

## Tentative Class Schedule

Any changes will be announced in class, via email, and on Canvas.

Week	Lecture Topics and Exercises	Tasks/Due Dates
1 W 9/27	Introduction to course and “flipped” model, Canvas Orientation, Syllabus Activity <b>Scientific Method Exercise</b>	
2 M 10/2	Concept Check on recorded lecture How to earn full credit on short-answer questions <b>Graphs and Uncertainty participation worksheet</b> <b>Graphs and Uncertainty In-Class Assignment</b> Questions about PSA assignment? See links on Canvas	1. Complete TOSLS and TOSRA surveys <b>BEFORE</b> class. 2. Watch “Experimental Design and Data” recorded lecture <b>BEFORE</b> class
W	<b>We will meet in the science building, room 109</b> <b>DO NOT GO TO OUR NORMAL CLASSROOM TODAY</b> Discussion: Rubric for storyboard and PSA video <b>Making graphs in Excel (we will complete this in SCI 109)</b>	Submit your rubrics on Canvas <u>and</u> bring a copy to class
3 M 10/9	Concept Check on recorded lecture <b>Finding scholarly articles using the UWT library website</b> <b>Ecosystems and Nutrients (Part 1) participation worksheet</b> <b>Ecosystems and Nutrients In-Class Assignment</b>	Watch “Ecosystems and Nutrients (Part 1)” recorded lecture <b>BEFORE</b> class
W	<b>Quiz 1 (includes concept check for Eco &amp; Nutrients P.2)</b> Ecosystems and Nutrients (Part 2) participation worksheet <b>In-class Video: “Poisoned Waters” (0:00-12:00 &amp; 23:00-41:36)</b>	Watch “Ecosystems and Nutrients (Part 2)” recorded lecture <b>BEFORE</b> class
4 M 10/16	<b>Field Trip #1 Central Wastewater Treatment Plant</b>	Dress appropriately and bring a notebook and pencil
W	Concept check on recorded lecture <b>Pollution participation worksheet</b> <b>Pollution In-Class Assignment</b> CSE Format Exercise Game plan for research project (how to write a field report)	Watch “Pollution” recorded lecture <b>BEFORE</b> class
5 M 10/23	<b>Research Project: Sampling for plastics at Thea’s Beach</b>	<b>Bring a pencil, camera, and a notebook</b>
W	Today’s class will be in <b>TPS 209</b> <b>Lab Work: Quantify plastics</b> , Compile data from both beaches, How to write a results and conclusions section	<b>Bring a laptop if you have one</b> <b>Field Report Due at beginning of class</b>

6	M 10/30	Critique of beach plastics experiment Review for Exam 1 Use rubrics to grade PSA from youtube <b>In-class Video:</b> Finish "Poisoned Waters" (41:36-123:22)	Lab Report Due at beginning of class
	W	<b>Exam 1</b>	
7	M 11/6	Storyboards and comments from peers	Bring your storyboard to class
	W	Concept check on recorded lecture Stormwater (Part 1) participation worksheet Stormwater (Part 1) In-Class Assignment Time with your PSA group members	Watch "Stormwater (Part 1)" recorded lecture <b>BEFORE</b> class
8	M 11/13	Concept check on recorded lecture Stormwater (Part 2) participation worksheet Review for Exam 2	Watch "Stormwater (Part 2)" recorded lecture <b>BEFORE</b> class
	W	<b>Field trip – LID &amp; stormwater at Center for Urban Waters</b>	Call to Act assignment due on Canvas Dress appropriately and bring a notebook and pencil
9	M 11/20	<b>Exam 2</b>	
	W	"Water Undone" (DVD and worksheet)	
10	M 11/27	Concept check on recorded lecture Habitat Alterations (Part 1) participation worksheet Habitat Alterations (Part 1) In-Class Assignment	Watch "Habitat Alterations (Part 1)" recorded lecture <b>BEFORE</b> class
	W	Concept check on recorded lecture Habitat Alterations (Part 2) participation worksheet Habitat Alterations (Part 2) In-Class Assignment Game plan for next week	Watch "Habitat Alterations (Part 2)" recorded lecture <b>BEFORE</b> class
11	M 12/4	View all PSAs in class (Meet in <b>SCI 109</b> ) Group discussion on Authentic Research Experience Course Evaluations	Submit your PSA on Canvas (1 submission per group) You will need to access your PSA so we can view it in class
	W	Practice final exam Q & A Review for Comprehensive Final	Complete TOSRA and TOSLS post-surveys <b>BEFORE</b> class
12		<b>MONDAY December 11 - Comprehensive Final</b>	<b>Normal time and location</b>

**TCORE 102**

**Where the water meets the road:  
Examining the environmental impacts of urbanization on aquatic ecosystems**

Lecturer: Erik McDonald

Class Time and Location	M, W 1:30-3:35pm in <b>BHS 104</b>	
Office Hours (or by appointment)	M, W 12:15-1:15pm Office Location: Keystone 206	
Contact	<a href="mailto:emcdonal@uw.edu">emcdonal@uw.edu</a>	(253)692-4667

Science Librarians: Katie Monks

**COURSE DESCRIPTION**

How do our actions impact aquatic organisms living in the Puget Sound region? The human population is currently growing at a rapid rate, and a greater proportion of that population is choosing to live in urban areas. This, in turn, magnifies the stresses imposed on aquatic organisms in adjacent water bodies. Lectures will focus on these issues as well as some exciting sustainable development practices occurring in our region. To gain a global perspective, you and your peers will explore relevant issues that are currently occurring in urban centers outside the United States.

**CORE**

The Core program consists of a coordinated series of courses that represent the various disciplines in the university. This course, along with the others in your cohort, fulfills one of the university's general education requirements in each of the areas of knowledge plus composition. The courses are designed to both support and challenge you to develop the critical thinking, writing, research, and analytical skills you'll need at UWT while introducing you to relevant topics in the social sciences, humanities, and sciences.

**STUDENT LEARNING OBJECTIVES**

*ABILITY TO APPLY THE PROCESS OF SCIENCE*

- Understand science is evidence based and grounded in the formal practices of observation, experimentation, and hypothesis testing
- Understand and apply basic principles in experimental design
- Identify problem-specific methodologies
- Gain hands-on experience collecting data to draw conclusions
  - Observations and procedures– importance of documentation
- Evaluate scientific information and the methods used to generate the information

*ABILITY TO USE QUANTITATIVE REASONING*

- Understand that mathematics underpins science
- Generate and interpret tables and graphs

### *ABILITY TO UNDERSTAND THE RELATIONSHIP BETWEEN SCIENCE, MATH AND SOCIETY*

- Understand science/math as a human endeavor in which all people can participate
- Understand how societal issues influence the direction of science and math
- Understand how science and math influence our everyday lives
- Build a sense of civic responsibility

### *COMMUNICATION/SELF EXPRESSION*

- Formulate an original thesis-driven argument and sustain it in both written and verbal communication.
- Express ideas clearly in writing and speaking in order to synthesize and evaluate information before presenting it.
- Identify, analyze, and summarize/represent the key elements of a text.

### *GLOBAL PERSPECTIVE*

- Think outside of cultural norms and values, including their own perspectives, to critically engage the larger world.

### **COURSE SITE**

We will use Canvas (<https://uw.instructure.com>) as our online course management system. Your instructor will post PowerPoint slides (as a .pdf), recorded lectures, readings, assignment descriptions and drop boxes, helpful links, etc. to the course site. In many instances, you will be asked to **submit assignments for grading through our Canvas site**. Click on the help link in Canvas if you need assistance.

### **TEXTBOOK**

This class does not have a required textbook. All required readings are posted on Canvas.

### **COURSE REQUIREMENTS**

#### *Lectures – using a flipped design*

We are using a “flipped” model in this course. What this means is that you will watch a recorded lecture before class and complete critical thinking questions as a group during class. Class time will also be used to work on in-class assignments, thus you will have the opportunity to get immediate help if any questions arise. This is not usually an option in classes that follow a more traditional lecture model (i.e., more assignments completed as “homework”). *I strongly recommend that you bring your textbook, notes, a laptop, and earbuds to class in case you need to re-watch part of the recorded lecture (You can borrow a laptop from WG 108) while completing in-class exercises.* Having 24/7 access to recorded lectures allows you to re-watch portions of lectures (or entire lectures), makes note taking much easier since you can pause the recording at any time, and allows you to watch lectures at your own pace (i.e., watch 20 minutes now and 15 minutes after work).

#### **FAQ: “I am watching a lecture at home AND coming to class. Doesn’t that double my work load?”**

No - You will not be asked to do as much homework since you will be completing many of those assignments during class. In addition, recorded lectures will be *much shorter* than our class period.

#### *Concept Checks*

The flipped model only works if you watch the recorded lecture before coming to class on that date. To encourage adequate preparation, we will begin class with a Concept Check related to the content covered in the respective recorded lecture. A Concept Check (CC) is a brief assessment (~ 5 questions) that is based on the recorded lecture that you were assigned. Be aware that I will not answer lecture content questions in class before the CC. Do you have questions about the lecture content that you would like answered before taking the CC? If so, you should stop by my office before class or send me an email

with your questions at least 12 hours before the CC. Those who arrive **after 1:30pm** will not have the opportunity to take that day's CC, so please arrive on time. Students cannot make up a missed CC; however, I will drop your lowest CC score (a zero in this case).

### *Assignments*

Read each assignment description *well before* the due date and ask your instructor for clarification if needed (this does not apply to in-class assignments). Assignments are to be completed individually, unless otherwise stated. Your instructor may not be able to access certain formats on Canvas, thus electronic submissions must be .doc, .docx, or .pdf. Graded assignments cannot be redone for a grade increase. Review the first two pages of this document for due dates/times.

Did you know that you and other UW students can get a **FREE subscription to Microsoft Office 365**? Visit <https://www.washington.edu/itconnect/wares/uware/microsoft/microsoft-office-365-proplus/>

### *Exams and Quiz*

The exams and quiz will cover lectures, field trips/field work, and in-class assignments. I expect your answers to include as much detail as was provided in those lectures. Each exam/quiz may include multiple choice, matching, fill-in-the-blank and short answer/essay questions. See the first three pages of the syllabus for exam/quiz dates and content. It is expected that you spend at least two hours studying *per one hour of class* in preparation for exams. We have four hours and ten minutes of class each week, which means that you should plan to study at least eight hours and twenty minutes each week.

Use the restroom before class, especially on exam/quiz days. If you have to leave during an exam or quiz, you will need to turn in your work without the opportunity to finish upon return. The use of electronic devices is strictly prohibited during exams without DSS documentation. **There will be no make-up quizzes or exams.** If you are absent on any of the quiz or exam dates due to sickness or other verifiable grave circumstances, the weight of your final exam will be increased proportionately. *You must notify your instructor before the quiz or exam starts to be eligible for this option.*

### *Authentic Research Experience*

As an introduction to science course, it is critical for you to experience the scientific process rather than just hearing about it. We will conduct an experiment that looks at the quantity of mega-, macro- and microplastics at two different beaches in Tacoma. A detailed description of this assignment can be found on Canvas.

### *Public Service Announcement*

You and one or two of your peers will create a Public Service Announcement (PSA) that highlights an environmental concern in a city outside the United States. You get to choose the location and environmental issue! The only major criterion is that the environmental issue poses a direct threat to the health of **aquatic ecosystems** in/near that city. UWT staff will help you learn how to film and edit your video, so no technical knowledge is required (see <http://www.tacoma.uw.edu/information-technology/multimedia-and-video-production>).

A detailed description of the PSA assignment can be found on Canvas.

### *Pre/Post Surveys*

You will complete two surveys at the beginning (pre-) and end (post-) of the quarter. These surveys will be used to help science faculty assess:

- how this class impacts your science-related assumptions (TOSRA)
- how this class impacts your scientific literacy skills (TOSLS)

### *Group Work*

Group work is to be equally distributed among the members of your group. Please inform your instructor if a group member is not doing his/her share of the work and you have tried unsuccessfully to resolve the issue. You are still responsible for turning in a complete PSA even if one or more of your group members drops the class or fails to participate. Those who do not contribute will receive a score of zero for that assignment.

### *Late Work*

Deadlines, unless otherwise stated, are at the **beginning of class** on the due date. If you turn in the assigned material after class starts, then it will be considered late. Any late assignment will receive a **deduction of 10% for each 24-hour period** that it is late. The assignment will not be graded after the fifth day.

### *Field Trips/Field Work*

Field trips and field work (our research project) provide an opportunity for you to connect lecture topics with 'real-world' issues through experiential learning. Please show up on time and come prepared (warm clothes, NO OPEN TOED SHOES OR SANDALS, rain gear, pencil, paper, know what we are doing, etc.). Those who are not prepared may lose the opportunity to attend the field trip/field work. You will be tested on information presented during these activities, so make sure to take good notes.

### *Participation*

Class participation is critical and expected. Contribute to the learning atmosphere, ask/answer questions, engage in and complete group worksheets\*, doing your share of the group work, and come prepared. Preparation includes having done any assigned readings, watched assigned lectures, and having a positive attitude. See the participation rubric on Canvas for a detailed description of your participation grade.

\* To receive full credit for your in-class worksheets, you must:

1. work collaboratively with your group,
2. open the worksheet answers document on Canvas and modify your answers (if needed) **using a different color of ink**,
3. note topics that you are still struggling with (or those that you think other students are finding difficult),
4. turn in the worksheet at the beginning of the next class period.

### *Extra Credit (Optional)*

Participate in at least 4 hours of volunteer-work on a habitat restoration project or other approved activity, have someone take a picture of you at the event, and write a two to three page paper (double-spaced, Times New Roman font, 1 inch margins) about your experience. In return, you will receive **up to a 1% increase in your overall grade**. Your paper should explain what the project was, who sponsored/organized the project, and what the broad goals were for the project. Your paper should also include a reflection on your experience (What did you take away from this experience? How does your volunteer experience relate to the material presented in this course?). This paper must be turned in by the last class meeting before the final exam. No exceptions will be made regarding the due date. See the "Volunteer Opportunities" link on Canvas for some possible events.

## GRADING

	<u>Weight</u>
Exams	42%
Quiz 1	5%
Concept Checks on info in recorded lectures	8%
<b>In-Class Assignments:</b>	
Graphs and Uncertainty	1%
Ecosystems and Nutrients	1%
Pollution	1%
Stormwater	1%
Habitat Alterations	1%
Pre/Post TOSRA and TOSLS surveys	1%

## **Authentic Research Experience:**

Field Report	7%
Lab Report	7%

## **Public Service Announcement:**

Creating a rubric	0.5%
Storyboard	5%
Call to Act Assignment	0.5%
PSA Video	14%
Participation	5%

Grades for the class will be based on the summed percentage for all assignments and assessments combined, according to the following breakdown:

4.0	≥95%	3.0	85 %	2.0	75 %	1.0	65 %
3.9	94 %	2.9	84 %	1.9	74 %	0.9	64 %
3.8	93 %	2.8	83 %	1.8	73 %	0.8	63 %
3.7	92 %	2.7	82 %	1.7	72 %	0.7	60-62 %
3.6	91 %	2.6	81 %	1.6	71 %	0.6	<60 %
3.5	90 %	2.5	80 %	1.5	70 %		
3.4	89%	2.4	79 %	1.4	69 %		
3.3	88 %	2.3	78 %	1.3	68 %		
3.2	87 %	2.2	77 %	1.2	67 %		
3.1	86 %	2.1	76 %	1.1	66 %		

**You must earn at least 60% of the points to pass this course.**

### *Civility in the Classroom*

All classes and activities on the UWT campus are about learning, which often involves the exchange of ideas. However, the tone and intention behind that exchange are important. Civility, politeness, reasonableness, and willingness to listen to others are expected at all times – even when passions run high. Behaviors must support learning, understanding, and scholarship.

## **CAMPUS RESOURCES AND OTHER INFORMATION**

You can find information on the following at <http://www.tacoma.uw.edu/faculty-assembly/syllabi-service-statements>

- **Student Support (writing, quantitative skills, technology, etc.)**
- **Library information**
- **Email Policy**
- **Academic Honesty**
- **Disability Support Services**
- **Campus Safety**
- **Inclement Weather**
- **Technology**