Capstone Design
CONFERENCE 2024
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Panel 5D: Capstone and ABET

Facilitator: Nathan Kathir (George Mason)

Panelists: John Estell (Ohio Northern), Joshua Gargac (Ohio Northern), Todd Schweisinger (Clemson)

Description: Capstone courses can be used to satisfy ABET student outcomes. This panel has ABET experts who can answer your questions on how to make sure your course meets your department's needs.

ABET documents: https://www.abet.org/accreditation/accreditation-criteria/

Question: What are some of the most problematic criteria?
- Codes and standards as a constraint
- Standards - criterion ?
    - Make sure to emphasis standards in your specific projects
    - Training included in the report

Question: Is there a better way to meet student outcomes than the Capstone course? (Modified question: "How many criteria can you put into capstone without getting into trouble" ? haha)
- Capstone is a good place to evaluate because it's right before going into industry
- Appropriate places are Capstone and 300-400 level courses

Continuous Improvement - needs to be owned by ALL faculty and not just capstone faculty
- Capstone is an easy place to capture metrics and ABET (but it shouldn't be the ONLY place).
- We have a lot of faculty that don't want to capture the metrics and push it off to capstone faculty. But at the senior level, you find out you're not doing what you're supposed to be doing; can be too late.
- Not sufficient for feedback loop for continuous improvement to earlier classes/instructors who may not want to modify content/curriculum

ABET Symposium - resource room, allows you to look at (not copy) studies that are exemplary examples; highly recommend to attend if you are able to

Tips and strategies for engaging faculty members:
- Reference paper on assessment practices: https://peer.asee.org/improving-upon-best-practices-fcar-2-0
- Example assessment plan that distributes the workload: https://peer.asee.org/embedding-the-keen-framework-an-assessment-plan-for-measuring-abet-student-outcomes-and-entrepreneurial-mindset

Team vs individual assessment:

- Can be hard to assess who contributed on a team report (who did the writing, versus the editing, reviewing and making things fit), rubrics on presentation - for who is speaking (individually)

Other notes:

- Senior design meetings: "professional development opportunity" - not directly related to the project, but as an employee it helps me to develop
- "Major field test" - like the Fundamentals of Engineering exam, specific to Tennessee; ETS - educational testing standard
- For programs that don't have capstone, comprehensive assessment of student competencies

Closing tips from panel:

- Program Evaluator (PEV) is your friend
- Let people know you need help. Don't be afraid to ask your department chair for help early; timelines and needing support & resources