Department Annual Report
2012-2013
Manufacturing Department
Welding Technology
931,932
Document Prepared By:
John M Doneth
2012-2013
Department Information

Current year goals
Receive approval and offer MN233 Welding Automation course. Begin offering the course in the winter 2013 semester.
All program faculty to become Certified Welding Inspectors through the American Welding Society (AWS).

All goals were successfully met.

Goals for next year
Evaluate MN233 curriculum during the next school year.
Implement changes to MN134 and evaluate during the next school year.
Pursue automation purchases such as more robotic welding cells and/or donations.

Internal collaborations and partnerships
Worked with the Advanced Manufacturing Partnership (AMP) and Growing Education in Manufacturing (GEM) programs to schedule welding classes for the cohort groups.

External collaborations and partnerships
The welding programs work closely with the Advisory Boards, American Welding Society (AWS) and Skills USA.

Departmental needs for support from other departments within the college
The department works closely with admissions and counseling.

Program accreditation Updates
N/A

Description of departmental advising plan and outcomes
Student advising is a continuous process by department faculty. The technology area faculty are the best advisors to our student since they know what will be required of the students in industry. Faculty advise students during their office hours as well as during class periods, where appropriate. The department advising plan is on the webpage at grcc.edu/manufacturing

Updates About Student Organizations and Achievements
Sarah Ross was awarded a Work Immersion Study Program Scholarship from the nonprofit Baden-Württemberg Stiftung, one of the largest foundations in Germany.
She has her Welding Technology Degree from GRCC and is pursuing an Associate’s Degree in Tooling and Manufacturing – and is now specializing in welding and machining in GRCC’s Manufacturing Department.

Other department updates
The state wide Skills USA Welding competition was held at GRCC this year. Both fulltime and adjunct faculty facilitated this event.
The Welding Department assisted the City of Grand Rapids to design and build racks which were utilized to fill sandbags to stop or slow the flooding of the Grand River. The faculty also repaired one of the City’s existing racks.
Nicholas Pinkney is the Technical Advisor for the American Welding Society West Michigan Section.

Faculty & Staff

Departmental Professional Development Activities (Contractual Obligations for Departmental Faculty Development/6 hours)
Margaret Sesselmann provided training on the new carp format being used currently at GRCC. She also went through her shortcuts and lessons learned on how to make the changes quickly.

Lynnae Selberg and Erin Busscher provided training on the use of My Degree Path and how we can use the program to assist students with their academic plan.

Two representatives from Amatrol provided training on their E-learning products for many of the technology areas. We have requested a site license for the upcoming school year and will implement their product into more areas. The Amatrol representatives also showed us how to request and use temporary access to evaluate E-learning content that they support.

Faculty Professional Development Activities - Year End Summary

Mike Kiss renewed his Certified Welding Inspector certification (CWI).
John Doneth and Nick Pinckney took and passed the both the CWI and Certified Welding Educators (CWE) tests. This is an industry standard credential that allows our faculty to perform welding inspections and interpret the welding codes applicable to industry. The knowledge gained from these credentials was implemented in both MN231 and MN232. The curriculum was modified to utilize more welding codes and interpretation; this gives the students more hands on practice for code interpretation.

Faculty Development Plans for Upcoming Year
The faculty will plan for next year will include Academic Program Review training. Katie Daniels will also give more in-depth training on how to do assessment projects, how to document the data, and how to understand the results. We will also have more training on the Faculty Evaluation System.

**EOL/Release Time Work**

Mike Kiss is given release time as the Apprenticeship Coordinator at GRCC. The apprenticeship program continues to add student’s into a variety of technology area classes and is a feeder into several degree programs.

**Faculty & Staff Accomplishments/Awards**

N/A

**Program Data- Perkins Indicators**

**5P2: Student Participation in Nontraditional Fields**
S:\School of Workforce Development\Workforce Development\PERKINS\CORE INDICATOR LEVELS\2011-2012\Tooling & Manufacturing

Program performance levels were 0.0% and did not meet the state standard

**2P1: Credential, Certificate, or Degree Attainment**

Program performance levels for 2P1 were 5.5% below the state standard.

**5P1: Student Completion in Nontraditional Fields**

Program performance levels for 5P1 were 17.21% below the state standard.

**4P1: Student Placement**

The program exceeded the state performance level by 25%.

**3P1: Student Retention and Transfer**

The program performance levels for 3P1 were 7.21% under the state standard.
1P1: Technical Skills Attainment

N/A

Summary
The department continues to encourage potential female students into the program. The department encourages certificate and degree attainment while stressing the importance of these achievements during class and student counseling sessions.

Curriculum

Course Improvement Projects

N/A

Program Improvement Projects

MN 233 Welding Automation was created as a response from the advisory board recommending robotic welding and automation curriculum be incorporated into the program. Program improvement due to MN233 being added were the elimination of EL164 which MN233 replaced. MN134 content was reduced as a response to the advisory board’s recommendation also. The class will be changed as 2 credit 2 contact hour class starting fall of 2013. This change also affected MN 134 C in the Holland Module Classes. MN 134C was eliminated due to the curriculum change.

Course Document (CARP) Updates completed this year

MN 231
MN 134
MN 134A
MN 134 B
MN 233

Assessment of Student Learning

Program Learning Outcome(s) assessed this year
<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Outcomes</th>
<th>Student Learning Outcomes at the Program Level and Associated ILOs</th>
<th>Assessment Project Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welding</td>
<td>Prepare students for employment in the welding fabrication field by providing learning opportunities that are in line with and meet industrial expectations/standards.</td>
<td>Students will be able to demonstrate proper arc welding techniques. (Critical thinking ILO) Students will be able to demonstrate proper use of welding equipment. (Critical thinking ILO) Students will exhibit proper welding safety procedures. (Personal responsibility ILO) Students will be able to write and follow welding procedures. (Critical thinking ILO)</td>
<td>Students will be able to demonstrate proper use of welding equipment. (Critical thinking ILO) Students will be required to troubleshoot a Gas Metal Arc Welding (GMAW) power source that has a several flaws incorporated into the system. The experiment will be completed in the MN230 TIG/MIG Welding course.</td>
</tr>
</tbody>
</table>

**Assessment Methods:**

- **Direct/Indirect Measures of Student Learning**

  **Students will be observed to determine proper troubleshooting procedures are followed.**

  **Data Collection Strategies**

  **Students will be rated on time, accuracy of flaw detection and correction of system flaws.**
Data Analysis/Reporting Strategies

A rubric will be used to collect data. A report showing the results will be written and analyzed.

Assessment Timeline

Students in the MN230 course will be assessed in the fall and winter semester. The report will be completed in the winter term.

Measures of Student Learning
Students will be required to troubleshoot a Gas Metal Arc Welding (GMAW) power source that has a several flaws incorporated into the system. The experiment will be completed in the MN230 TIG/MIG Welding course.

A GMAW power supply was set up with two problems and the students were given the task of completing a weld. The students were timed and also coached if required. The number of times the instructor had to interject was noted on the assessment.

Initial Data and Findings
The data collected from both semesters was very similar. Instructor prompts to help the student move forward varied from 1 to 5 prompts. The Average was just over 3 verbal prompts per student. The Average time to complete the test varied from just over two minutes up to six minutes. The average time to complete the test was just over 4 minutes per student.

Curricular or Pedagogical Changes Implemented
Pedagogical changes next year will include more lecture time associated on proper machine set up and troubleshooting.
This same test will be administered next year and the results will be compared to see if a reduction in troubleshooting time is associated with the lecture changes. A reduced number of instructor coaching commands would also be expected.

Data and Findings (post improvement/change)
N/A


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