

## Predicting Term-to-Term Retention for Manufacturing and Engineering Technician and Technology Students

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### Summary

We explored what factors were related to term-to-term retention of students enrolled in manufacturing and engineering technician and technology (METTE) programs. We found that for first year students:

- completing 12 or more credits in the first semester
- attaining a first semester GPA of 2.75 or greater
- participating in opportunities to learn about working in jobs related to the student’s field of study (FACT Initiative)
- completing required math course and
- completing manufacturing skills lab

were significantly more likely to continue their education in the following semester.

Students who received a federal student loan and those who were employed either full or part-time were also retained at higher rates than were their peers.

### Sample & Data

Logistic regression was used to analyze transcript and administrative records for 274 students enrolled in METTE programs in Fall 2013 and 275 enrolled in Fall 2014 at MPTC.

### Factors Predicting Term-to-Term Retention

Variables	Direction & Significance
Completed 12 or more credits in 1 <sup>st</sup> Term	(+) p < .001
1st Term GPA ≥ 2.75	(+) p < .001
Completed basic education	(-) p < .518
Completed College 101	(+) p < .525
Completed required college math course	(+) p < .002
Completed Manufacturing Skills Lab	(+) p < .001
Completed Basic Education Math	(-) p < .887
Participated in FACT Initiative	(+) p < .001
Single parent	(-) p < .679
Economically disadvantaged	(-) p < .722
Employed Full or Part-Time	(+) p < .020
Academically Disadvantaged	(-) p < .489
Disabled	(+) p < .722
Minority	(-) p < .075
Male	(+) p < .156
Age 25 or Younger	(-) p < .140
Received Pell Grant	(-) p < .516
Received Federal Loan	(+) p < .002

Source: MPTC transcript & administrative records for Fall 2013 & Fall 2014 METTE students

### Implications

Nine thousand manufacturers in Wisconsin provide employment to a workforce of more than 460,000 employees. Term-to-term retention is key to successful completion of the technical college programs in manufacturing or engineering technology that lead to entry level employment as a skilled technician or job advancement.

This analysis suggests that two-year colleges should:

- Ensure students master academic challenges including basic skills and occupationally supportive math;
- Encourage student engagement within the classroom and with the employer community;
- Provide students access to financial aid; and
- Build strong ties to regional manufacturers that can provide insights into industry training needs and new technology, strengthen the appeal of manufacturing careers, and provide access to the pool of future employees.

