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MFG 202- Tube & Pipe Fabrication 2- Chris Dodson- Part B- Winter 2024

*** Part B: Your Results DIRECTIONS 1. Report the outcome achievement data gathered via the assignments, tests, etc. you identified for each outcome (question 3) of your Part A. (Only include data for students who completed the course. Do not include students who withdrew or earned an incomplete) Data for all 3 outcomes should be reported below.**

For Outcome #1, 83% of the class achieved this outcome with a 70% or above. 90% of those who completed falling into 80% or above achievement.

For Outcome #2, 92% of the class achieved this outcome with a 70% or above. 72% of those who completed falling into 80% or above achievement.

For Outcome #3, 92% of the class achieved this outcome with a 70% or above. 90% of those who completed falling into 90% or above achievement.

*** Outcome #1**

Fabricate tube assemblies to specification from blueprint.

This outcome will be assessed using both hands on and written application. During the assessment students will identify ASME standard symbolism for welding procedures, fabrication tolerances, and dimensional specification expanding into creation of a product through fabrication.

*** % of students who successfully achieved the outcome (C or above)**

83%

*** Outcome #2**

Utilize math to accurately predict tube project cost and material usage.

*** % of students who successfully achieved the outcome (C or above)**

92%

*** Outcome #3**

Use digital design programs to create a blueprint.

*** % of students who successfully achieved the outcome (C or above)**

92%

*** ANALYSIS 3. What contributed to student success and/or lack of success?**

Repetition, and consistent feedback were the two main contributors of student success. The largest contributor to lack of success, being attendance to labs. Students who were present for both direct instruction as well as available labs were able to continually reinforce the methods used to meet these outcomes.

*** 4. Helping students to realistically self-assess and reflect on their understanding and progress encourages students to take responsibility for their own learning. Please compare your students' perception of their end-of-term understanding/mastery of the three outcomes (found in student evaluations) to your assessment (above) of student achievement of the three outcomes.**

Comparison of students' perception based on the data gathered through the SCE results showed that gains were made, but I believe that these results are skewed as due to student involvement in the SCE Survey.

*** 5. Did student achievement of outcomes meet your expectations for successfully teaching to each outcome (question 4 from Part A)**

Student outcomes did meet my expectations. The results also reflected how important student attendance, or diligence to make up missed assignments is to a hands on course.

*** 6. Based on your analysis in the questions above, what course adjustments are warranted (curricular, pedagogical, student instruction, etc.)?**

Several adjustments are going to need to be made. Shorter and more direct delivery of curriculum, with larger allotted lab times, as well as requirement of students to manage their time more appropriately.

7. What resources would be required to implement your recommended course adjustments (materials, training, equipment, etc.)? What Budget implications result?

As with most of our hands on labs, a larger budget, and less shared equipment would result in higher percentages across the board.

*** 8. Describe the results of any adjustments you made from the last assessment of this course (if applicable) and their effectiveness in student achievement of outcomes.**

N/A

9. Describe how you explain information about course outcomes and their relevance to your students.

Due to the nature of interpretation, these course outcomes are largely explained using real life scenarios. Most of these scenarios come from project based experiences in our classroom and labs. In this case, students not only see the theory explained, they get hands-on experience with the result.

10. Please describe any changes/additions to instruction, curriculum or assessment that you made to support students in better achieving the CGCC Institutional Learning Outcomes: ILO #1: Communication. The areas that faculty are focusing on are: "Content Development" and/or Control of Syntax and Mechanics" and ILO #2: Critical Thinking/Problem Solving. The areas that faculty are focusing on are: "Evidence" (Critical Thinking) and/or "Identify Strategies" (Problem Solving). ILO #4: Cultural Awareness. The area that faculty is focusing on is: "Openness" (Encouraging our students to "Initiate and develop interactions with culturally different others") ILO #5: Community and Environmental Responsibility. The area that faculty are focusing on are: "Applying Knowledge to Contemporary Contexts" and "Understanding Global Systems" ILO#3 - Quantitative Literacy - "Application/Analysis" and/or "Assumptions"

Many of the adjustments have been to focus on students individual perspectives. Utilizing round table discussions, allows students to broaden their scope. This has also been an effective way for students to change their perspectives and better be able to communicate as a group. Due to the diversity in our classrooms, students are able to have meaningful discussions that bridge cultural perspective gaps in order to solve problems that arise during the process of a project. Through applications of solutions to real life scenarios, students are brought into project management scenarios with industry partners as well as community project committees. This real world application of the foundations built in our classroom has shown a large gain in confidence building within the students and in their own abilities to move forward into a working environment.