

# Ecological Restoration Honours B.Sc. - Joint Trent- Fleming Degree/Diploma



<b>Program Location:</b>	Lindsay
<b>Program Code:</b>	ERJ
<b>Co-ordinator:</b>	Eric Sager
<b>Credential:</b>	Ontario College Diploma
<b>Start Date:</b>	September 04, 2012
<b>Tuition Fees:</b>	\$3,084.01 per semester. Tuition and fees subject to change.

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**Ecological Restoration is an emerging discipline that focuses on assisting the recovery of degraded, damaged or destroyed ecosystems.**

## Program Highlights

Become a leader in the Science of Hope. Make your stand in the green revolution by helping to restore our natural environment for present and future generations.

The collaborative Ecological Restoration program developed by Trent University and Fleming College provides a bold and innovative solution to this challenge. The program:

- Is interdisciplinary with a foundation of science-based curriculum.
- Is broad-based so that you will develop an understanding of the big picture - and comprehend ecological principles that can be transferred to any ecosystem and adapted to any project.
- Was designed to improve traditional college students' access to a university degree.
- Is integrated to combine applied learning, field skills and experience with theoretical and scientific knowledge and principles from day one.
- Provides opportunities for field camps, field courses and a capstone course.
- Encourages and supports students who seek out internships and international opportunities.
- Offers a unique combination of college and university cultures - the best of both worlds.

## Advantages of the Ecological Restoration Joint Diploma/Degree

Through the collaboration between Trent and Fleming, faculty, teaching, field study courses, applied projects and resources are shared over the four years of the program.

- This integrated introduction to both academic cultures will prepare you for the transition from Fleming to Trent.
- The program is carefully designed so that you will truly understand the connections, relevance and fit between courses in the program of study.
- Both institutions are renowned for their environmental focus and commitment to providing support for students to achieve success.

You will begin this adventure by spending two years at Fleming College's School of Environmental and Natural Resource Sciences in Lindsay. This School has a 40-year history of preparing graduates for employment in the environmental sector. Here, you will build on your science, math and communications skills while also practicing ecological restoration through field courses and project work.

Your next two years will be at Trent University in Peterborough, home to one of the first environmental programs to be established in Canada. At Trent, you can choose to either build towards a specialization, or continue to balance theory and practice in a more broad-based degree program.

Since this is an innovative diploma/degree model that infuses elements of both the college and university experience throughout the four-year years, you will not obtain your college diploma at the completion of your two years at Fleming College. Instead, you will graduate at the end of four years with both your Ecological Restoration Technician college diploma and university degree in Ecological Restoration. (The distance between Fleming College's campus in Lindsay and Trent University in Peterborough is 45 kilometres, or about a 45-minute drive.)

## Is this You?

The program is challenging and sets a high standard of academic rigour. Our goal is to provide the support you need to achieve these standards but you must be prepared to:

- Dedicate study time necessary to achieve grade requirements in University Level courses
- Achieve a minimum grade of 65% in semester 1 Environmental Science 1 and Critical Thinking and Communications courses in order to progress to Semester 2 of the joint program
- Pass all courses and achieve a 70% overall program average in years 1 and 2 in order to progress to year 3
- Participate fully in field course activities and team-based projects (which may extend beyond regular class time)
- Take control of your learning by recognizing if you need help and taking advantage of opportunities to access assistance

If you do not achieve the academic standards required for entry into 5th semester at Trent University, there is a pathway into the 5th semester (3rd year) of the Fleming College Ecosystem Management Technology program, enabling you to obtain an Ontario College Advanced Diploma. Fleming College has reserved 4 spaces in the Ecosystem Management Technology program for this purpose. To be eligible, students must successfully complete all courses in years 1 and 2 of the Ecological Restoration Honours B.Sc. Joint Trent-Fleming program. If there are more applications than reserved seats available, a selection process based on an average of overall Ecological Restoration program marks will take place.

## Career Opportunities

The environmental sector is experiencing a sustained boom as global awareness of environmental issues is now top-of-mind. Since 2001, growth in the environmental workforce has consistently outpaced overall growth of the Canadian workforce and is projected to continue to do so (ELM Profile of Canadian Environmental Employment - Environmental Labour Market Research, 2007). There's a significant shortage of environmental employees with the required science background, technical and soft skills mix to meet the demand. Employment opportunities are diverse and new career prospects are emerging - especially in the private sector - as corporations discover that green corporate citizenship initiatives contribute to both long-term sustainability and market share. Entry-level job titles include:

- Landscape Restoration Technician
- Shoreline Naturalization or Restoration Technician
- Watershed Planning Technician
- Wetland Habitat Technician, Habitat Restoration Technician

Positions requiring more experience include:

- Project Manager, Field and Stream Rescue Team

- Watershed Restorationist
- Stewardship Assistant
- Remediation Specialist
- Ecologist
- Biodiversity Conservation Biologist

Whether you choose to work in the public or private sector, you will be well-equipped with the comprehensive science foundation, plus the technical and field skills that the Honours B.Sc. in Ecological Restoration provides. You also have the flexibility to pursue graduate studies if you choose to do so.

## Minimum Admission Requirements

OSSD with the majority of credits at the College (C) and Open (O) level, including:

- 2 College (C) English courses
- 2 College (C) Math courses

1 College (C) Science (Grade 11 or Grade 12)\*

\* The following courses would meet the one (1) College Science requirement:

- All grade 11 and 12 SEN (Environmental Science) and SES (Earth and Space Science) and SGE (Science - Geology) . These courses are all under Electives but are science based.
- Science, Grade 11, University/College Preparation (SNC3M)
- Science, Grade 12, University/College Preparation (SNC4M)
- Grade 12, University/College Environmental & Resource Management (CGR4M)

When College (C) is the minimum course level for admission, (U) or (U/C) courses are also accepted.

### Recommended:

- College (C), University/College (U/C) or University (U/M) level courses in Chemistry, English and Biology. (Although recommended courses are not required for admission, you will be better prepared for this program.)

**You apply to this program through the Ontario College Application Service:[www.ontariocolleges.ca](http://www.ontariocolleges.ca)**

## Mature Students

If you are 19 years of age before classes start, and you do not possess an OSSD, you can write the Canadian Adult Achievement Test to assess your eligibility for admission. All applicants will be required to achieve course credit in any mandatory English, Math and Science courses, through Secondary School or through Academic Upgrading programs.

## Transfer Agreements

We are committed to providing students and graduates with flexible options to get maximum recognition of their college studies. Through joint programs and transfer agreements with the following universities, you can apply the learning you acquire at Fleming College to earn a related degree in less time, and at less cost.

- Trent University

## Curriculum for Ecological Restoration Honours B.Sc. - Joint Trent-Fleming Degree/Diploma

### Semester 1

Code	Course Name	Hours
SCIE 135	Applied Chemistry in Ecological Restoration	45
MATH 63	Applied Mathematics in Natural Resource Sciences	45
COMM 131	Critical Thinking and Communication	60
ECOS 13	Ecosystem Skills	60
SCIE 118	Environmental Science I	45
GEOM 36	Geospatial Techniques	45

### Semester 2

Code	Course Name	Hours
SCIE 119	Environmental Science II	45
GEOM 21	GIS Principles	45
ECOS 27	Introduction to Ecology	45
SCIE 120	Introductory Chemistry I	60
COMM 137	Readings in Environment and Restoration	45
FSTY 50	Trees and Shrubs Of Ontario	45

### Semester 3

Code	Course Name	Hours
ECOS 31	Introduction to Indigenous Environmental Studies: History and Culture	45
FSTY 75	Introduction to Plant Community Systematics	45
SCIE 121	Introductory Chemistry II	60
MATH 86	Math I	45
GEOL 21	Principles of Hydrogeology	60



## Semester 4

Code	Course Name	Hours
ECOS 7	Ecosystem Monitoring and Assessment	45
SURV 18	Geomatics in Surveying	45
ECOS 30	Introduction to Indigenous Environmental Studies: Culture and the Environment	45
MATH 87	Math II	45
SCIE 136	Methods in Environmental Science	45
GEOM 41	Remote Sensing	45

## Years 3 and 4 (At Trent University)

These courses may be taken in either years 3 or 4, provided the course prerequisites have been met.

### Required Courses:

Environmental Science and Politics

ERST-POST 2100H

Canadian Renewable Resource Economics and Project Planning

ERST-CAST 3780H

Canadian Renewable Resource Economics and Project Planning -- OR -- Environmental and Ecological Risk Assessment

ERST-PHIL 3300Y

ERSC/ERST 3310Y

Environment and communication: Oral and Visual Presentation -- OR -- Environment and Communication: Writing and Reporting

ERSC 3501H / ERSC 3502H

Restoration Ecology

ERSC 4520H

Remediation and Reclamation of Sites

ERSC 4530H

Approved field course

**Recommended Courses:**

Atmospheric Environmental Chemistry

ERSC-CHEM 2610H

Aquatic Environmental Chemistry

ERST-CAST 2620H

Limnology

BIOL 3050H

Waste Management

ERST 3080Y

Introduction to Environmental Law

ERSC 3250H

Environmental Ethics -- OR -- Environmental and Ecological Risk Assessment \*

ERST-PHIL 3300Y / ERSC/ERST 3310Y

Environment and Communication: Oral and Visual Presentation -- OR -- Environment and Communication:  
Writing and Reporting \*

ERSC 3501H / ERSC 3502H

Ecology and Management of Wetland Systems

ERSC 3510H

Pollution Ecology

ERSC 3550Y

Soil Management and Conservation

ERSC-GEOG 3650H

Indigenous Peoples Health and the Environment

ERSC/ERST-INDG 3730Y

Community-based Research Project

ERSC/ERST 3830Y, 3840H, 4830Y, 4840H

Thesis

ERSC/ERST 4010Y, 4020D

Research Design and Data Analysis

ERSC-BIOL 4030H

Hydrochemical Fluxes in the Hydrosphere

ERSC-GEOG 4040H

The Fate of Contaminants in the Aquatic Environment

ERSC-BIOL-GEOG 4070H

Fisheries Assessment and Management

ERSC-BIOL 4240H

Environmental Law and Regulation

ERST 4250H

Climatic Change

ERSC 4350H

Environmental History

ERSC-BIOL 4030H

Senior Seminar

ERST 4700Y, 4701Y, 4704H, ERSC 4702H

Sustainable Indigenous communities

ERST-INDG 4730Y

Greening the Campus

ERSC/ERST 4800Y

Ecological Design

ERST 4810H

\* if not taken as a required course

*Every attempt is made to ensure the accuracy of the information on our website and in our publications. The College reserves the right to modify or cancel any course, program, fee, timetable, or campus location at any time.*