# Course Outline Form: Fall 2016

## General Information

**Course Code: ENVS3080**

**Course Title: Soil and Water Conservation**

**Course Description:**

This course examines the processes leading to deterioration of soil and water quality, the impact of deterioration on use, and preventative or corrective measures: soil erosion by water and wind, soil compaction and salinization, drainage channel maintenance, sedimentation and nutrient enrichment of water, conservation programs and policies, and reclamation of severely disturbed soils and saline-sodic soils. Emphasis will be on concepts and solutions to problems in a systems approach.

**Credit Weight: 0.50**

**Academic Department (or campus): School of Environmental Sciences**

**Campus: Guelph**

**Semester Offering: Fall 2016**

**Class Schedule and Location:**

## Instructor Information

Instructor Name: C. FitzGibbon

Instructor Email: cfitzgib@uoguelph.ca

Instructor Phone and Extension: 519-824-4120 X54802

Office location and office hours: Axel Rm 205 and LA Rm 103

## GTA Information

GTA Name: TBA

GTA Email:

GTA office location and office hours:

## Course Content

### Specific Learning Outcomes:

**Learning Outcomes:**

At the successful completion of the course the student will:

1. have a thorough understanding of the processes and factors that relate to the soil

degradation topics studied.

2. will understand the nature and range of management approaches in use today and

the most appropriate situations for use.

3. will be able to analyze field soil conditions and recommend and suggest

appropriate management options to protect soil from erosion, to recognize and

mitigate soil salinization and to restore extremely disturbed soil.

### Lecture Content: This course is offered by distance only. Therefore there are no lectures. However students will study the following topics.

1. Introduction – perspective on soil importance and types and occurrence of soil degradation in the world

2. Erosion Processes – wind, water and tillage erosion - forms, process, factors and effects

3.Measuring and Modelling - empirical vs process based models – measurement plots

USLE development, assumptions, advantages/ disadvantages

Classic wind erosion model - factors

4. Ruslefac – Revised USLE model for use in Canada – assumptions and calculation of factors (R, K, LS, C and P)

5. Preventive and Corrective Measures – Biological, Tillage and Cropping

6. Preventive and Corrective Measures – Buffer Strips

7. Preventive and Corrective Measures – Surface Drainage and Erosion

Control Structures (Grassed Waterways, Terraces, Water and Sediment Control Basins)

8. Preventive Measures for Wind Erosion and Best Management Practices

for Overall Erosion Control

9. Restoration of Degraded Soils and Saline/Sodic Soils

10. Restoration of Areas of Extreme Disturbance (Mining)

### Labs: NA

### Seminars: NA

### Course Assignments and Tests:

| **Assignment or Test** | **Due Date** | **Contribution to Final Mark (%)** | **Learning Outcomes Assessed** |
| --- | --- | --- | --- |
| Quiz 1 Multiple Choice | Thursday/Friday Week 3 | 5% | 1 |
| Written #1 | Tuesday of Week 5 | 10% | 1 |
| Quiz 2 Multiple Choice | Thursday/Friday Week 7 | 5% | 1, 2 |
| Written #2 | Monday of Week 9 | 10% | 1, 2 |
| Written #3 | Monday of Week 10 | 25% | 1, 2, 3 |
| Final Exam | As scheduled by registrar | 45% | 1, 2, 3 |

Additional Notes (if required):

### Final examination date and time: Tuesday, Dec 6 8:30 – 10:30 AM

### Final exam weighting: 45%

## Course Resources

### Required Texts:

Blanco H. and Lal R.(2010 ) ***Principles of Soil Conservation and***

***Management***, Springer, New York.

Note : This text is available online at no charge through the University Library for registered students.

### Recommended Texts: NA

### Lab Manual: NA

### Other Resources:

Other necessary readings are available online through the course website.

### Field Trips: NA

### Additional Costs: NA

## Course Policies

### Grading Policies:

Written Assignments will be marked according to the University of Guelph grade range definitions published in the Undergraduate Calendar and as listed below.

* **80 - 100 (A) Excellent:** An outstanding performance in which the student demonstrates a superior grasp of the subject matter, and an ability to go beyond the given material in a critical and constructive manner. The student demonstrates a high degree of creative and/or logical thinking, a superior ability to organize, to analyze, and to integrate ideas, and a thorough familiarity with the appropriate literature and techniques.
* **70 - 79 (B) Good:** A more than adequate performance in which the student demonstrates a thorough grasp of the subject matter, and an ability to organize and examine the material in a critical and constructive manner. The student demonstrates a good understanding of the relevant issues and a familiarity with the appropriate literature and techniques.
* **60 - 69 (C) Acceptable:** An adequate performance in which the student demonstrates a generally adequate grasp of the subject matter and a moderate ability to examine the material in a critical and constructive manner. The student displays an adequate understanding of the relevant issues, and a general familiarity with the appropriate literature and techniques.
* **50 - 59 (D) Minimally Acceptable:** A barely adequate performance in which the student demonstrates a familiarity with the subject matter, but whose attempts to examine the material in a critical and constructive manner are only partially successful. The student displays some understanding of the relevant issues, and some familiarity with the appropriate literature and techniques.
* **0 - 49 (F) Fail:** An inadequate performance.

Note: If you cannot complete an assignment by the deadline, please contact the course instructor by email for consideration. Depending on the circumstance a late penalty of 10% per day can be applied.

### Course Policy on Group Work:

### Course Policy regarding use of electronic devices and recording of lectures:

Electronic recording of classes is expressly forbidden without consent of the instructor. When recordings are permitted they are solely for the use of the authorized student and may not be reproduced, or transmitted to others, without the express written consent of the instructor.

## University Policies

### Academic Consideration:

The University of Guelph is committed to supporting students in their learning experiences and responding to their individual needs and is aware that a variety of situations or events beyond the student's control may affect academic performance. Support is provided to accommodate academic needs in the face of personal difficulties or unforeseen events in the form of Academic Consideration.

Information on regulations and procedures for Academic Consideration, Appeals and Petitions, including categories, grounds, timelines and appeals can be found in [Section VIII (Undergraduate Degree Regulations and Procedures) of the Undergraduate Calendar](https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml).

### Academic Misconduct:

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community, faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring.

University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Detailed information regarding the Academic Misconduct policy is available in [Section VIII (Undergraduate Degree Regulations and Procedures) of the Undergraduate Calendar](https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml).

### Accessibility:

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Student Accessibility Services (SAS), formerly Centre for Students with Disabilities (CSD), as soon as possible.

For more information, contact SAS at 519-824-4120 ext. 56208 or email sas@uoguelph.ca or visit the [Student Accessibility Services website (http://www.uoguelph.ca/csd/)](http://www.uoguelph.ca/csd/).

### Course Evaluation Information:

End of semester course and instructor evaluations provide students the opportunity to have their comments and opinions used as an important component in the Faculty Tenure and Promotion process, and as valuable feedback to help instructors enhance the quality of their teaching effectiveness and course delivery.

While many course evaluations are conducted in class others are now conducted online. Please refer to the [Course and Instructor Evaluation Website](https://courseeval.uoguelph.ca/) **for more information.**

### Drop period:

The drop period for single semester courses starts at the beginning of the add period and extends to the Fortieth (40th) class day of the current semester (the last date to drop a single semester courses without academic penalty) which is listed in [Section III (Schedule of Dates) of the Undergraduate Calendar](https://www.uoguelph.ca/registrar/calendars/).

The drop period for two semester courses starts at the beginning of the add period in the first semester and extends to the last day of the add period in the second semester.

Information about Dropping Courses can be found in [Section VIII (Undergraduate Degree Regulations and Procedures) of the Undergraduate Calendar](https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml).

## Additional Course Information