

A Just-In-Time Model for Teaching Technical Communications and the Use of Grading Rubrics in a Multidisciplinary Capstone Design Course

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Abstract

In 2001, the University of Houston's Cullen College of Engineering introduced a multidisciplinary Capstone Design course, the subject of two recent papers^{1,2}. Required of final-semester undergraduates in three (Electrical and Computer Engineering, Industrial Engineering, and Mechanical Engineering) of the five departments in the College, the course is based on projects undertaken by up to twenty-five multidisciplinary teams composed of four students each. In addition to the completion of projects and validation of project results, the course emphasizes instruction in technical communications and project management.

This paper will focus on technical communications instruction within the Capstone Design course, and the development of a relationship between the Cullen College of Engineering and the University's Writing Center³. Through its Writing in the Disciplines (WID) program, the Writing Center supports the integration of writing at the course, department, and curricular level across the university. WID brings effective communications practice and instruction to courses and departments that have not traditionally emphasized writing by partnering with instructors. By co-developing instructional tools, assessments and evaluations, and pedagogical models, WID fosters professional development for faculty, and discipline-specific communications education for students.

As this paper will describe, the on-going partnership between the instructors of the Capstone Design course and WID program staff has already resulted a series of just-in-time workshops, individual consultations for students, upgrading of communications requirements for the course, and development of grading rubrics for both oral and written assignments.

References

1. Richard Bannerot, Ross Kastor, and Paul Ruchhoeft, "Interdisciplinary Capstone Design at the University of Houston." Proceedings of the 2003 Annual Conference of the ASEE Gulf Southwest Section, March 19-21, 2003, Arlington, TX on CD.
2. Richard Bannerot, Ross Kastor, and Paul Ruchhoeft, "One Semester Capstone Design Courses: Issues, Problems and Solutions." Proceedings of the 2004 Annual Conference of the ASEE Gulf Southwest Section, March, 2004, Lubbock, TX on CD.
3. <http://www.uh.edu/writecen/>