.50]	Microbial Processes in Environmental Management
NRS*2120	[0.50]	Introduction to Environmental Stewardship
PBIO*4530	[0.50]	Environmental Pollution Stresses on Plants *
SOIL*3080	[0.50]	Soil and Water Conservation *

TOX*3360 [0.50] Environmental Chemistry and Toxicology * Note: Students should note that some restricted electives (marked by asterisks *) require other restricted electives as prerequisites. Students should consult the most recent undergraduate calendar for specific requirements.

Environmental Biology (ENVB:C)

Department of Environmental Biology, Ontario Agricultural College

Major

Please note that not all courses in the "One of:" options are available each semester (F, W, S). Students are encouraged to seek advice from the appropriate advisor when selecting and scheduling courses.

Semester 1 - Fall

BIOL*1030	[0.50]	Biology I
CHEM*1040	[0.50]	General Chemistry I
		•
ENVS*1020	[0.50]	Introduction to Environmental Sciences
MATH*1080	[0.50]	Elements of Calculus I
PHYS*1080	[0.50]	Physics for Life Sciences
Semester 2 - W	inter	
BIOL*1040	[0.50]	Biology II
CHEM*1050	[0.50]	General Chemistry II
COOP*1100	[0.00]	Introduction to Co-operative Education
ECON*1050	[0.50]	Introductory Microeconomics
GEOG*1300	[0.50]	Introduction to the Biophysical Environment
PHYS*1130	[0.50]	Physics with Applications
Semester 3 - Fa	11	
CHEM*2300	[0.50]	Chemical Reactivity
ENVS*2150	[0.50]	Terrestrial Systems
TOX*2000	[0.50]	Principles of Toxicology
One of:		
AGEC*2700	[0.50]	Survey of Natural Resource Economics

ECON*2100 [0.50] Economic Growth and Environmental Quality 0.50 electives or restricted electives

Winter Semest	ter	
COOP*1000 Semester 4 - S t	[0.00] ummer	Co-op Work Term I
BIOC*2580	[0.50]	Introductory Biochemistry
BIOL*2060	[0.50]	Ecology
MBG*2000	[0.50]	Introductory Genetics
STAT*2040	[0.50]	Statistics I
0.50 electives or a	restricted el	ectives
Fall Semester		
COOP*2000	[0.00]	Co-op Work Term II
Semester 5 - W		I I I I I I I I I I I I I I I I I I I
ENVS*3150	[0.50]	Aquatic Systems
ENVS*3160	[0.50]	Atmospheric Systems
PHIL*2070	[0.50]	Philosophy of the Environment
One of:	[0.000]	
GEOG*3210	[0.50]	Management of the Biophysical Environment
POLS*3370	[0.50]	
0.50 electives or a	restricted el	ectives
Note: BIOL*404	0 may be su	bstituted for GEOG*3210 or POLS*3370 and would be
taken in Semester	r 7.	
Summer Seme	ster	
COOP*3000	[0.00]	Co-op Work Term III
Semester 6 - Fa		· · · · ·
ENVS*4011	[0.00]	Project in Environmental Sciences
2.50 electives or	L 1	
Semester 7 - W		
ENVS*4012	[0.50]	Project in Environmental Sciences
ENVS*4300 2.00 electives or 1	[0.50]	Environmental Law & Regulation
Summer Seme	-	
COOP*4000	[0.00]	Co-op Work Term IV
Semester 8 - Fa	all	
2.00 electives or		ectives
Restricted Elec		
Students in the E	Invironment	al Biology major are required to choose 5.00 credits from
		e encouraged to seek advice on their choices and are reminded
that 6.00 credits of	of the B.Sc.	(Env.) degree must be at the 3000-4000 level.
BIOL*3130	[0.50]	Conservation Biology *
BIOL*3450	[0.50]	Introduction to Aquatic Environments
BIOL*4150	[0.50]	Wildlife Conservation and Management
BIOL*4350	[0.50]	Biology of Polluted Waters
ENVB*2010	[0.50]	Food Production and the Environment
ENVB*2030	[0.50]	Current Issues in Forest Science
ENVB*2040	[0.50]	Plant Health and the Environment
ENVB*3010	[0.50]	Climate Change Biology
ENVB*3030	[0.50]	Pesticides and the Environment
ENVB*3040	[0.50]	Natural Chemicals in the Environment
ENVB*3230	[0.50]	Agroforestry Systems Forest Health and Disease
ENVB*3250 ENVB*3270	[0.50] [0.50]	Forest Health and Disease Forest Biodiversity
ENVB*3280	[0.50]	Waterborne Disease Ecology
ENVB*3280 ENVB*3300	[0.50]	Applied Ecology and Environment
ENVB*4020	[0.50]	Water Quality and Environmental Management *
ENVB*4020 ENVB*4130	[0.50]	Chemical Ecology: Principles & Practice *
ENVB*4240	[0.50]	Biological Activity of Pesticides
ENVB*4550	[0.50]	Ecotoxicological Risk Characterization *
ENVB*4780	[0.50]	Forest Ecology *
GEOG*3020	[0.50]	Global Environmental Change
GEOG*4230	[0.50]	Environmental Impact Assessment
GEOL*3190	[0.50]	Environmental Water Chemistry
MICR*4140	[0.50]	Soil Microbiology and Biotechnology
MICR*4180	[0.50]	Microbial Processes in Environmental Management
NRS*2120	[0.50]	Introduction to Environmental Stewardship
PBIO*4530	[0.50]	Environmental Pollution Stresses on Plants *
SOIL*3080	[0.50]	Soil and Water Conservation *
TOX*3360	[0.50]	Environmental Chemistry and Toxicology
* Note: Studente	hould note	that some restricted electives (marked by asterisks *) require

* Note: Students should note that some restricted electives (marked by asterisks *) require other restricted electives as prerequisites. Students should consult the most recent undergraduate calendar for specific requirements.

Environmental Economics and Policy (EEP)

Department of Economics, College of Management and Economics

Department of Food, Agricultural and Resource Economics, Ontario Agricultural College

Major

Please note that not all courses in the "One of:" options are available each semester (F, W, S). Students are encouraged to seek advice from the appropriate advisor when selecting and scheduling courses.

Semester 1 BIOL*1030 [0.50]Biology I CHEM*1040 [0.50] General Chemistry I ENVS*1020 [0.50] Introduction to Environmental Sciences MATH*1080 [0.50] Elements of Calculus I PHYS*1080 [0.50] Physics for Life Sciences Semester 2 BIOL*1040 [0.50] Biology II CHEM*1050 [0.50] General Chemistry II ECON*1050 [0.50] Introductory Microeconomics GEOG*1300 [0.50] Introduction to the Biophysical Environment PHYS*1130 [0.50] Physics with Applications Semester 3 AGEC*2700 [0.50] Survey of Natural Resource Economics ECON*1100 [0.50] Introductory Macroeconomics ECON*2100 [0.50] Economic Growth and Environmental Quality ENVS*2150 [0.50] Terrestrial Systems 0.50 electives or restricted electives Semester 4 BIOL*2060 [0.50] Ecology ECON*2310 [0.50] Intermediate Microeconomics ECON*2740 [0.50]Economic Statistics PHIL*2070 [0.50] Philosophy of the Environment 0.50 electives or restricted electives Note: STAT*2040 may be substituted for ECON*2740. Semester 5 AGEC*3190 [0.50] Markets, Firms & Natural Amenities AGEC*4290 [0.50] Land Economics ECON*2410 [0.50] Intermediate Macroeconomics ECON*2770 [0.50] Introductory Mathematical Economics One of: GEOG*3210 Management of the Biophysical Environment [0.50] POLS*3370 [0.50] Environmental Politics and Governance Note: AGEC*4290 is taught in even-numbered years. Note: BIOL*4040 may be substituted for GEOG*3210 or POLS*3370 and would be taken in Semester 8. Semester 6 AGEC*3170 [0.50] Cost-Benefit Analysis ECON*3740 [0.50] Introduction to Econometrics ENVS*3150 [0.50] Aquatic Systems ENVS*3160 [0.50] Atmospheric Systems 0.50 electives or restricted electives Semester 7 ECON*3710 [0.50] Advanced Microeconomics ECON*4930 [0.50] Environmental Economics ENVS*4011 [0.00] Project in Environmental Sciences ENVS*4300 [0.50] Environmental Law & Regulation 1.00 electives or restricted electives Note: Students must obtain permission from instructor to take ECON*4930 and ECON*3710 at the same time. Semester 8 AGEC*4310 [0.50] Resource Economics ENVS*4012 [0.50] Project in Environmental Sciences 1.50 restricted electives or electives **Restricted Electives** Students in the Environmental Economics and Policy major are required to choose 2.00

credits additional Food, Agricultural and Resource Economics (AGEC*XXXX) or Economics (ECON*XXXX). Students are encouraged to seek advice on their choices and are reminded that 6.00 credits of their B.Sc.(Env.) degree must be at the 3000 level or higher.

Environmental Economics and Policy (EEP:C)

Department of Economics, College of Management and Economics Department of Food, Agricultural and Resource Economics, Ontario Agricultural College

Please note that not all courses in the "One of:" options are available each semester (F, W, S). Students are encouraged to seek advice from the appropriate advisor when selecting and scheduling courses.

and scheduling co	urses.	
Semester 1 - Fa	ıll	
BIOL*1030	[0.50]	Biology I
CHEM*1040	[0.50]	General Chemistry I
ENVS*1020	[0.50]	Introduction to Environmental Sciences
MATH*1080	[0.50]	Elements of Calculus I
PHYS*1080	[0.50]	Physics for Life Sciences
Semester 2 - W		
BIOL*1040	[0.50]	Biology II
CHEM*1050	[0.50]	General Chemistry II
COOP*1100	[0.00]	Introduction to Co-operative Education
ECON*1050	[0.50]	Introductory Microeconomics
GEOG*1300	[0.50]	Introduction to the Biophysical Environment
PHYS*1130	[0.50]	Physics with Applications
Semester 3 - Fa		
AGEC*2700		Survey of Netural Recourse Economics
ECON*1100	[0.50]	Survey of Natural Resource Economics Introductory Macroeconomics
ECON*1100 ECON*2100	[0.50] [0.50]	Economic Growth and Environmental Quality
ENVS*2150	[0.50]	Terrestrial Systems
0.50 electives or r		•
Winter Semest		
COOP*1000	[0.00]	Co-op Work Term I
Semester 4 - Su	immer	
BIOL*2060	[0.50]	Ecology
ECON*2310	[0.50]	Intermediate Microeconomics
ECON*2410	[0.50]	Intermediate Macroeconomics
PHIL*2070	[0.50]	Philosophy of the Environment
STAT*2040	[0.50]	Statistics I
) may be s	ubstituted for ECON*2740.
Fall Semester		
COOP*2000	[0.00]	Co-op Work Term II
Semester 5 - W	inter	
AGEC*3170	[0.50]	Cost-Benefit Analysis
ECON*2770	[0.50]	Introductory Mathematical Economics
ENVS*3150	[0.50]	Aquatic Systems
ENVS*3160	[0.50]	Atmospheric Systems
One of:		
GEOG*3210	[0.50]	
POLS*3370	[0.50]	
Note: BIOL*4040) may be si	abstituted for GEOG*3210 or POLS*3370 and would be
taken in Semester	7.	
Summer Semes	ster	
COOP*3000	[0.00]	Co-op Work Term III
Semester 6 - Fa	all	•
AGEC*3190	[0.50]	Markets, Firms & Natural Amenities
AGEC*4290	[0.50]	Land Economics
ECON*3710	[0.50]	Advanced Microeconomics
ENVS*4011	[0.00]	Project in Environmental Sciences
1.00 electives or r		
Note: AGEC*429	0 is taught	in even-numbered years.
Semester 7 - W		•
AGEC*4310	[0.50]	Resource Economics
ECON*3740	[0.50]	Introduction to Econometrics
ENVS*4012	[0.50]	Project in Environmental Sciences
1.00 electives or r		
Summer Semes		
COOP*4000	· -	
Semester 8 - Fa	[0.00]	Co-op Work Term IV
ECON*4930	[0.50]	Environmental Economics
ENVS*4300	[0.50]	Environmental Law & Regulation
1.50 electives or restricted electives		
Restricted Elec		
		al Economics and Policy major are required to choose 2.
credits additional	Food, As	gricultural and Resource Economics (AGEC*XXXX)

se 2.00 credits additional Food, Agricultural and Resource Economics (AGEC*XXXX) or Economics (ECON*XXXX). Students are encouraged to seek advice on their choices and are reminded that 6.00 credits of their B.Sc.(Env.) degree must be at the 3000 level or higher.

Environmental Geography (ENVG)

Department of Geography, College of Social and Applied Human Sciences

Major

Please note that not all courses in the "One of:" options are available each semester (F, W, S). Students are encouraged to seek advice from the appropriate advisor when selecting and scheduling courses.

and scheduling co	urses.	
Semester 1		
BIOL*1030	[0.50]	Biology I
CHEM*1040	[0.50]	General Chemistry I
ENVS*1020	[0.50]	Introduction to Environmental Sciences
MATH*1080	[0.50]	Elements of Calculus I
PHYS*1080	[0.50]	Physics for Life Sciences
Semester 2	[0.50]	
BIOL*1040	[0.50]	Biology II
CHEM*1050	[0.50]	General Chemistry II
ECON*1050	[0.50]	Introductory Microeconomics
GEOG*1300	[0.50]	Introduction to the Biophysical Environment
PHYS*1130	[0.50]	Physics with Applications
Semester 3		
ENVS*2150	[0.50]	Terrestrial Systems
GEOG*2000	[0.50]	Geomorphology
GEOG*2460	[0.50]	Analysis in Geography
One of:	[]	
AGEC*2700	[0.50]	Survey of Natural Resource Economics
ECON*2100	[0.50]	Economic Growth and Environmental Quality
0.50 electives	[0.50]	Economic Growar and Environmental Quanty
Semester 4		
BIOL*2060	[0.50]	Ecology
GEOG*2110	[0.50]	Climate and the Biophysical Environment
GEOG*2210	[0.50]	Environment and Resources
GEOG*2480	[0.50]	Mapping and GIS
0.50 electives		
Semester 5		
GEOG*3110	[0.50]	Biotic and Natural Resources
GEOG*3210	[0.50]	Management of the Biophysical Environment
POLS*3370	[0.50]	Environmental Politics and Governance
1.00 electives or r		
		phy majors are required to complete GEOG*3210 and
		BIOL*4040 may be substituted for POLS*3370 and would
be taken in Semes		BIOL 4040 may be substituted for 1 OLS 5570 and would
Semester 6	ter 0.	
ENVS*3150	[0.50]	Aquatic Systems
ENVS*3160	[0.50]	Atmospheric Systems
GEOG*3480	[0.50]	GIS and Spatial Analysis
PHIL*2070	[0.50]	Philosophy of the Environment
0.50 electives or r	estricted ele	ectives*
Semester 7		
ENVS*4011	[0.00]	Project in Environmental Sciences
ENVS*4300	[0.50]	Environmental Law & Regulation
GEOG*4690	[1.00]	
1.00 electives of		Geography Field Research
OR	n resurcteu	electives.
ENVS*4011	10 001	Project in Environmental Sciences
ENVS*4011 ENVS*4300	[0.00]	Project in Environmental Sciences
	[0.50]	Environmental Law & Regulation
		at the 3000 level or higher
1.50 electives of	or restricted	electives*
Semester 8		
ENVS*4012	[0.50]	Project in Environmental Sciences
GEOG*4880	[0.50]	Contemporary Geographic Thought
1.50 electives or r	estricted ele	ectives*
* students in the Er	nvironmenta	al Geography major must take at least 4 additional geography
courses at the 300		
At least one of:		-
GEOG*3000	[0.50]	Fluvial Processes
GEOG*3610	[0.50]	Environmental Hydrology
GEOG*3620	[0.50]	Desert Environments
At least two of:	[0.50]	Desert Environments
GEOG*3020	[0 50]	Global Environmental Change
	[0.50]	Global Environmental Change
GEOG*4110	[0.50]	Environmental Systems Analysis
GEOG*4210	[0.50]	Environmental Governance
GEOG*4230	[0.50]	Environmental Impact Assessment
Unwincommont	ol Coorr	onby (ENVC+C)

Environmental Geography (ENVG:C)

Department of Geography, College of Social and Applied Human Sciences

Please note that not all courses in the "One of:" options are available each semester (F, W, S). Students are strongly encouraged to seek advice from the appropriate advisor when selecting and scheduling courses, before Semester 3.

selecting and self	Juling cour	ses, before semester 5.
Semester 1 - Fa	all	
BIOL*1030	[0.50]	Biology I
CHEM*1040	[0.50]	General Chemistry I
ENVS*1020	[0.50]	Introduction to Environmental Sciences
MATH*1080	[0.50]	Elements of Calculus I
PHYS*1080	[0.50]	Physics for Life Sciences
		Thysics for Life Sciences
Semester 2 - W	Inter	
BIOL*1040	[0.50]	Biology II
CHEM*1050	[0.50]	General Chemistry II
COOP*1100	[0.00]	Introduction to Co-operative Education
ECON*1050	[0.50]	Introductory Microeconomics
GEOG*1300	[0.50]	Introduction to the Biophysical Environment
PHYS*1130	[0.50]	Physics with Applications
Semester 3 - Fa	all	
ENVS*2150	[0.50]	Terrestrial Systems
GEOG*2000	[0.50]	Geomorphology
GEOG*2460	[0.50]	Analysis in Geography
One of:	[0.50]	Anarysis in Geography
AGEC*2700	[0 50]	Survey of Netural Resource Feenomies
	[0.50]	Survey of Natural Resource Economics
ECON*2100	[0.50]	Economic Growth and Environmental Quality
0.50 electives		
Winter Semest	er	
COOP*1000	[0.00]	Co-op Work Term I
Semester 4 - Su	ummer	
BIOL*2060	[0.50]	Ecology
GEOG*2210	[0.50]	Environment and Resources
PHIL*2070	[0.50]	Philosophy of the Environment
1.00 electives	[010 0]	
Fall Semester		
	50.003	
COOP*2000	[0.00]	Co-op Work Term II
Semester 5 - W	Inter	
ENVS*3150	[0.50]	Aquatic Systems
ENVS*3160	[0.50]	Atmospheric Systems
GEOG*2110	[0.50]	Climate and the Biophysical Environment
GEOG*2480	[0.50]	Mapping and GIS
0.50 electives or 1	restricted ele	ctives*
Summer Seme	ster	
COOP*3000	[0.00]	Co-op Work Term III
Semester 6 - Fa		· · · · · ·
		Derivet in Environmental Colonese
ENVS*4011	[0.00]	Project in Environmental Sciences
GEOG*3110	[0.50]	Biotic and Natural Resources
GEOG*3210	[0.50]	Management of the Biophysical Environment
GEOG*3480	[0.50]	GIS and Spatial Analysis
POLS*3370		Environmental Politics and Governance
0.50 electives or i		
		bhy majors are required to complete GEOG*3210 and
		BIOL*4040 may be substituted for POLS*3370 and would
be taken in Seme		
Semester 7 - W	Inter	
ENVS*4012	[0.50]	Project in Environmental Sciences
GEOG*4880	[0.50]	Contemporary Geographic Thought
1.50 electives or 1	restricted ele	ctives*
Summer Seme	ster	
COOP*4000	[0.00]	Co-op Work Term IV
Semester 8 - Fa		
ENVS*4300	[0.50]	Environmental Law & Regulation
GEOG*4690	[1.00]	Geography Field Research
1.00 electives	or restricted	electives*
OR		
ENVS*4300	[0.50]	Environmental Law & Regulation
		at the 3000 level or higher
1.50 electives		
		ll Geography major must take at least 4 additional geography
courses at the 300	0 level or hi	gher including:
At least one of:		
GEOG*3000	[0.50]	Fluvial Processes
GEOG*3610	[0.50]	Environmental Hydrology
GEOG*3620	[0.50]	Desert Environments

GEOG*3020	[0.50]	Global Environmental Change		
GEOG*4110	[0.50]	Environmental Systems Analysis		
GEOG*4210	[0.50]	Environmental Governance		
GEOG*4230	[0.50]	Environmental Impact Assessment		
Environmental Monitoring and Analysis (EMA)				

College of Physical and Engineering Science

Major

Please note that not all courses in the "One of:" options are available each semester (F, W, S). Students are encouraged to seek advice from the appropriate advisor when selecting and scheduling courses.

Semester 1 BIOL*1030 [0.50] Biology I CHEM*1040 [0.50] General Chemistry I ENVS*1020 [0.50] Introduction to Environmental Sciences MATH*1080 [0.50] Elements of Calculus I PHYS*1080 [0.50] Physics for Life Sciences Semester 2 BIOL*1040 [0.50] Biology II CHEM*1050 [0.50] General Chemistry II ECON*1050 [0.50] Introductory Microeconomics GEOG*1300 [0.50] Introduction to the Biophysical Environment PHYS*1130 [0.50] Physics with Applications Semester 3 [0.50] Chemical Reactivity CHEM*2300 ENVS*2150 [0.50] Terrestrial Systems MATH*2080 [0.50] Elements of Calculus II MET*2030 [0.50] Meteorology and Climatology One of: AGEC*2700 [0.50] Survey of Natural Resource Economics ECON*2100 [0.50] Economic Growth and Environmental Quality Semester 4 BIOC*2580 [0.50] Introductory Biochemistry CHEM*2480 [0.50] Analytical Chemistry I PHYS*2040 [0.50] Fundamental Electronics and Sensors Statistics I STAT*2040 [0.50] One of: CIS*1200 [0.50] Introduction to Computing CIS*1500 [0.50] Introduction to Programming Semester 5 BIOL*2060 [0.50] Ecology PHYS*2550 [0.50] Radiation and the Environment STAT*2050 [0.50] Statistics II TOX*2000 [0.50] Principles of Toxicology One of: GEOG*3210 [0.50] Management of the Biophysical Environment POLS*3370 [0.50] Environmental Politics and Governance Note: PHYS*2550 is offered in even numbered years. Note: BIOL*4040 may be substituted for GEOG*3210 or POLS*3370 and would be taken in Semester 8 - Winter. Semester 6 CHEM*3360 [0.50] Environmental Chemistry and Toxicology ENVS*3150 [0.50] Aquatic Systems ENVS*3160 [0.50] Atmospheric Systems PHIL*2070 [0.50] Philosophy of the Environment STAT*3510 [0.50] Environmental Risk Assessment Semester 7 ENVS*4011 [0.00] Project in Environmental Sciences Environmental Law & Regulation ENVS*4300 [0.50] TOX*3300 [0.50] Analytical Toxicology 1.50 core requirement or electives

CHEM*4010	[0.50]	Chemistry and Industry
ENVS*4012	[0.50]	Project in Environmental Sciences
PHYS*3080	[0.50]	Energy
One of:		
MET*4210	[0.50]	Atmospheric Experimentation and Instrumentation
MET*4300	[0.50]	Atmospheric Transport and Chemistry
0.50 electives		
NT - NOTE: 1000 -	CC 1 *	

Note: MET*4300 is offered in even numbered years.

Environmental Monitoring and Analysis (EMA:C)

College of Physical and Engineering Science

Semester 8

2009-2010 Undergraduate Calendar

[0.50]

Desert Environments

GEOG*3620

At least two of:

Please note that not all courses in the "One of:" options are available each semester (F, W, S). Students are encouraged to seek advice from the appropriate advisor when selecting and scheduling courses.

Semester 1 - Fall

Semester 1 - Fa	all	
BIOL*1030	[0.50]	Biology I
CHEM*1040	[0.50]	General Chemistry I
ENVS*1020	[0.50]	Introduction to Environmental Sciences
MATH*1080	[0.50]	Elements of Calculus I
PHYS*1080	[0.50]	Physics for Life Sciences
Semester 2 - W		
BIOL*1040	[0.50]	Biology II
CHEM*1050	[0.50]	General Chemistry II
COOP*1100	[0.00]	Introduction to Co-operative Education
ECON*1050 GEOG*1300	[0.50]	Introductory Microeconomics Introduction to the Biophysical Environment
PHYS*1130	[0.50] [0.50]	Physics with Applications
Semester 3 - Fa		Thysics with Applications
CHEM*2300		Chamical Departivity
ENVS*2150	[0.50] [0.50]	Chemical Reactivity Terrestrial Systems
MATH*2080	[0.50]	Elements of Calculus II
MET*2030	[0.50]	Meteorology and Climatology
One of:	[]	
CIS*1200	[0.50]	Introduction to Computing
CIS*1500	[0.50]	Introduction to Programming
Winter Semest	er	
COOP*1000	[0.00]	Co-op Work Term I
Semester 4 - Su		
BIOC*2580	[0.50]	Introductory Biochemistry
BIOL*2060	[0.50]	Ecology
CHEM*2480	[0.50]	Analytical Chemistry I
PHIL*2070	[0.50]	Philosophy of the Environment
STAT*2040	[0.50]	Statistics I
Fall Semester		
COOP*2000	[0.00]	Co-op Work Term II
Semester 5 - W	<i>inter</i>	
ENVS*3150	[0.50]	Aquatic Systems
ENVS*3160	[0.50]	Atmospheric Systems
CHEM*3360	[0.50]	Environmental Chemistry and Toxicology
PHYS*2040	[0.50]	Fundamental Electronics and Sensors
STAT*2050	[0.50]	Statistics II
Summer Seme	ster	
COOP*3000	[0.00]	Co-op Work Term III
Semester 6 - Fa	all	
ENVS*4011	[0.00]	Project in Environmental Sciences
PHYS*2040	[0.50]	Fundamental Electronics and Sensors
PHYS*2550	[0.50]	Radiation and the Environment
TOX*2000	[0.50]	Principles of Toxicology
One of:	50 501	
AGEC*2700	[0.50]	Survey of Natural Resource Economics
ECON*2100	[0.50]	Economic Growth and Environmental Quality in even numbered years.
Semester 7 - W		in even numbered years.
CHEM*4010 ENVS*4012	[0.50] [0.50]	Chemistry and Industry Project in Environmental Sciences
PHYS*3080	[0.50]	Energy
STAT*3510	[0.50]	Environmental Risk Assessment
One of:	[0.50]	Livitonnenta Risk Assessment
MET*4210	[0.50]	Atmospheric Experimentation and Instrumentation
MET*4300	[0.50]	Atmospheric Transport and Chemistry
Note: MET*4300		n even numbered years.
Summer Seme		
COOP*4000	[0.00]	Co-op Work Term IV
Semester 8	[]	· · · · ·
ENVS*4300	[0.50]	Environmental Law & Regulation
TOX*3300	[0.50]	Analytical Toxicology
One of:	[0.00]	ining total tonicology
GEOG*3210	[0.50]	Management of the Biophysical Environment
POLS*3370	[0.50]	Environmental Politics and Governance
1.00 electives	. ,	
Note: BIOL*4040 taken in Semester		bstituted for GEOG*3210 or POLS*3370 and would be
	mer.	

Environmetrics and Modelling (EMM)

Department of Mathematics and Statistics, College of Physical and Engineering Science

Department of Computing and Information Science, College of Physical and **Engineering Science**

Major

Please note that not all courses in the "One of:" options are available each semester (F, W, S). Students are encouraged to seek advice from the appropriate advisor when selecting and scheduling courses.

0		
Semester 1		
BIOL*1030	[0.50]	Biology I
CHEM*1040	[0.50]	General Chemistry I
ENVS*1020	[0.50]	Introduction to Environmental Sciences
MATH*1080	[0.50]	Elements of Calculus I
PHYS*1080	[0.50]	Physics for Life Sciences
Semester 2		
BIOL*1040	[0.50]	Biology II
CHEM*1050	[0.50]	General Chemistry II
ECON*1050	[0.50]	Introductory Microeconomics
GEOG*1300	[0.50]	Introduction to the Biophysical Environment
PHYS*1130	[0.50]	Physics with Applications
Semester 3		
CIS*1500	[0.50]	Introduction to Programming
ENVS*2150	[0.50]	Terrestrial Systems
STAT*2040	[0.50]	Statistics I
One of:		
MATH*2080	[0.50]	Elements of Calculus II
MATH*2160	[0.50]	Linear Algebra I
One of:		
AGEC*2700	[0.50]	Survey of Natural Resource Economics
ECON*2100	[0.50]	Economic Growth and Environmental Quality
Note: Only one of M	ATH*121	0/MATH*2080 and only one of MATH*2150/MATH*2160
will count towards	the degree	(see Semester 4). MATH*1210 and MATH*2160 are
preferred for mathe	ematics emp	phasis.

Note: Students in the Environmetrics and Modelling major must consult with the Environmetrics and Modelling Faculty Advisor for course scheduling in semester 4 through 8.

Semester 4

BIOL*2060	[0.50]	Ecology
MATH*2130	[0.50]	Numerical Methods
MATH*2170	[0.50]	Differential Equations I
STAT*2050	[0.50]	Statistics II
One of:		
MATH*1210	[0.50]	Calculus II
MATH*2150	[0.50]	Applied Matrix Algebra
Semester 5		
One of:		
GEOG*3210	[0.50]	Management of the Biophysical Environment
POLS*3370	[0.50]	Environmental Politics and Governance
2.00 electives or r	estricted ele	ectives
Note: BIOL*4040) may be sul	bstituted for GEOG*3210 or POLS*3370 and would be
taken in Semester	8.	
Semester 6		
ENVS*3150	[0.50]	Aquatic Systems
ENVS*3160	[0.50]	Atmospheric Systems
MATH*3510	[0.50]	Biomathematics
PHIL*2070	[0.50]	Philosophy of the Environment
STAT*3510	[0.50]	Environmental Risk Assessment
Semester 7		
ENVS*4011	[0.00]	Project in Environmental Sciences
ENVS*4300	[0.50]	Environmental Law & Regulation
2.00 electives or r	estricted ele	ectives
Semester 8		
ENVS*4012	[0.50]	Project in Environmental Sciences
2.00 electives or r	estricted ele	
Restricted Elec	tives	
Students in the E	nvironmetri	cs major are required to choose 3.50 credits of restric

St ted electives. A minimum of 2.50 credits must be at the 3000 level or higher and a minimum of 1.00 must be at the 4000 level.

List

CIS*1900	[0.50]	Discrete Structures in Computer Science
CIS*2430	[0.50]	Object Oriented Programming
CIS*2460	[0.50]	Modelling of Computer Systems

CIS*2500	[0.50]	Intermediate Programming	
CIS*2520	[0.50]	Data Structures	
CIS*2750	[0.75]	Software Systems Development and Integration	
CIS*3490	[0.50]	The Analysis and Design of Computer Algorithms	
CIS*3530	[0.50]	Data Base Systems and Concepts	
MATH*2200	[0.50]	Advanced Calculus I	
MATH*2210	[0.50]	Advanced Calculus II	
MATH*3100	[0.50]	Differential Equations II	
MATH*3170	[0.50]	Partial Differential Equations and Special Functions	
MATH*3240	[0.50]	Operations Research	
MATH*4070	[0.50]	Case Studies in Modeling	
MATH*4430	[0.50]	Advanced Numerical Methods	
MATH*4510	[0.50]	Environmental Transport and Dynamics	
STAT*3100	[0.50]	Introductory Mathematical Statistics I	
STAT*3110	[0.50]	Introductory Mathematical Statistics II	
STAT*3240	[0.50]	Applied Regression Analysis	
STAT*3320	[0.50]	Sampling Theory with Applications	
STAT*4340	[0.50]	Statistical Inference	
STAT*4350	[0.50]	Applied Multivariate Statistical Methods	
STAT*4360	[0.50]	Applied Time Series Analysis	
Environmetrics and Modelling (EMM:C)			

Department of Mathematics and Statistics, College of Physical and Engineering Science

Department of Computing and Information Science, College of Physical and **Engineering Science**

Major

Please note that not all courses in the "One of:" options are available each semester (F, W, S). Students are encouraged to seek advice from the appropriate advisor when selecting and scheduling courses.

Semester 1 - Fall

BIOL*1030	[0.50]	Biology I	
CHEM*1040	[0.50]	General Chemistry I	
ENVS*1020	[0.50]	Introduction to Environmental Sciences	
MATH*1080	[0.50]	Elements of Calculus I	
PHYS*1080	[0.50]	Physics for Life Sciences	
Semester 2 - W	inter		
BIOL*1040	[0.50]	Biology II	
CHEM*1050	[0.50]	General Chemistry II	
COOP*1100	[0.00]	Introduction to Co-operative Education	
ECON*1050	[0.50]	Introductory Microeconomics	
GEOG*1300	[0.50]	Introduction to the Biophysical Environment	
PHYS*1130	[0.50]	Physics with Applications	
Semester 3 - Fa	11		
CIS*1500	[0.50]	Introduction to Programming	
ENVS*2150	[0.50]	Terrestrial Systems	
MATH*2080	[0.50]	Elements of Calculus II	
STAT*2040	[0.50]	Statistics I	
0.50 electives or restricted electives			

Note: Students in the Environmetrics and Modelling major must consult with the Environmetrics and Modelling Faculty Advisor for course scheduling in semester 4 through

8. Winter Semester

COOP*1000	[0.00]	Co-op Work Term I	5		arged to cover partial c
Semester 4 - S		co-op work remin		assistance s	should approach the Cl
			course.		
BIOL*2060	[0.50]	Ecology	Semester 1		
MATH*2150	[0.50]	Applied Matrix Algebra	BIOL*1030	[0.50]	Biology I
MATH*2170	[0.50]	Differential Equations I	CHEM*1040	[0.50]	General Chemistry I
PHIL*2070	[0.50]	Philosophy of the Environment	ENVS*1020	[0.50]	Introduction to Enviro
0.50 electives or	restricted ele	ectives	MATH*1080	[0.50]	Elements of Calculus
Fall Semester			PHYS*1080	[0.50]	Physics for Life Scien
COOP*2000	[0.00]	Co-op Work Term II	Semester 2		2
Semester 5 - V	Vinter		BIOL*1040	[0.50]	Biology II
ENVS*3150	[0.50]	Aquatic Systems	CHEM*1050	[0.50]	General Chemistry II
ENVS*3160	[0.50]	Atmospheric Systems	ECON*1050	[0.50]	Introductory Microeco
MATH*2130	[0.50]	Numerical Methods	GEOG*1300	[0.50]	Introduction to the Bio
STAT*2050	[0.50]	Statistics II	PHYS*1130	[0.50]	Physics with Applicat
0.50 electives or	restricted ele	ectives	Semester 3		
Summer Seme	ester		ENVS*2150	[0.50]	Terrestrial Systems
COOP*3000	[00.0]	Co-op Work Term III	MET*2030	[0.50]	Meteorology and Clin
Semester 6 - F	all		NRS*2120	[0.50]	Introduction to Enviro
ENVS*4011	[0.00]	Project in Environmental Sciences	STAT*2040	[0.50]	Statistics I
One of:	[0.00]		One of:		
AGEC*2700	[0.50]	Survey of Natural Resource Economics	AGEC*2700	[0.50]	Survey of Natural I

X. Degree I	Programs, Ba	chelor of Science in Environmental Sciences [B.Sc.(Env.)]
ECON*2100	[0.50]	Economic Growth and Environmental Quality
One of:		
GEOG*3210	[0.50]	Management of the Biophysical Environment
POLS*3370	[0.50]	Environmental Politics and Governance
1.50 electives or	restricted el	ectives
		bstituted for GEOG*3210 or POLS*3370 and would be
taken in Semeste		
Semester 7 - V	Vinter	
ENVS*4012	[0.50]	Project in Environmental Sciences
MATH*3510	[0.50]	Biomathematics
STAT*3510	[0.50]	Environmental Risk Assessment
1.00 electives or		
Summer Sem	ester (Opti	onal)
COOP*4000	[0.00]	Co-op Work Term IV
Semester 8 - F	Fall	
ENVS*4300	[0.50]	Environmental Law & Regulation
2.00 electives or	restricted el	ectives
Restricted Ele	ectives	
Students in the	Environmetr	ics major are required to choose 3.50 credits of restricted
		0 credits must be at the 3000 level or higher and of these a
minimum of 1.00		
List		
CIS*1900	[0.50]	Discrete Structures in Computer Science
CIS*2430	[0.50]	Object Oriented Programming
CIS*2450 CIS*2460	[0.50]	Modelling of Computer Systems
CIS*2500	[0.50]	Intermediate Programming
CIS*2520	[0.50]	Data Structures
CIS*2750	[0.75]	Software Systems Development and Integration
CIS*3490	[0.50]	The Analysis and Design of Computer Algorithms
CIS*3530	[0.50]	Data Base Systems and Concepts
MATH*2200	[0.50]	Advanced Calculus I
MATH*2210	[0.50]	Advanced Calculus I
MATH*3100	[0.50]	Differential Equations II
MATH*3170	[0.50]	Partial Differential Equations and Special Functions
MATH*3240	[0.50]	Operations Research
MATH*4070	[0.50]	Case Studies in Modeling
MATH*4430	[0.50]	Advanced Numerical Methods
MATH*4510	[0.50]	Environmental Transport and Dynamics
STAT*3100	[0.50]	Introductory Mathematical Statistics I
GT 1 T 1 0 1 1 0	[0.0.0]	

STAT*3110 [0.50] Introductory Mathematical Statistics II

STAT*3240 [0.50] Applied Regression Analysis

STAT*3320 [0.50] Sampling Theory with Applications STAT*4340 [0.50] Statistical Inference

STAT*4360 [0.50] Applied Time Series Analysis Natural Resources Management (NRM)

[0.50]

Department of Land Resource Science, Ontario Agricultural College

Major

STAT*4350

Please note that not all courses in the "One of:" options are available each semester (F, W, S). Students are encouraged to seek advice from the appropriate advisor when selecting and scheduling courses.

Applied Multivariate Statistical Methods

In this major there are fees charged to cover partial costs of some field trips. Students in ch the Chair of the department offering the

ENVS*1020	[0.50]	Introduction to Environmental Sciences
MATH*1080	[0.50]	Elements of Calculus I
PHYS*1080	[0.50]	Physics for Life Sciences
Semester 2		
BIOL*1040	[0.50]	Biology II
CHEM*1050	[0.50]	General Chemistry II
ECON*1050	[0.50]	Introductory Microeconomics
GEOG*1300	[0.50]	Introduction to the Biophysical Environment
PHYS*1130	[0.50]	Physics with Applications
Semester 3		
ENVS*2150	[0.50]	Terrestrial Systems
MET*2030	[0.50]	Meteorology and Climatology
NRS*2120	[0.50]	Introduction to Environmental Stewardship
STAT*2040	[0.50]	Statistics I
One of:		
AGEC*2700	[0.50]	Survey of Natural Resource Economics

ECON*2100	[0.50]	Economic Growth and Environmental Quality	Semester 2 - W	inter
	50 may be s	ubstituted for STAT*2040.	BIOL*1040	[0.50]
Semester 4			CHEM*1050	[0.50
BIOL*2060	[0.50]	Ecology	COOP*1100	[0.00
PHIL*2070	[0.50]	Philosophy of the Environment	ECON*1050	[0.50
SOIL*2010	[0.50]	Soil Science	GEOG*1300	[0.50
1.00 electives or 1 Semester 5	estricted ele	ectives	PHYS*1130 Semester 3 - Fa	[0.50]
ENVB*2030	[0.50]	Current Issues in Forest Science	ENVB*2030	[0.50
SOIL*3050	[0.50]	Land Utilization	ENVS*2150	[0.50
SOIL*3080	[0.50]	Soil and Water Conservation	MET*2030	[0.50
One of:	[0.50]	son and water conservation	NRS*2120	[0.50
GEOG*3210	[0.50]	Management of the Biophysical Environment	STAT*2040	[0.50
POLS*3370	[0.50]	Environmental Politics and Governance	Note: GEOG*246	
0.50 electives or 1			Winter Semest	
		bstituted for GEOG*3210 or POLS*3370 and would be	COOP*1000	[0.00
taken in Semester	· 8.		Semester 4 - Su	imme
Semester 6			BIOL*2060	[0.50]
ENVS*3150	[0.50]	Aquatic Systems	PHIL*2070	[0.50]
ENVS*3160	[0.50]	Atmospheric Systems	1.50 electives or 1	
NRS*3100	[0.50]	Resource Planning Techniques	Fall Semester	
One of: ENGG*2550	[0.50]	Water Management	COOP*2000	[0.00]
GEOG*3610	[0.50]	Environmental Hydrology	Semester 5 - W	
GEOL*3060	[0.50]	Groundwater	ENVS*3150	[0.50]
0.50 electives or 1			ENVS*3160	[0.50]
Semester 7			SOIL*2010	[0.50
ENVS*4011	[0.00]	Project in Environmental Sciences	One of:	-
ENVS*4300	[0.50]	Environmental Law & Regulation	ENGG*2550	[0.
NRS*4110	[0.50]	Natural Resources Management Field Camp	GEOG*3610	[0.
ZOO*4110	[0.50]	Principles of Fish and Wild Life Management	GEOL*3060	[0.
1.00 electives or 1	estricted ele		0.50 electives or 1	
Note: BIOL*4150) may be su	bstituted for ZOO*4110.	Summer Seme	
Semester 8			COOP*3000	[0.00
ENVS*4012	[0.50]	Project in Environmental Sciences	Semester 6 - Fa	
2.00 electives or 1		ectives	ENVS*4011	[0.00]
Restricted Elec	ctives		SOIL*3050 SOIL*3080	[0.50]
		ces Management major are required to choose 1.50 restricted	One of:	[0.50]
		owing list. Students are encouraged to seek advice on their	AGEC*2700	[0.
	minded that	6.00 credits of their B.Sc.(Env.) degree must be at the 3000	ECON*2100	[0.
level or higher.			One of:	[0.
CROP*2280	[0.50]	Crops in Land Reclamation	GEOG*3210	[0]
ENVB*3000	[0.50]	Nature Interpretation	POLS*3370	[0.
ENVB*3230	[0.50]	Agroforestry Systems Forest Biodiversity	0.50 electives or 1	restricte
ENVB*3270 ENVB*4780	[0.50] [0.50]	Forest Ecology	Note: BIOL*404) may b
GEOG*2420	[0.50]	Aerial-photo Interpretation	taken in Semester	
GEOG*3210	[0.50]	Management of the Biophysical Environment	Semester 7 - W	inter
GEOG*3480	[0.50]	GIS and Spatial Analysis	ENVS*4012	[0.50
GEOG*4230	[0.50]	Environmental Impact Assessment	NRS*3100	[0.50
GEOL*3130	[0.50]	Agrogeology	1.50 electives or 1	
LARC*3320	[0.50]	Principles of Landscape Ecology	Summer Seme	ster (C
LARC*4520	[0.50]	Park and Recreation Administration	COOP*4000	[0.00
MET*3050	[0.50]	Microclimatology	Semester 8 - Fa	all
NRS*3600	[0.50]	Remote Sensing	ENVS*4300	[0.50
SOIL*3060	[0.50]	Environmental Soil Chemistry	NRS*4110	[0.50
SOIL*3070	[0.50]	Environmental Soil Physics	ZOO*4110	[0.50
SOIL*3200	[0.50]	Environmental Soil Biology	1.00 electives or 1	
		anagement (NRM:C)	Note: BIOL*4150	-
Department of L	and Resou	rce Science, Ontario Agricultural College	Restricted Elec	
Major			Students in the Na	
			alactiva gradita fo	ama tha

Please note that not all courses in the "One of:" options are available each semester (F, W, S). Students are encouraged to seek advice from the appropriate advisor when selecting and scheduling courses.

In this major there are fees charged to cover partial costs of some field trips. Students in need of financial assistance should approach the Chair of the department offering the course.

Semester 1 - Fall

BIOL*1030	[0.50]	Biology I
CHEM*1040	[0.50]	General Chemistry I
ENVS*1020	[0.50]	Introduction to Environmental Sciences
MATH*1080	[0.50]	Elements of Calculus I
PHYS*1080	[0.50]	Physics for Life Sciences

BIOL*1040	[0.50]	Biology II			
CHEM*1050	[0.50]	General Chemistry II			
COOP*1100	[0.00]	Introduction to Co-operative Education			
ECON*1050	[0.50]	Introductory Microeconomics			
GEOG*1300	[0.50]	Introduction to the Biophysical Environment			
PHYS*1130	[0.50]	Physics with Applications			
Semester 3 - Fa	all				
ENVB*2030	[0.50]	Current Issues in Forest Science			
ENVS*2150	[0.50]	Terrestrial Systems			
MET*2030	[0.50]	Meteorology and Climatology			
NRS*2120	[0.50]	Introduction to Environmental Stewardship			
STAT*2040	[0.50]	Statistics I			
Note: GEOG*246		ubstituted for STAT*2040.			
Winter Semest					
COOP*1000	[0.00]	Co-op Work Term I			
Semester 4 - Su					
BIOL*2060	[0.50]	Ecology			
PHIL*2070	[0.50]	Philosophy of the Environment			
1.50 electives or r	estricted ele	ectives			
Fall Semester					
COOP*2000	[0.00]	Co-op Work Term II			
Semester 5 - W	inter				
ENVS*3150	[0.50]	Aquatic Systems			
ENVS*3160	[0.50]	Atmospheric Systems			
SOIL*2010	[0.50]	Soil Science			
One of:	[0.00]				
ENGG*2550	[0.50]	Water Management			
GEOG*3610	[0.50]	Environmental Hydrology			
GEOL*3060	[0.50]	Groundwater			
0.50 electives or r		ectives			
Summer Semes	ster				
COOP*3000		Co. on Work Torm III			
	[0.00]	Co-op Work Term III			
Semester 6 - Fa					
ENVS*4011	[0.00]	Project in Environmental Sciences			
SOIL*3050	[0.50]	Land Utilization			
SOIL*3080	[0.50]	Soil and Water Conservation			
One of:					
AGEC*2700	[0.50]	Survey of Natural Resource Economics			
ECON*2100	[0.50]	Economic Growth and Environmental Quality			
One of:					
GEOG*3210	[0.50]	Management of the Biophysical Environment			
POLS*3370	[0.50]	Environmental Politics and Governance			
0.50 electives or r					
Note: BIOL*4040 may be substituted for GEOG*3210 or POLS*3370 and would be					
taken in Semester 7.					
Semester 7 - W	inter				
ENVS*4012	[0.50]	Project in Environmental Sciences			
NRS*3100	[0.50]	Resource Planning Techniques			
1.50 electives or r	estricted ele	ectives			
Summer Semes	ster (Optio	onal)			
COOP*4000	[0.00]	Co-op Work Term IV			
Semester 8 - Fa					
ENVS*4300	[0.50]	Environmental Law & Regulation			
NRS*4110	[0.50]	Natural Resources Management Field Camp			
ZOO*4110	[0.50]	Principles of Fish and Wild Life Management			
1.00 electives or restricted electives					
Note: BIOL*4150 may be substituted for ZOO*4110.					
Restricted Electives					
Students in the Natural Resources Management major are required to choose 1.50 restricted					
elective credits from the following list. Students are encouraged to seek advice on their					
choices and are reminded that 6.00 credits of their B.Sc.(Env.) degree must be at the 3000					
level or higher.					
CROP*2280	[0.50]	Crops in Land Reclamation			

[0.50]

Biology II

[0.50]	Crops in Land Reclamation
[0.50]	Nature Interpretation
[0.50]	Agroforestry Systems
[0.50]	Forest Biodiversity
[0.50]	Forest Ecology
[0.50]	Aerial-photo Interpretation
[0.50]	Management of the Biophysical Environment
[0.50]	GIS and Spatial Analysis
[0.50]	Environmental Impact Assessment
[0.50]	Agrogeology
	[0.50] [0.50] [0.50] [0.50] [0.50] [0.50] [0.50]

[0.50]	Principles of Landscape Ecology
[0.50]	Park and Recreation Administration
[0.50]	Microclimatology
[0.50]	Remote Sensing
[0.50]	Environmental Soil Chemistry
[0.50]	Environmental Soil Physics
[0.50]	Environmental Soil Biology
	[0.50] [0.50] [0.50] [0.50] [0.50]