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Reviewer: **Dr. Cree Stout**

2006-2007 IE OUTLINE

MECHANICAL ENGINEERING TECHNOLOGY

AND

ENGINEERING GRAPHICS TECHNOLOGY

MISSION/PURPOSE

> In compliance with the York Technical College mission of contributing to the economic development of York, Lancaster and Chester counties and of the State, Mechanical Engineering and Engineering Graphics Technology programs provide opportunities of training in the areas of computer aided design (CAD) and computer aided manufacturing (CAM) of mechanical products and structures, manufacturing operations and principles and coordination between CAD and CAM as well as applications engineering, technical sales and customer service.

DEPARTMENTAL GOALS:

In light of the divisional goals for the current academic year, the following are the departmental goals:

1. Begin implementing critical thinking models at the course level for MET and EGT. Both full-time and part-time instructors will engage students in critical thinking activities through projects, lab work and homework. This emphasizes *Institutional Goal II, D.1* Implementation of the Quality Enhancement Plan (QEP). (A multi-year goal).
2. Convert room C-126, a manual drafting room, into a smart-room with dual capabilities where both manual and computer aided drafting and design (CADD) instructions can be delivered. This is related to the *Institutional Goal III*, where College will be effective and efficient by demonstrating proactive behavior and continuous improvement by delivering competency based instructions utilizing multiple formats. (A multi-year goal, contingent upon availability of capital funds).

EXPECTED RESULTS/OUTCOMES

>Implementation of critical thinking model in lecture class and lab exercise will result in a better understanding of the theories covered, an enhanced ability to solve problems, and a deeper appreciation for the field of engineering technology.

>All computers, peripherals and furniture from C-116 to be moved to C-126 and turn this room into a smart-room with increased section capacities for EGT 110 and EGT 115 design courses. Currently used C-116 is too small and is crowded for the class sizes in EGT 110 and EGT 115. C-126 will be fully operational smart classroom by fall of 2007.

MEANS OF ASSESSMENT

1. Test of everyday reasoning (TER) test administered by the assessment center.
2. C-126 as an operational smart-room that accommodates larger class size and meets the demands of an alternative format of instructional delivery.

STATEMENT OF IMPACT

(This section was completed in July 2007)

- The EGT and MET departments have met the IE goals for the current academic year. QEP is a long term strategic plan, and such all faculty both full-time and part-time are presently using and gradually implementing the College's six-step critical thinking model into the class room instruction and in the experimental labs activities. This phase of the project was preceded by more than two years of dialogue in the classrooms and various other forums in order to educate the faculty and the student. The education technology (ET) department at the College continues this effort today emphasizing the importance of implementation of the critical thinking model in order to improve quality of classroom instructions and better transfer of the knowledge.
- TER, a computerized test, is an assessment tool the College is using for assessment of improvement in quality (CQI). EGT and MET faculty have been advised to take TER test prior to administering the test to the students. Students of EGT and MET program have been informed about the test. Beginning next fall a cohort of freshmen students will be given the TER and the same cohort will be given a second test in their senior year and the two test results will be compared to assess the improvement in critical thinking.
- The project of converting C-126 into a modern smart classroom is on track now. There was an unavoidable delay in implementing the project. C-126 had to be temporarily loaned to the continuing education department since fall 2005 in order to house 3D-Systems, an industrial partner, arriving in Rock Hill from the

Silicon Valley, California. The room was used to accommodate 3D Systems for training of their new employees as well as the clientele of the company on their prototyping machines. The EGT and MET programs have benefited significantly from this partnership with the 3D Systems. Since the 3D Systems moved out in spring 2007, the room is being refurnished with new computers and workstation style desks, and an overhead LCD projector at a cost of more than \$60,000. The room should be ready for fall classes with the old equipment and peripherals. The computer workstations from the old CAD lab C-116 have been moved to C-126 and will be used by both EGT and MET departments. Additionally, a new HP plotter was recently procured at a cost of \$12,500 and will greatly enhance the output and instructional capability of the CAD lab. The new CAD capable computers will arrive in spring 2008 or later and will increase the capacity of C-126 to 24 seats.

- The new HP plotter is located in C-120, the peripheral/output room for use by all CAD users. A technician from HP has installed the plotter for network use. In the future the plotter driver will be installed on the new IET server located in the B-Building.