

**Tentative Syllabus, subject to change based on speaker availability, scheduling of symposium, availability of boat/ laboratory, etc.:**

**Spring 2017, Sustainability Practicum**

Friday, 1<sup>st</sup> and 2<sup>nd</sup> period, 9:15 to 12:15, Hickman Hall, Room 206

Instructor: Dr. Jill Lipoti, Contact: [jal226@sebs.rutgers.edu](mailto:jal226@sebs.rutgers.edu), Office hours by appointment.

**Building a Culture for Sustainability**, Jeana Wirtenberg, 2014

State of the Science, White Paper, A Summary of Literature on the Chemical Toxicity of Plastics Pollution to Aquatic Life and Aquatic-Dependent Wildlife

<https://www.epa.gov/sites/production/files/2016-12/documents/plastics-aquatic-life-report.pdf>

Supplemented with articles, youtube videos, and other texts.

**Learning objectives:**

- 1) Engage students to effectively organize and lead others in a diverse group
- 2) Demonstrate effective communication and use language to advance a culture of sustainability at Rutgers
- 3) Demonstrate information literacy (collect and critically analyze data)
- 4) Demonstrate systems thinking (deconstruct problem into components and show connections)
- 5) Understand the significance of a local action to a global perspective

**Grading schema:**

Total points for written assignments: 40

- Other university sustainability programs: 10
- Rotating assignment: Creation of a culture of sustainability in business: 5
- List of references, plan of action: 10
- Field investigation protocol: 10
- Poster draft: 5

Points for participating in the RU Sustainable Symposium: 10

Points for writing up recommendations for next year's symposium: 10

Final paper (5-10 pages): 20 points

Final presentation (15 minutes with 5 minutes for questions): 20 points

All students will be required to complete the human subject certification course (CITI; <https://orra.rutgers.edu/citi>). This will allow the research results to be shared at a poster at the RU Sustainable Symposium.

**All students will choose a project. There are a limited number of spots for each group; sign-ups will take place at the beginning of class on January 28.**

Projects include:

- 1) Observational and survey study of use of plastic bags in food shopping.
  - Jeff Bridges Youtube:  
<https://www.youtube.com/watch?v=9zmvqIkIM-A>
  - Midway plastic island: <http://www.cnn.com/interactive/2016/12/world/midway-plastic-island/>
  
- 2) Field study, media study and survey of presence/awareness of microfibers in water sources.
  - <http://rozaliaproject.org/stop-microfiber-pollution/>
  - [https://www.washingtonpost.com/national/health-science/are-synthetic-fleece-and-other-types-of-clothing-harming-our-water/2016/10/28/eb35f6ac-752e-11e6-be4f-3f42f2e5a49e\\_story.html?utm\\_term=.862c8a7cf49d](https://www.washingtonpost.com/national/health-science/are-synthetic-fleece-and-other-types-of-clothing-harming-our-water/2016/10/28/eb35f6ac-752e-11e6-be4f-3f42f2e5a49e_story.html?utm_term=.862c8a7cf49d)
  - <http://www.sciencemag.org/news/2011/10/laundry-lint-pollutes-worlds-oceans>
  
  - A) Field trip to Passaic River with Beth Ravit to collect samples and look for microfibers
  - <http://www.nytimes.com/2016/02/19/nyregion/-nyregion-00plastic-beads-water-pollution.html? r=0>
  
  - B) Field trip down the Raritan collecting samples to look for microfibers
  
  - C) Investigation of microfiber “catchers” to prevent microfibers from going into the sewage treatment system (and passing through to the river)
  - <http://www.plasticsouplab.org/prominent-projects/washing-machine-filter-for-plastic-fibres/>
  - 
  - D) Collection of samples from Passion Puddle for comparison with other microfiber samples
  
- 3) Assessment and awareness of rain gardens on Rutgers campus.
  - [http://water.rutgers.edu/Rain\\_Gardens/RGWebsite/raingardens.html](http://water.rutgers.edu/Rain_Gardens/RGWebsite/raingardens.html)
  - <http://njaes.rutgers.edu/environment/raingarden-manual.asp>
  
- 4) Trash free waters (survey, action steps)
  - <https://www.epa.gov/trash-free-waters/marine-debris-and-plastic-source-reduction-toolkit>

- Begin with the survey of where litter accumulates and what it consists of and how “throw-away” containers might be minimized
  - Bring in Joe Charrette – have him discuss his thinking on “take-out” from the cafeterias, and how it might be altered to use less plastic
  - Research the success/ failure of various municipal efforts to ban Styrofoam
- 5) Investigate presence of plastic byproducts in fish tissue and in human tissue. Discuss public health implications. Are there any regulations?
- <http://www.nature.com/articles/srep03263>
  - <http://pubs.acs.org/doi/abs/10.1021/es3027105?src=recsys&journalCode=esthag>
  - <http://www.smithsonianmag.com/science-nature/how-plastic-pollution-can-carry-flame-retardants-into-your-sushi-180947797/>

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### **January 20, 2017 Week 1: Team building**

Team building exercise – Leadership Compass

Have class discuss their strengths and weaknesses and how they hope to advance their own path to sustainability through the practicum

Explore the possible projects and answer questions so that students can make an informed choice by January 27.

Discuss the Sustainability symposium and how to engage student leaders

Identify areas where an enhanced effort could push the sustainability agenda forward

How do we build a culture for sustainability at a university?

**Assignment (10 points):** Each student will choose a university with an established sustainability program. Describe the highlights. How do they measure their progress? Have they adopted any new initiatives recently? Are there lessons that could be learned for Rutgers? Are all of the SDG's represented? Is art/ music included?

**Rotating Assignment (5 points)** – Borrow the Wirtenberg book and take one of the Industry examples – outline for the class how that industry built a culture of sustainability

**January 27, 2017 Week 2:**

**Students will identify which project they wish to pursue – groups will form**

**Students to discuss policy implications of their projects. Julie Serrano’s role in bridging Mary Nucci’s class and this class.**

**Student 1 will discuss Alcatel-Lucent – pass the book to Student 2**

Lessons learned for building a culture of sustainability in a business

**Each student will discuss their findings from other universities**

What does it mean to have a “Culture of Sustainability”?

**Assignment: Students should work together to outline their approach to the projects – what resources do they need? What experts would they like to consult? What is the tentative timeline?**

**February 3, 2017 Week 3:**

**Student 2 will discuss Alcoa – pass the book to Student 3**

Students will have time in class to work as a group on their projects.

First guest speaker –

Assignment: Students should complete CITI training and submit their proposal to the IRB for approval.

**February 10, 2017, Week 4**

**Student 3 to discuss BASF – pass the book to Student 4**

**Second guest speaker**

Student projects should be underway.

**Assignment: 10 points Students should have developed their list of references, experts, and a plan of action.** They should be considering how the work will be divided and how they will share information.

**February 17, 2017 Week 5:**

**Student 4 will discuss Bureau Veritas – pass the book to Student 5**

**Third guest speaker**

**Student project work.**

**February 24, 2017 Week 6:**

**Student 5 will discuss Church and Dwight – pass the book to Student 6**

**Student project work – should finalize plans for field investigations**

**Assignment: 10 points: Field Investigation protocol**

**March 3, 2017 Week 7:**

**Student 6 will discuss Ingersoll Rand – pass the book to Student 7**

Possible first field work – boat on Passaic River or observational surveys

**March 10, 2017 Week 8:**

**Student 7 will discuss Pfizer – pass the book to Student 8**

Class to work on posters for RU Sustainable

**Assignment: (5 points) Draft poster completed**

**March 12-19, 2017 (Spring Break)**

**March 24, 2017 Week 9**

**Student 8 will discuss Sanofi – pass the book to Student 9**

**Possible field work**

**Assignment: final poster**

**March 31, 2017 Week 10 – RU Sustainable Symposium**

Students get 10 points for their participation in the Symposium

**April 7, 2017, Week 11 –**

**Student 9 will discuss Wyndham Worldwide – return book.**

Hotwash for Symposium – what went well, what should be changed for next time

Students to discuss recommendations for next year's symposium

Assignment: (10 points) Each student should write their evaluation of the effectiveness of the symposium. They should provide a cogent statement of concrete steps that Rutgers should take to advance a culture of sustainability throughout the university.

**April 14, 2016 Week 12**

**Students present their individual plans for making RU more sustainable**

Discussion of RU Sustainable Symposium – is there an opportunity for gathering information or disseminating information? Do we want to conduct an informal anonymous survey of student's prior knowledge about sustainability and their ranking on how important it is to teach in early grades?

**April 21, 2017 Week 13**

**Students meet and discuss progress on final paper/ presentation.**

**April 25, 2017 – opportunity for extra credit for attending Dr. Nucci's class presentations.**

**April 28, 2017 Week 14:**

**Final project due**

**Each student to make a 10 minute presentation with 5 minutes for questions about their project, and hand in a 5-10 page paper with at least 5 references.**

No final exam.