

# Course Outline Form: Winter 2022

## General Information

**Course Code:** ENVS 3240

**Course Title:** Creative Writing For Environmental Scientists

### **Course Description:**

Science is inherently a creative endeavour, which often gets lost in translation, and scientists are increasingly being called upon to communicate their ideas and findings to new audiences. In this innovative interdisciplinary course, we will examine texts of creative writing for the environmental science presented within, following up with reading scientific articles related to the subject matter. We will examine the role that creative writing (poetry, storytelling, essays and more) can play in creating inspiration, interest, and even rigour in scientific thinking and communication. Ultimately, the student will be able to interpret and appraise the creative process as it unfolds a scientific discovery, differentiate and apply techniques of creative writing, and interpret and discuss the fundamentals of an environmental science topic.

**Credit Weight:** 0.50

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

**Campus:** Guelph

**Semester Offering:** Winter

**Class Schedule and Location:** Tuesdays 2:30 p.m. to 5:30 p.m.

## Instructor Information

Instructor Name: Madhur Anand

Instructor Email: manand@uoguelph.ca

Instructor Phone and Extension: x56254

Office location and office hours: Bovey 2241 or online (hours by appointment)

## GTA Information (N/A)

GTA Name:

GTA Email:

GTA office location and office hours:

## **Course Content**

**Specific Learning Outcomes (critical thinking, literacy, communication, global understanding).  
The student will be able to:**

1. Interpret and criticize creative writing from across the globe and interrogate creative writing pieces for scientific content (University Learning Outcome 1,2)
2. Describe, interpret, and discuss at least one sub-discipline of environmental science through the lens of creative writing *and* primary scientific articles (University Learning Outcome 2,3)
3. Examine and assess the value of creative processes in scientific discovery and communication (University Learning Outcome 4)
4. Demonstrate the effective communication of novel ideas orally and in writing (University Learning Outcome 4)
5. Adopt new and improve existing communication and writing skills across the broad spectrum of environmental science (University Learning Outcome 4)
6. Integrate the arts (A), into traditional STEM (Science, Technology, Engineering, and Math) training (University Learning Outcome 3)

## **Lecture Content**

There are no formal lectures. We will meet once a week to discuss readings, presentations, writing and/or topics led by the instructor, and occasionally by peers. Class time will also be necessary to incorporate short real-time writing exercises led by the instructor and one-on-one instructor-student feedback. The instructor will provide assigned readings, if required, in advance of the meetings. Guest visits (subject to availability of speakers) by creative writers and/or environmental scientists may allow students first-hand interrogation during writing exercises.

Course Schedule:

### Week 1- January 11 (Course Learning Outcomes 1, 3, 5)

- a) Icebreaker and introduction to course topics & reading materials, instructor-led; What is creative writing? What are the genres used in creative scientific writing?
- b) Read together (or in breakout groups) a short piece (e.g., *from Silent Spring*, Rachel Carson and/or works by E.C. Pielou and/or Robin Wall Kimmerer) and discuss the role and power of creative writing for environmental science. Class-source interests for readings and topics to cover in the course. Class-source ideas on how to best use invitation from CFRU. Discussion of first assignment for the course: "My Silent Spring." Reading assignment: Chapters 1-8 of *Silent Spring*.

### Week 2- January 18 (Course Learning Outcomes 1, 6)

#### **Subject and sources due for Assignment 1: "My Silent Spring"**

- a) Instructor-led discussion of Reading assignment. What are the similarities and differences between scientific writing and creative writing? In class readings from E.C. Pielou or Robin Wall

Kimmerer or Lynn Quarmby or others; Discussion of first assignment for the course: “My Silent Spring.”

Next Reading Assignment: Chapters 9-17 of *Silent Spring*. Bring an “object” to next class.

Week 3- January 25 (Course Learning Outcomes 1, 2, 4, 5)

**First Assignment Due:** “My Silent Spring” (2500 word essay, CNF);

Discussion on the role of defamiliarization in creative writing. Writing exercise (in-class): Object poem. Discussion on the role of revision and in particular how to balance knowledge and discovery in writing. Homework (Assignment 2): revision of Object poem by discovering new environmental scientific knowledge about your object.

Reading assignment: selections from “A New Index for Predicting Catastrophes.”

Week 4 – February 1 (Course Learning Outcomes 1, 4, 5, 6)

**Second Assignment Due:** Present and/or submit revised object poem exercise.

Case study: Deep dive into one genre (Dr. Anand will offer poetry, but other instructors may choose others).

- a) Instructor-led readings of science-inspired poetry. What science is being communicated? How can it be done effectively in poems vs. scientific papers?
- b) Creative writing exercise in-class: Found poetry from a scientific article.

Homework: Be a curator: gather together a diverse set of readings from reputable sources (1 poem, 1 creative non-fiction, and 1 short story) on an environmental science object/subject of your choice (pick something simple like “trees” or “birds” or “rocks” or “climate change” to share with the class next class as an oral presentation. We can use class time for this, and instructor will suggest sources. Plus Assignment 3.

Week 5- February 8 (Course Learning Outcomes 1, 2, 6)

**Assignment 3 due: Submit 3 found poems from scientific articles of your choice with a 1 paragraph (250 word) comment on the process.**

**Oral Presentations:** Student-led oral-presentations of what they discovered from their readings (10 minutes each).

Homework: Start to think about ideas for your independent project and come with ideas and reading list to next class.

Week 6 – February 15 (Course Learning Outcomes 1, 2, 5, 6)

Expert's opinion: Guest Writer; Creative writing exercise: critique/questioning and response  
Discussion of independent project with each student. Homework: work on independent project reading and proposal/outline

Week 7- February 22: Reading Week (no class) –

Week 8- March 1 (Course Learning Outcomes 3, 4, 5)

Consultations (one-one) for draft independent project proposal/progress

Week 9 – March 8 (Course Learning Outcomes 1, 2, 5, 6)

**Draft Independent project due by end of class**

Week 10 – March 22 (Course Learning Outcomes 1, 2, 5, 6)

Consultations for feedback on draft independent project  
Expert's opinion —Guest Writer, Q and A.

Week 11- March 29 (Course Learning Outcomes 4, 6)

Final consultations (one-on-one) for final independent project (due in April).  
Expert's opinion —Guest Writer, Q and A.

Week 12- April 5 (Course Learning Outcomes 3, 4, 5)

- a) Instructor-led brainstorming session on venues for publishing or presenting creative scientific writing (reading assignment). Where to submit this kind of writing?
- b) Choose a venue and prepare your work to submit/present there (e.g., the Ontarion, blogs, Departmental websites, literary journal, spoken word open mic. etc.); possible podcast/readings/interview for CFRU

### **Course Assignments:**

Students will be able to choose independent projects in sub-fields of environmental science of interest to them (e.g., ecology, soil science, forestry, atmospheric science, pollution, climate change science, microbiology etc.) and develop tailored reading lists around them in consultation with the instructor. The “draft stage” will be detailed annotated outline of the project and proposed reading list which will be evaluated. The “final” project will include all the revisions and feedback given by the instructor on the draft project turned in (including additional readings to be explored/assigned).

Assignment or Test	Due Date	Contribution to Final Mark (%)	Course Learning Outcomes Assessed	University Learning Outcomes Assessed
Class participation/preparedness/reflections	Course-long	10%	1-6	1-4
Assignment 1: My Silent Spring	Jan 25 <sup>th</sup>	15%	1-6	1-4
Assignment 2: Object Poem	Feb 1 <sup>st</sup>	10%	1-6	1-4
Assignment 3: Oral Presentation	Feb 8 <sup>th</sup>	10%	1-6	1-4
Assignment 4: Found Poem	Feb 15 <sup>th</sup>	10%	1-6	1-4
Independent project (draft)	March 8 <sup>th</sup>	15%	1-6	1-4
Independent project (final)	April	30%	1-6	1-4

## Course Resources

### Required Texts:

1. *Silent Spring* by Rachel Carson (1962).
2. Various additional assigned poems, prose, essays, and scientific articles that help illuminate environmental science facts, concepts, and creative communication approaches may be used. Only those available online in full format freely will be used (many currently accessible magazines (e.g., *The New Yorker*, *The Walrus*), literary journals (e.g., *The New Quarterly*, *the Puritan*) and scientific journals (e.g., *Nature*, *Science*, *Bioscience*) will be used.

### Sample Texts for Poetry:

Anand, Madhur. *A New Index for Predicting Catastrophes*, McClelland & Stewart, 2015

Larson, K. *Radial Symmetry*. Yale University Press, 2010.

Stephanie R Januchowski-Hartley, Natalie Sopinka, Bethann G Merkle, Christina Lux, Anna

Zivian, Patrick Goff, Samantha Oester; Poetry as a Creative Practice to Enhance Engagement and Learning in Conservation Science, *BioScience*, Volume 68, Issue 11, 1 November 2018, Pages 905–911, <https://doi.org/10.1093/biosci/biy105>

### Sample Texts from Blogs:

<https://blogs.scientificamerican.com/guest-blog/from-stem-to-steam-science-and-the-arts-go-hand-in-hand/>

<http://www.theguardian.com/books/booksblog/2014/nov/06/scientists-outshine-arts-students-with-experiments-in-creative-writing>

<https://www.livewritethrive.com/2015/12/21/31-stylistic-devices-for-creative-writers/>

### **Recommended Texts:**

-Specialized reading lists/books for student independent projects in sub-disciplines of their choice (e.g., ecology, soil science, forestry, atmospheric science, pollution, climate change science, microbiology etc.), but only from those already available in the University of Guelph library.

### **Course Policies**

#### **Grading Policies:**

#### **Policy on Late Assignments:**

Failure to submit assignments on or before the due dates will incur a late penalty of **10% of the total marks per day (or part thereof)**.

#### **Course Policy on Group Work:**

Group work is only allowed when it is explicitly assigned as group work by the instructor. All other work must be done independently.

#### **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](#).

### **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](#).

### **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](mailto: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](#) 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](#).

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](#).