

CHANGES IN A FIRST-YEAR TECHNICAL WRITING CLASS TO SUPPORT STUDENT SUCCESS AND RETENTION IN ENGINEERING AND APPLIED SCIENCES

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Outline

- ▣ Background of Technical Communication Class
- ▣ Rationale for Change
- ▣ Curricular Changes & Outcomes
- ▣ IME 1020 & STEP
- ▣ Future Work
- ▣ Conclusions

Technical Communication Overview

- ▣ Students who take IME 1020
- ▣ Service Course
- ▣ Discussions with STEM Faculty
- ▣ STEP (STEM Talent Expansion Program)

Rationale for Change

- ▣ Students Need to Better Understand Their Career Choices
- ▣ Recruitment and Retention Improvement Needed
- ▣ Instill Importance of Lifelong Learning (ABET)
- ▣ Industry Demand for Communication Skills

Curricular Changes

- ▣ Focus on Career Development
- ▣ Research Paper
- ▣ Lifelong Learning Activity Reports

Outcomes

- ▣ Career Focus: +
 - 90% participation in one activity
 - 80% in two or more activities
- ▣ Research Paper: +
 - 90% follow the writing process
 - 90% achieve C or better on paper
- ▣ Lifelong Learning: +/- (Still a Struggle)
 - 90% participate in one or more activity
 - 70% participate in four or more activities

IME 1020 & STEP

- ▣ STEP Learning Communities (Anchor Class)
 - Place ~24 students in the same 3-to-5 classes together
- ▣ Early Intervention
 - IME 1020 instructors leverage Residence Life staff to intervene when students missed consecutive classes
- ▣ Academic Etiquette
 - Part of Fall Welcome activities, focus on communication strategies for success (verbal/non-verbal, e-mail/phone)

STEP Retention/Graduation

CSDRE ¹	WMU Baseline ²	Retention	2005 (262)	2006 (303)	2007 (306)	2008 (349)	2009 (315)
69	57.4	2 nd Year (%)	68.0	70.1	66.3	67.5	66.0
53	42.3	3 rd Year (%)	54.3	52.8	52.0	52.1	
NA	32.7	4 th Year (%)	44.5	48.8 ⁵	43.3		
NA	32.8	5 th Year (%)	44.6 ⁴	45.0 ⁷			
40.7 ³	32.3	6 th Year (%)	41.6 ⁶				

¹For all institutions, 2005-06

²Averaged 2000-2004

³37.4% graduated in a STEM field in 6 years
+ 3.3% continued in 7th year

⁴35.1% continued in 5th year + 9.5%
graduated with CEAS degrees

⁵48.8% returned to CEAS in Year 4 +
2 graduated with CEAS degrees

⁶14.9% continued in 6th Year + 26.7%
graduated with CEAS degrees

⁷32.4% continued in Year 5 + 12.6%
graduates with CEAS degrees

IME 1020 & STEP

▣ Early Intervention:

- (Needs better follow-up)
- Student Affairs & CEAS have different definition of success

▣ Academic Etiquette (2010):

- 69.6% SA/A “session was interesting”
- 74.1% SA/A “learned some helpful tips about communicating with professors”
- 78.5% SA/A “will communicate more often with professors and others because of what I learned”
- 56.0% e-mailed instructor prior to first day of class of which 86% used proper e-mail communication (compare with 38.4% e-mailed and 72% used proper e-mail communication in 2009)

Future Work

- ▣ Next STEP
- ▣ Career Awareness Integration Across the four years
- ▣ Career Preparation: Emphasize Co-op and Internships
- ▣ Early Intervention: Continue but modify the follow-up procedures

Conclusions

- ▣ Course Changes are Successful
 - Research Writing is surprisingly so
 - Students better see a need for communication skills
 - Lifelong Learning is worth pursuing but a difficult sell to students

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