

Learning Technical Writing: Creating an Opportunity for Engineering Undergraduates

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Extended Abstract

An undergraduate engineering program emphasizing hands-on learning and close interaction with engineering industry, including mandatory three terms of co-op employment, can find it challenging to build writing skills into its curriculum, too. Grand Valley State University has established its mission on principles of liberal education that permeate all of its programs, and on an overarching commitment to student success, academically and in transition to the work world. GVSU's School of Engineering (SoE) has struggled to design and offer a writing-intensive experience that benefits Engineering majors and adequately prepares them to meet the needs of future industry employers in the area of written communication. A 200-level course in the engineering curriculum incorporating the university's additional "Supplemental Writing Skills" (SWS) content has been offered with limited positive outcomes. A work currently in progress is an effort to design a radical curricular revision intended to create a synergy between liberal education ideals and real-world engineering practice in the area of technical writing and communication.

A curriculum revision team was delegated by SoE faculty in 2015 to pursue a novel option: revise the academic components of the 300-level (second) co-op employment semester to meet SWS program requirements, explicitly incorporating engineering technical writing in an on-the-job context. The academic components of co-op semesters are entirely online, because the students are employed full time, not always locally. Thus, considerations of the course proposal team have been two-fold: meeting SWS designation parameters, and consideration of technologies and best practices for online teaching and learning.

To meet the requirements for the SWS designation, the team elected to retain some previously existing writing-related academic content already part of the Co-op II semester; and to add a semester-long iterative assignment to develop a technical proposal (following a provided format), founded on the communication principle that a proposal is essentially a persuasive document. Delivery of instruction is through the institution's course management system (Blackboard), but also includes an SoE intranet system for coordinating the co-op program overall, and CrowdGrader, a free web- and cloud-based application for facilitating student peer-reviewing.

A pilot section of the revised course with eleven students enrolled is presently underway in Winter 2016; the instructor for the pilot of the writing component is the Engineering Liaison Librarian. A full Co-op II cohort (estimated to be ~120 students), with multiple instructors, will be enrolled in the revised co-op course in Winter 2017. The presentation will discuss in detail the academic components comprising the newly revised course and the multiple constraints shaping the design choices made.