Wiring the Future: Combining Different Active Learning Modalities for Future Construction Managers

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Construction Management 2400: MEP Systems

Introduction to mechanical, electrical, and plumbing systems for residential and commercial applications. These are the core systems that make buildings livable and functional.

Together, MEP systems are fundamental to the construction and operation of buildings, ensuring that they are safe, comfortable, and efficient spaces for people to live and work. They are integrated into the building's design from the start and need to be maintained properly to keep the building operational.

Student Learning Outcomes

Identify and summarize the operation and installation of MEP systems Describe the contractor's role in the delivery of MEP systems Analyze 3–D coordination of MEP through BIM applications Demonstrate stronger verbal and written communication skills, which are crucial for professional environments.

Demonstrate teamwork skills, including the ability to work effectively in diverse groups, in collaboration with their peers.



BLOOM'S TAXONOMY



Student-centered Approach to Teaching

As an educator, I want to create an open, accessible environment where students feel comfortable approaching me with any concerns or questions about their education. My dedication lies in creating a learning environment that prioritizes the intellectual growth of students over conventional test scores and grades.

Activity

Students were grouped to work together on a reallife example

Students are given pre-site analysis assignment prior to a site visit on campus

Invited speaker from the industry engage with students to discuss their role in the MEP systems

Students are given BIM outputs to discuss them in the class

Students are assigned to team members before the end of semester and given a residential project to built MEP Systems

Future

Collaborate with the ECTL to refine pre- and post-knowledge surveys, aiming to gain deeper insights into students' perceived knowledge deficits. Implement a more active approach to the flipped classroom model, fostering increased student engagement and participation. Arrange an additional site visit, building on the success of previous visits where students achieved a 100% correct answer rate on related questions. Enhance student preparation for guest lectures by encouraging them to generate questions in advance, leveraging insights from guest speakers to better grasp forthcoming course material.

Assessment

In Class Quizzes Formative

Рге Post Assignment On Site Formative

Reflection Papers Formative

In Class Quizzes Formative

Final Project and team member assessment Summative

Findings



References

myself and my students.

- Rose, David H., Wendy S. Harbour, Catherine Sam Johnston, Samantha G. Daley, and Linda Abarbanell. "Universal Design for Learning in Postsecondary Education: Reflections on Principles and their Application." Journal of Postsecondary Education and Disability 19, no. 2 (2006): 135–151.

lessons he unknowingly imparted to me. In his

memory, I am dedicated to advancing these

compassionate educational journey for both

values to foster a meaningful and

- Barkley, E. F. "Student engagement techniques: A handbook for college faculty", (2010), San Francisco, CA: Jossey-Bass.