NRG 200 Learning Outcomes Assessment

Two things are meaningful, three reports for final project …

Eight software tools to use related to ROOM 1401

- one assignment per week, one per week

Challenging to give feedback for students, would give feedback to the entire class, everyone regretted they did not get feedback

Graded on whether they completed the assignment, but told them at the beginning it would be related to effort, was qualitative grading in that sense

- Was project-based learning

Was a learning experience for me in terms of setting the expectations

- Energy simulation, energy

How did students learn how to benchmark, asking critical questions

Everyone was asked to design an Elementary School building on the Shoreline Community Campus.

- Energy Use per square foot, BEFORE they do detailed design
- Using a tool called Architecture

Online tool, entering info, reducing 70% from national average …

Coming up with a target Energy Use Intensity, student filled it out …

Climate consultant chart …

In the proposal, they enter the information into the tool and get a baseline and then a target

This task is done using ZERO Tool: http://architecture2030.org/the-zero-tool-is-here/

If the target is 100 something is wrong;

Student # 1

Outcome	Below Expectations 1 2 3	Meets Expectations 4 5 6	Exceeds Expectations 7 8 9	Notes
Identify critical questions needed to establish a benchmark and goals for a zero energy project			**7**	They have gone through the process, identified the info needed to established

Student #2 (JF)

Outcome	Below Expectations 1 2 3	Meets Expectations 4 5 6	Exceeds Expectations 7 8 9	Notes
Identify critical questions needed to establish a benchmark and goals for a zero energy project	initially		After revisions, exceeded **7/8**	Provided a lot of information in the proposal that was not included, and did not provide the floor area into the baseline tool … Went and revised it and did research on classroom conditioning requirements

Student # 3 (TH)

Outcome	Below Expectations 1 2 3	Meets Expectations 4 **5** 6	Exceeds Expectations 7 8 9	Notes
Identify critical questions needed to establish a benchmark and goals for a zero energy project				Had some difficulty demonstrating learning because of documented disability.

Student #4 (RP)

Outcome	Below Expectations 1 2 **3**	Meets Expectations 4 5 6	Exceeds Expectations **7** 8 9	Notes
Identify critical questions needed to establish a benchmark and goals for a zero energy project				Struggled at first, but revised with help of instructor

Student # 5 (LL)

Outcome	Below Expectations			Meets Expectations			Exceeds Expectations			Notes
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	
Identify critical questions needed to establish a benchmark and goals for a zero energy project										Did not include info on the indoor conditioning requirements

Student # 6 (MM)

Outcome	Below Expectations			Meets Expectations			Exceeds Expectations			Notes
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	
Identify critical questions needed to establish a benchmark and goals for a zero energy project										In the ball park

Student # 7 (GS)

Outcome	Below Expectations			Meets Expectations			Exceeds Expectations			Notes
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	
Identify critical questions needed to establish a benchmark and goals for a zero energy project										No matter what the floor area is they have to get it to 21, took the tool and summarized and provided – showing some thinking in the process and interpreted the information – articulated the design strategies, not explicitly asking for it, so going into the design view

Student # 8 (PT)

Outcome	Below Expectations			Meets Expectations			Exceeds Expectations			Notes
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	
Identify critical questions needed to establish a benchmark and goals for a zero energy project										Student did a great deal of work not expected – implicitly demonstrating a target … to net Zero

Student # (SV)

Outcome	Below Expectations 1 2 3	Meets Expectations 4 5 6	Exceeds Expectations 7 8 9	Notes
Identify critical questions needed to establish a benchmark and goals for a zero energy project				Definitely missed a few things …

Phase 2 of the project was to identify design strategies to get to background …

Also demonstrated re-application of benchmarking at the end of the course in phase 3 of the final project.

One thing spent a lot of time is trying to find the right tool that students could learn from … expected them to learn from the tool …

Others were struggling with software

- In conversations about the assignments, particularly the benchmark tool, reconsidered the curriculum, perhaps using Equest … and spending time on it would be useful, and could enhance understanding.

Anything you might change about the course or what you have done with it.

Maybe reducing the number of tools, maybe two or three … focusing on mastering the tool as opposed to introducing the tool. Maybe a few students will be able to go on their own and spend and learn, but the general lesson is that you have to provide guidance and instruction and training.

One thing we did in addition to all these assignments, did have industry speakers, was very timeline, students could relate what they were learning to things happening in industry.