

 VirginiaTech
CEE 2804
INTRODUCTION to CIVIL ENGINEERING

Lecture 2
August 27, 2015

Civil Infrastructure
Engineering critique and the 3 S's
Written and Oral Communication

Learning goals:

1. Continue to discuss infrastructure definition with class discussion and examples.
2. Introduce students to engineering critique.
3. Introduce students to scientific, social, and symbol framework that they will be using throughout the semester to evaluate civil engineering works and infrastructure.
4. Emphasize the importance of oral and written communication and provide online resources that will start preparing students for their written assignments and presentations.

Where can we find CEE infrastructure on campus?

Any ideas since our last class?

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Ask students if they have settled on their HW1 infrastructure writing topics.

Engineering critique
Critical thinking

I like roads.
Rivers are great.
LEED certification is the best.

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Introduce the ideas of engineering critique and critical thinking.
Take an opinion and defend it.
Encourage students to avoid empty words when providing a critique.

Engineering critique
Critical thinking

Instead think in terms of social, scientific, and symbolic perspectives.

social - economy, jobs, quality of life
scientific - methods, materials, approaches, theories
symbolic – greater meaning (creativity, power, life)

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Introduce students to the 3 S's.

This is the critique framework we will be using throughout the semester.

Engineering critique
Critical thinking

U.S. Interstate System

social
scientific
symbolic

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Active learning exercise. Break students into small groups and have them come up with descriptions for the 3 S's.

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Engineering critique
Critical thinking

U.S. Interstate System

How would we critique it?

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Call on a few students and ask them to critique the interstate system.

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Engineering critique
Critical thinking

Another example, the Hoover Dam

<https://www.youtube.com/watch?v=YjHtp2UvAoY>

Show first 5 minutes of video to initiate discussion.

Engineering critique
Critical thinking

The Hoover Dam

social
scientific
symbolic

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Ask students to list the 3S's.

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Engineering critique
Critical thinking

The Hoover Dam

And how would we critique it?

Let's make a thesis statement.

<http://writingcenter.unc.edu/handouts/thesis-statements/>

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Active learning exercise - small groups again – ask them to craft a thesis statement.

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Written communication

<http://web.mit.edu/me-ugoffice/communication/technical-writing.pdf>

<http://www.amazon.com/Writing-Well-30th-Anniversary-Edition/dp/0060891548>

References

<http://library.canterbury.ac.nz/services/ref/asce.shtml>

Oral communication

Tips on Giving Oral Presentations with Mr. Brewer

<https://www.youtube.com/watch?v=QKOO99UjsSE>

TedX

<https://www.youtube.com/watch?v=NUXkThfQx6A>