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Reviewer: Marc Tarplee

2002-2003 IE OUTLINE

INDUSTRIAL MAINTENANCE DEPARTMENT

MISSION/PURPOSE

The Mission/Purpose of this department is to offer accessible, relevant, and high-quality education by providing a comprehensive program of systematic, competency-based instruction in the areas of Industrial Electricity/Electronics, Industrial Maintenance, and Welding.

EXPECTED RESULTS/OUTCOMES

Industrial Electricity/Electronics:

Upgrade existing GE 90-30 PLCs and LogicMaster software. Incorporate recently acquired Siemens S-7 PLCs into the curriculum. Re-design the course content of EEM-251, EEM-252, and CIM-241 to reflect these new PLCs and technology. (Goal I – Strategy 1, Goal II – Strategy 1, and Goal IV – Strategy 3)

Industrial Maintenance:

Review and investigate the feasibility and requirements to incorporate thermography and vibration analysis into the IMT program. (Goal I – Strategy 1, Goal II – Strategy 1, and Goal IV – Strategy 3)

Welding:

Design, fabricate, and construct new welding booths for the welding shop. (Goal 1 – Strategies 1 and 3, and Goal IV – Strategy 3)

MEANS OF ASSESSMENT

Industrial Electricity/Electronics:

Installation of upgraded GE 90-30 PLCs and LogicMaster software, inclusion of Siemens S-7 PLCs in the curriculum, and completion of changes/modifications to EEM-251, EEM-252 and CIM-241 curriculum by May 1, 2003.

Industrial Maintenance:

Documentation of findings and analysis of investigation by May 1, 2003. Criteria for this investigation includes; cost analysis, equipment availability, instructor training requirements, and facility support.

Welding:

New welding booths will be installed in the welding shop by May 1, 2003.

STATEMENT OF IMPACT

Industrial Electricity/Electronics:

- Upgraded GE 90-30 PLCs have been installed.
- LogicMaster software has been upgraded to version 9.05.
- VersaPro software has been installed.
- Siemens S7-200 PLCs have been installed.
- EEM 251 has been restructured to teach 100% GE 90-30 PLCs.
- EEM 252 has been restructured to teach 100% Allen-Bradley SLC-500 PLCs.
- CIM 241 has been restructured to teach 100% Siemens S7-200 PLCs.

Industrial Maintenance:

- An infrared non-contact thermometer (Raytek ST-PRO model) was purchased from Airflow Systems.
- Thermography technology has been incorporated into IMT 161 and IMT 163.
- Equipment for the introduction of Vibration Analysis technology has been investigated with two vendors identified:
 - Vibration Consultants Inc., non-contacting displacement transducer model 420 – \$1766.00.
 - SKF, MicroVibe CMVL-3810 – \$2010.00.
- A request for one of the above items will be made in fiscal year 2003-2004 should capital equipment funds be available.
- Two seminars for instructor training in vibration analysis have been identified:
 - Technical Associates of Charlotte – Entry-level seminar on vibration analysis - \$1095.00 for three days.
 - Vibration Consultants Inc. – Seminar on Vibration Analysis - \$1495.00 for four days.
- A professional development request will be submitted for one of the above seminars, should capital equipment funding be available to purchase the equipment stated above.

Welding:

- A design for the new welding booths has been completed.
- Capital equipment funds were approved to purchase the steel with which to fabricate the booths.
- The bid process was completed, and a vendor selected to supply the steel.
- The steel was ordered.
- As of June 4, 2003 we are awaiting delivery of the steel.
- When the steel is delivered, the welding instructor and students will fabricate the new booths as a class project.