INLS 490-089 Information for a Sustainable World (1.5 credits)

Fridays 10:00-11:15

304 Manning Hall

Professor Gary Marchionini gary@ils.unc.edu 919.962.8363

Course Description

This special course is offered to well-prepared undergraduate and graduate students who want to understand how to gather and organize information resources related to natural resources and how such information can influence behaviors. In this seminar we will focus on how Jordan Lake is the nexus of a water-food-energy resource for our region. This will include the tributaries and land around the lake and how the long-term sustainability of the region can benefit by leveraging good information to change human and enterprise behaviors toward more economical and environment-friendly patterns. The course is project based and will identify and aggregate best practices, tools, techniques, simulations/games and other materials that inform 'smart community' actions. The seminar will include field trips to meet with stakeholders and will culminate in information 'packages' that aim to inform people about how behaviors influence the local water-food-energy nexus.

Learning Objectives:

1. Students will understand issues that underlie changes in attitudes and behavior.
2. Students will be able to discuss factors that influence water quality in a natural watershed that has been altered by human engineering to facilitate economic growth and improve human health and quality of life.
3. Students will be prepared to organize and present concepts, issues, and procedures related to water management and tailor these presentations to specific segments of the public.

Schedule

**Friday August 26.**

Course overview and participant introductions

Discussion:

What influences our attitudes? What influences our behavior? What models exist to influence attitudes and behaviors? How can information help or hinder? Does the form of information matter?

Assignments:

View: The Future of Water: Dr. Kalanithy Vairavamoorthy at TEDxUSF <https://www.youtube.com/watch?v=-ZzSx_43ueU>

Examine: Jordan Dam website <http://epec.saw.usace.army.mil/jord.htm>

Read: The World Bank. Theories of Behavior Change. <http://siteresources.worldbank.org/EXTGOVACC/Resources/BehaviorChangeweb.pdf>

**Friday September 2**.

Field Trip to Jordan Lake and Jordan Dam

Leave SILS 10:00, return 1:00

Assignments:

Post to Sakai forum: What are some positive water management behaviors? Include at least three personal (an individual person can do) and three group (an organization or community) behaviors.

Read Noar, S., Benac, C., and Harris, M. (2007). Does tailoring matter? A meta-analytic review of tailored print health behavior change interventions. *Psychological Bulletin*, 133(4), 673-693. [http://pham315.pbworks.com/f/Noar+et+al+2007.pdf](http://pham315.pbworks.com/f/Noar%2Bet%2Bal%2B2007.pdf)

Scan Clean Jordan Lake <http://cleanjordanlake.org/>

**Friday September 9**.

Discussion: What are the elements of behavior change (World Bank reading)? What does the research say for changing health behavior? Is it effective to tailor information to specific groups (Noar et al.)? How do these elements and results apply to water management?

Brainstorm term project ideas.

Assignments:

Post to Sakai: Give an example of how learning about an issue/topic influenced your attitudes or behavior related to that issue/topic.

Scan Jordan Lake Rules <http://portal.ncdenr.org/web/jordanlake>;

Read Jordan Lake Nutrient Management Strategy Fact Sheet <http://portal.ncdenr.org/c/document_library/get_file?uuid=fd6c684b-2c8e-4617-a890-551ad77cd680&groupId=235275>

Scan Haw River Assembly <http://hawriver.org/river-issues/>

**Friday September 16**.

Guest discussion: Elaine Chiosso, Haw Rivermaster and Director of Haw River Assembly

Assignments:

Read Larsen, T., Hoffmann, S., Luthi, C., Truffer, B., & Mauer, M. (2016). Emerging solutions to the water challenges of an urbanizing world. Science, 352(6288), May 20, 2016. 928-933. <http://science.sciencemag.org/content/352/6288/928>

**Friday September 23**.

Discussion: What can individuals do to better manage water resources? What can the public sector do to better manage water resources? What can the private sector do? What are the key competing interests than inhibit better water management?

Assignments:

Read: Brown, D. (2010). Eight principles of information architecture. Bulletin of the American Society for Information and Technology 36(6), 30-34. <https://www.asis.org/Bulletin/Aug-10/AugSep10_Brown.pdf>

Post to Sakai: Agree or Disagree? Individuals changing their water management behaviors will have more impact on water quality in Jordan Lake than new technologies.

**Friday September 30.**

Information Architecture overview. Consider the Jordan Lake Visitor Center exhibits as highly crafted information exhibits: Do they change attitudes? Behavior? For whom? What are the limitations? What kinds of extensions and outreach are possible?

Assignments:

Project Commitment (post to Sakai)

View UNC Institute for the Environment Climate Stories (view any two of your choice) <http://climatestoriesnc.org/>

View EPA EnviroAtlas <https://www.epa.gov/enviroatlas>

**Friday October 7**.

Interactive Information Experiences. What can we do to make information consumption more multimodal? More experiential? More accessible? More impactful?

Assignments:

Scan environmental games: EPA Learning and Teaching about the Environment (K-9). <https://www.epa.gov/students/games-quizzes-and-more>

Ecogamer games for all ages <http://ecogamer.org/environmental-games>

**Friday October 14**. No class

Assignments:

Work on Project

**Friday October 21**. Fall Break

**Friday October** 28 No class

Assignments:

Work on Project

Post to Sakai: Short summary of project progress

**Friday November 4.** Text, Images, Sound, Videos, Websites, Games/Simulations: the roles of motivation, attention, content, and design. What are the pros and cons of each? What difference does audience make?

**Friday November 11**. Guest discussion: TBA. Water-Food-Air and Smart Communities Group meetings

**Friday November 18**. No Class

Assignments:

Work on Project

Assignments:

Post to Sakai: update on project

**Friday November 25**. Thanksgiving break

**Friday December 2**. Project Presentations

Grading

Assignments: Readings, viewings, and discussion participation (in class and online). 40% of grade

Term Project. Architect and prototype an information presentation that: a) targets a specific group; b) presents accurate and usable information tailored to that group. The project presentation will serve in lieu of a final exam. 60%

Course Resources

The Future of Water: Dr. Kalanithy Vairavamoorthy at TEDxUSF <https://www.youtube.com/watch?v=-ZzSx_43ueU>

Brown, D. (2010). Eight principles of information architecture. Bulletin of the American Society for Information and Technology 36(6), 30-34. <https://www.asis.org/Bulletin/Aug-10/AugSep10_Brown.pdf>

Landon, A., Kyle, G., & Kaiser, R. (2016). Predicting compliance with an information-based residential outdoor water conservation program. *Journal of Hydrology*, 536(2016), 26-36.

<http://www.sciencedirect.com/science/article/pii/S0022169416300580>

Larsen, T., Hoffmann, S., Luthi, C., Truffer, B., & Mauer, M. (2016). Emerging solutions to the water challenges of an urbanizing world. Science, 352(6288), May 20, 2016. 928-933. <http://science.sciencemag.org/content/352/6288/928>

Noar, S., Benac, C., and Harris, M. (2007). Does tailoring matter? A meta-analytic review of tailored print health behavior change interventions. *Psychological Bulletin*, 133(4), 673-693. [http://pham315.pbworks.com/f/Noar+et+al+2007.pdf](http://pham315.pbworks.com/f/Noar%2Bet%2Bal%2B2007.pdf)

Rosenfeld, L., Morville, P., & Arango, J. (2015). *Information architecture for the Web and beyond* (4th Ed). Sebastapol, CA: O’Reilly.

Stern, P. (2000). Toward a coherent theory of environmentally significant behavior. *Journal of Social Issues*, 56(3), 407-424. <https://web.stanford.edu/~kcarmel/CC_BehavChange_Course/readings/Stern_metareview_2000.pdf>

The World Bank. Theories of Behavior Change. <http://siteresources.worldbank.org/EXTGOVACC/Resources/BehaviorChangeweb.pdf>

Organizations/websites

The Haw River Assembly <http://hawriver.org/river-issues/>

US EPA EnviroAtlas <https://www.epa.gov/enviroatlas>

UNC Institute for the Environment <http://ie.unc.edu/erp/>

North Carolina Environmental Quality <https://deq.nc.gov/>

North Carolina Environmental Quality Riparian Buffers <https://deq.nc.gov/riparian-buffer-rules>

Jordan Lake Rules <http://portal.ncdenr.org/web/jordanlake>

Jordan Lake Nutrient Management Strategy Fact Sheet <http://portal.ncdenr.org/c/document_library/get_file?uuid=fd6c684b-2c8e-4617-a890-551ad77cd680&groupId=235275>

Clean Jordan Lake Project <http://cleanjordanlake.org/>

EPA Learning and Teaching about the Environment (K-9). <https://www.epa.gov/students/games-quizzes-and-more>

Ecogamer games for all ages <http://ecogamer.org/environmental-games>