Electronics Technology Automated Systems Program

Strategies for low enrollment

1. **Reduce cost** –
    a. **ETAS Program Revision** (Completed Spring 2010) **–** The ETAS program underwent a significant program revision last spring semester. Eight credits (Lean Manufacturing - 3 credits, TQS and SPC – 3 credits , and Machine Operations – 2 Credits) of technical classes were removed from the ETAS program. This void was filled with liberal arts courses (Technical Writing, College Algebra, and general electives). This will drop the ETAS instructional costs by an estimated $20,000.
    b. **Replace ETAS classes with 360˚ Distance Classes.** (Spring Semester 2011) - The recent ETAS Program revision also aligned five classes, credit for credit, with classes in the 360˚ Distance Education Program. Northland College now has the opportunity to remove classes from the schedule and insist ETAS students take the 360˚ Distance Education equivalent courses. At the 2010 ETAS Fall Advisory Committee meeting this idea was met with concern, but it was generally accepted under the condition that the lab component will be taught by ETAS faculty in the TRF electronics lab. This move could save the college an estimated $10,000 during the 2011 spring semester, based on replacing four lecture credits.
    c. **Omit Select ETAS Classes** (Fall Semester 2011) - Based on the Fall 2010 ETAS advisory committee meeting, two classes have been identified to be removed from the ETAS Program. Much of the content in the ETAS 1510 Measurement Tools course can be incorporated into ETAS 1540 Solid Modeling. As students reverse engineer parts in the solid modeling software they will use various measurement tools. Likewise the committee felt the ETAS 1101 DC Power class was light on content. Key components of the ETAS 1108 Electronic Assembly could be integrated into DC Power and other ETAS classes. The total impact of these program changes would drop the ETAS AAS degree from a 72 credit to a 68 credit program. This would also save an estimated $10,000 a year in instructional costs.

2. **Strategies to increase enrollment –**
    a. **Reserve Friday's for recruitment.** (Spring Semester 2010)- Having a designated day for recruitment will ease the task of getting to area high schools to promote the ETAS program. High school visits have been difficult to schedule around ETAS class schedules. Recruitment trips should not require class cancellations. Other NCTC technical programs have moved to this schedule for the same purpose. Technical programs in TRF have recently started to coordinate their efforts to visit schools on Fridays.

b. **Change Schedule to accommodate Grand Forks students**. (Fall Semester 2011) A conceptual schedule would place all of the first year classes on Monday and Wednesday, and all of the second year classes on Tuesday and Thursdays. The idea is to minimize the number of times a student in the Grand Forks Region would need to travel to Thief River. Grand Forks students would be able to take general / liberal arts courses on the East Grand Forks Campus. Combined with distance education classes, this schedule change opens opportunities for students in other areas to make fewer trips to TRF.

c. **K-12 Outreach** (Summer 2011) -The 360˚ Center for Manufacturing Excellence has reserved funds for programs to create technology camps for K-12 schools. The Northland College RoboStorm Summer Camps (funded by 360˚) have been very successful, and Northland is planning to add an advanced camp for grades 9-12. A hands-on experience will give perspective students the exposure needed to get them hooked on a career in electronics.

3. **Long Term Strategies -**

a. **Integrate ETAS classes with UAV avionics program.** 80% of the competencies outlined for the UAV avionics program are already established within the ETAS Program. ETAS faculty will participate in the development of the UAV avionics curriculum.

b. **Leverage 360˚ Distance Program –** Summer semester 2011 - ETAS faculty is scheduled to teach an online Analog Circuits class offered through 360˚ Distance. The ETAS program is poised to attract and recruit students as active faculty in the 360˚ Distance Program.

c. **PLTW -** The ETAS program has articulation agreements with Project Lead the Way classes. High school students taking select PLTW classes can earn college credit. The ETAS program will continue to work with PLTW to get young students interested in STEM related careers and to show off the ETAS program.