

First-Year Seminar Proposal 2019-2020

1. Course Department: Geology & Environmental Geosciences

2. Faculty Member: Dr. Barbara Beckingham

3. First Year Seminar Title: Swimming in plastic soup

(Note: Consider your audience of incoming first-year students and select a creative title)

4. Semester Offered: Fall '19 X Spring '20

At the current time, I am open to this course being offered in either Fall '19 or Spring '20 semester, but would prefer Fall '19.

Signature of Faculty Member

 Barbara Beckingham Date: 10-19-18

Signature of Department Chair/ Program Director

 J. Hall Date: 10/19/18

5. Course Description (Please limit to 120 words):

Note: This description will be used in the online FYE course listings (keep students in mind). FYE Committee will also review this description.

Today, we are swimming in plastic soup. From reports of microscopic plastic particles in bottled drinking water and biomarkers of plastic exposure in human tissues, to entanglement of turtles and dolphins in marine debris, and clogging of urban waterways with litter, the symptoms of our plastic society are being felt in ways that may impact the future of ecological and human health. What is plastic, and how did it get in the soup?! This sustainability-focused* course will explore the invent of our plastic world and analyze it's sustainability into the future, highlighting creative economic, socio-political, and environmental solutions to this local and global issue.

* A proposal is also submitted to include this offering as a sustainability-focused course under the QEP.

6. Suggested Peer Facilitator(s)?

- Please nominate a student(s) you believe will be a good role model for students in your FYE course. Nominees must be undergraduates in good academic standing.
- If you are teaching in the Fall, we will need a nominee by November 15th. If you are teaching in the Spring, we will need a nominee by March 15th.

Can be provided at a later date.

7. How will you address FYE Learning Outcomes in your seminar?

The Synthesis Seminar, taught by a Peer Facilitator, will address and assess the first Learning Objective. First-Year Seminar courses are expected to incorporate aspects of Learning Objectives 2 and 3 as they relate to the particular discipline(s) that the seminar focuses on. *Beneath each Learning Objective, please provide information that indicates how these outcomes will specifically be addressed in the course, including the type of assignments that may be used and how these assignments will be assessed.* While a syllabus is not required for the proposal, a detailed description will greatly assist the Faculty review committee.

Learning Objective 1: Campus Resources

By the completion of their First-Year Experience course, a student will be able to...

- *Identify and use the appropriate academic resources and student support services at College of Charleston. These would include the library, information technology, the Center for Student Learning, the Career Center, and other appropriate academic resources, student support services, and cultural resources;*

Learning Objective 2: Information Literacy

By the completion of their First-Year Experience course, a student will be able to...

- *use appropriate tools and search strategies for identifying particular types of information specific to the discipline*
- *evaluate the relevance, quality, and appropriateness of different sources of information*
- *recognize and classify the information contained within a bibliographic citation.*
- *access and use information ethically and legally*

How will Learning Objective 2 be addressed in your course?

Students will be gain experience searching for information, recognizing different types and qualities of sources, and using that information ethically and legally through a scaffolded research assignment on a plastic-themed topic over the course of the semester. These will be individual projects, not group assignments, so that each student will demonstrate their own level of mastery of these skills.

Learning Objective 3: Integrative Learning

Faculty will use writing, speech, or media in innovative ways to achieve integrative learning by students. By the completion of their First-Year Experience course, a student will be able to...

- *Use appropriate critical thinking skills and problem-solving techniques in appropriate disciplinary contexts*
- *Make connections across disciplines and/or relevant experiences*

How will Learning Objective 3 be addressed in your course?

This course is envisioned as experiential. Peer-reviewed literature, TED talks, and infographic media will be used to supplement course lectures in demonstrating both ideas/knowledge and strategies used for communicating with different audiences. Students will learn by example and through practice about the importance of considering their intended audience when writing or communicating information. I plan to invite guest lecturers from various departments across campus (e.g. Biology, Business, Political Science) to share how their discipline intersects with or addresses the issue of plastic in society, which will introduce first-year students to majors at the College of Charleston and to interdisciplinary thinking. Students will also be introduced to the role of on-campus initiatives (e.g. Office of Sustainability, Zero Waste) and community organizations (e.g. SC Aquarium, Keep Charleston Beautiful, Charleston Waterkeeper, Surfrider Foundation) in advocacy and change-making. Funds will be requested to support materials for a local site for clean-up, if necessary, and a visit to a local solid waste management facility.

In one assignment, students will meet with a local organization (i.e. Charleston Waterkeeper) who routinely organizes environmental clean-ups of litter. They will learn about that organization's mission, and then actively participate in a street or marsh sweep. The students will utilize new digital media in the form of a citizen science Smart-phone application (produced by the SC Aquarium) to log their litter finds as data with quantitative and qualitative characteristics. Students will then be guided in an analysis of their data. Assessment will take the form of students demonstrating their critical thinking skills and making connections to academic and personal experience through reporting of this information in different forms of communication: scientific reporting, infographics, and story-telling.

8. Please provide a list of 3-5 books and readings that would be appropriate for first-year students that you may use in your course. *Briefly, describe the reasoning for your choices.*

- Freinkel, S. (2011). *Plastic: A toxic love story*. Boston: Houghton Mifflin Harcourt. 327 p.
This book is written by a journalist in approachable style. It recounts how plastic built the modern world, to produce both benefits and negative (unintended) consequences. From the book jacket description: "*Plastic* points the way toward a new creative partnership with the material we love to hate but can't seem to live without." (Available in Hardcover for ~\$16, and through Kindle or other e-readers)
- World Economic Forum (2016). *The New Plastics Economy: Rethinking the future of plastics.*

36 p. http://www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf.

This reading will be a key source for how to apply systems thinking. It describes the role that plastics currently play in the economy, introduces the circular economy, and describes innovations towards realizing the goals of sustainability.

- Geyer et al 2017. "Production, use, and fate of all plastics ever made." *Science Advances* 3:7. DOI: 10.1126/sciadv.1700782. <http://advances.sciencemag.org/content/3/7/e1700782>. This reading presents a scientific analysis of the sources and flows of plastic, demonstrating clearly issues of scale and governance. It also introduces students to simple conceptual and mathematical models and how assumptions are used in models.

9. Please describe what types of writing assignments (general or discipline-specific) might be incorporated into your course. We would encourage you to incorporate a variety of writing assignments into your courses. If you are planning to assign a larger research paper for the end of the course, we recommend scaffolding in pieces of the assignment throughout the semester. *Please indicate how these assignments would connect with your course material.*

Students will gain experience with different forms of writing (general and discipline-specific) in this course.

Journaling: Personal observations and reflections about the plastic in their daily lives ("plastic footprint"), their recycling behaviors and availability of facilities, and how they feel about the connections they're making between behaviors and impacts, will be written in low-stakes journal entries through the semester. Some of these journal entries will be used to generate ideas that are connected to higher-stakes writing assignments.

Reporting: Students will be tasked with synthesizing data and information in different formats intended for different audiences/players in the "plastic problem": scientific audience, public audience, and peer-audience. Reporting following an experiential data collection is described under *Student Learning Objective 3*. A scaffolded plastic-themed research paper will also address *Student Learning Objective 2*.
