

Flipping Engineering Literacy Instruction

**Liz Cheney, UCLA Library
SCIL Works 2018 Lightning Round**

Engineering 183 - background

Library Engagement with Engineering 183

- Engineering 183 (Engineering and Society) requires a team paper on an ethical issue facing engineers
- Librarians led two-hour workshops for 8-12 sections per quarter
- One possible solution: incorporate the flipped classroom model

The Flipped Classroom

- Instructional content (covering IL basics) watched ahead of librarian visits
- Class time devoted to active learning/searching
 - Librarians on hand to answer questions

Writing Instruction and Research Education (WI+RE)



What's WI+RE?

WI+RE (Writing Instruction + Research Education) is a UCLA community focused on helping all learners succeed in their writing and research projects.

WI+RE
WRITING INSTRUCTION *and*
RESEARCH EDUCATION

{ UCLA Library
Writing Programs
Center for Digital Humanities
Centers for Undergraduate Research

The WI+RE design team offers expertise in instructional design, storyboarding, media production, and more.

Engineering 183 Videos

Videos intended to:

...Be interactive

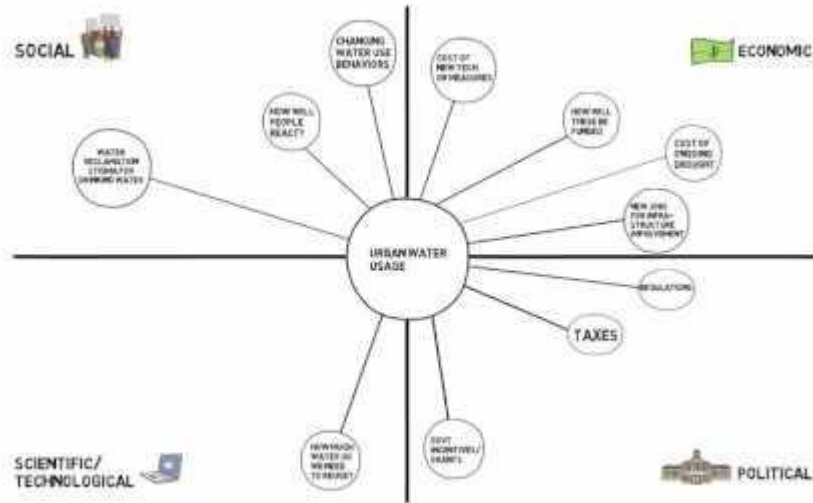
...Outline the steps to complete a process or navigate an interface

...Cover basic library research skills

How will the implementation of clean energy regulations impact the environment and economy?

	SOCIAL	ECONOMIC	POLITICAL	TECHNICAL
QUESTION	REGULATIONS	ECONOMY	IMPLEMENTATION REGULATION	CLEAN ENERGY
NARROW	- LAWS - FEES/FINES - ENFORCEMENT	- FUND ALLOCATION - TAX INCREASES	- STATE POLIC	
BROAD	SOCIAL RESPONSIBILITY	- JOBS - GDP		

Final Product



Engineering Research Skills Playlist: <http://bit.ly/2Ci4HMW>

Next Steps

Next Steps

Assessment!

- Embed quizzes in CMS

- Instructor's quiz on library research

Acknowledgements

Thanks to the team: Doug Worsham (Team Lead for Teaching and Learning), Tony Aponte (Engineering Librarian), and Shushanik Stepanyan (Mechanical Engineering Student)

Process



Process

WI+RE: Project: Engineering 183 ☆ WI+RE Free Team Visible ... Show

Storyboards / Prototypes / Updates

Google Docs Storyboard template
1

01/10/2017
4 5

Learning Outcome 1 Script
1

Keyword / search ideas
1

Draft Moodle quiz
1

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	SOCIAL	ECONOMIC	POLITICAL	TECHNICAL
QUESTION	REGULATION	ECONOMY	REGULATION	REGULATION
NARROW				
BROAD				

Learning Outcome 2-4 Update
6 2

Learning Outcomes & Assessment(s)

Course description, background, and context
1

What will learners be able to do? (one card per learning outcome)

Assessment Ideas: How will learners demonstrate their learning?

Assessment Ideas:

Information purposes

Add a card...

Critical Thinking Related Learning Outcomes

1. Learning Outcome: Students will assess potential gaps in their research by creating concept maps outlining the social, economic, political, and technological aspects of their assigned topic OR Students will create concept maps to display the relationships between the different aspects of their assigned topic.
4

7. Learning Outcome: Students will be able to develop criteria to evaluate sources based on their assignment or their research objective
3

Add a card...

Search Skills Related Learning Outcomes

2. Learning Outcome: Students will be able to identify effective keywords for the scientific/technological aspects as well as the social/ethical aspects of their research topics.
3

4. Learning Outcome: Students will construct and refine effective Boolean searches for their research objective.
1 1

3. Learning Outcome: Students will be able to employ controlled vocabulary terms in order to find relevant literature.
1

Add a card...

Using UCLA Related Learning Outcomes

5. Learning Outcome: Students will be able to select databases to search for their research information and their audience.
7

6. Learning Outcome: Students will be able to locate Melvyl catalog.
7

(and to require interlibrary loan)

6. Learning Outcome: Students will be able to locate resources through databases.
2

6. Learning Outcome: Students will be able to locate licensed new The New York Times on ProQuest.
4

Add a card...