

# Cross-disciplinary exploration of engineering writing curriculum at a large university

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## Motivation

Good communication skills are critical for engineering students to excel after graduation, but challenging to develop in the curriculum.

## Objectives

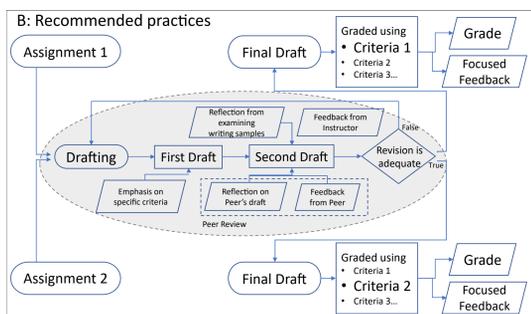
- Characterize writing instruction across the College of Engineering
- Synthesize relevant work in Writing in the Disciplines
- Identify best practices and recommendations for effectively and efficiently improving our students' writing

## Research Design/Program Description

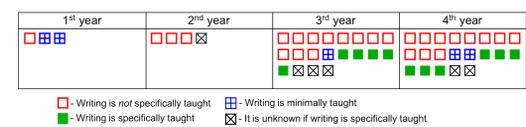
### Phase 1: Research

- Characterize current instructional practices
  - Surveyed 15 instructors of writing-intensive engineering courses
  - Analyzed syllabi and course materials
  - Conducted interviews with select instructors
- Characterize curricula
  - Surveyed key department administrators in 12 engineering departments
  - Collected college enrollment statistics and department curriculum maps
- Review literature on Writing in the Disciplines
  - Discussed how these practices might scale to fit the local needs across the College of Engineering
- Meet with distinguished Writing Studies Scholars

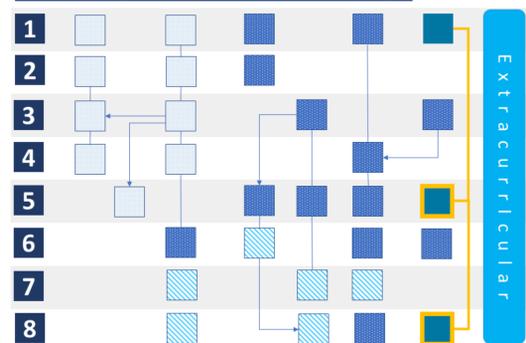
## Product vs Process + Response Practices



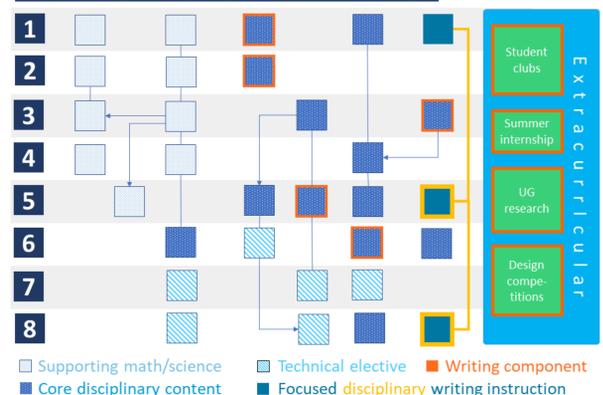
## Writing Course Distribution



### A) Example of current course map



### B) Example of proposed course map



## Results

- Current writing assignments are rarely well aligned with professional **genres**.
- Writing is viewed and taught primarily as a product, not a **process**.
- Current writing instruction and **response practices** often do not employ best practices from the writing studies literature.
- **Departmental curricula** do not distribute writing across the four-year programs.

## Conclusions

Our findings suggest the potential for substantive improvements in our College of Engineering at the instructional and curricular levels. We think these improvements might be achieved by:

- focusing instruction on genre awareness and flexibility [1];
- facilitating awareness of the operations that lead to a written product [2,3];
- educating engineering instructors about well-established, more efficient writing studies practices such as prioritized, selective feedback [3, 4, 5]; and
- integrating writing instruction into existing disciplinary courses across students' four years.

## References

- [1] N. Artemeva, "Toward a Unified Social Theory of Genre Learning," *J. Bus. Tech. Commun.*, vol. 22, no. 2, pp. 160–185, Apr. 2008.
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- [3] A. J. Herrington, "Assignment and Response: Teaching with Writing Across the Disciplines," in *A Rhetoric of doing: essays on written discourse in honor of James L. Kinneavy*, J. L. Kinneavy, S. P. Witte, N. Nakadate, and R. D. Cherry, Eds. Carbondale: Southern Illinois University Press, 1992, pp. 244–260.
- [4] D. R. Ferris, "Responding to student writing: Teachers' philosophies and practices," *Assess. Writ.*, vol. 19, pp. 6–23, 2014.
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## Ongoing Work & Future Plans

Phase 2 (current, ongoing): Support best practices in writing instruction by:

- facilitating a Community of Practice around the teaching of Engineering writing, through
  - conducting a weekly, semester-long Writing Across Engineering Faculty Learning Group to educate faculty about best practices, and
  - mentoring interested faculty through changing their pedagogical practices and materials

Phase 3 (planned): Vertical integration:

- Work with faculty in two test departments to design and implement vertical integration of writing instruction, hitting all students all four years
- Investigate ways to leverage extracurricular activities to provide meaningful writing experiences

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