Course Assessment- Part B: Your Results & Analysis

COMPLETE #586

Please select your course and name from the drop-down menu. If your course or name are incorrect or missing, contact Sara Wade, the Instructional Services Administrative Assistant, 541-506-6037 or swade@cgcc.edu.

MFG 156- Integrated Manufacturing I- Chris Dodson- Winter 2023

*** 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.**

This data was gathered in written assignment, CAD Modeling to physical construction of the assigned task in a measured comparison to both designed models and blueprints, as well as written quiz.

* Outcome #1

Outcome #1
Fabricate product and tolerance from digital blueprints using SolidEdge 2D.

From initial assessment to final exams, students showed great improvement. Initial assessment showed that students had very little to no previous knowledge of digital blueprints or 2D Computer Aided Design software. A later mid term project using the application of blueprint reading and precision measuring showed that 90% of students would produce a product to tolerance, and 80% of students would show proficiency in 2D design.

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

90

* Outcome #2

* Outcome #2
Apply a basic understanding of quality control processes and measuring.

In Fabrication Project#1 students showed minimal understanding of quality control and measuring practices. As we transitioned through blue printing into the fabrication of said designs, students were showing improvement in both strategy and understanding of measuring devices and their proper use. Following up the blueprinting and fabrication project into precision measuring, students were able to apply precision measuring skills with 90% proficiency, vs 25% at the initial assessment of the course.

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

90

* Outcome #3

* Outcome #3
Use fixtures/jigs to accurately reproduce product.

Students were tasked with creating a large scale product that was replicated 10x. Through this project the understanding of fixtures and the requirement to design added tooling in order to replicate a part in exact dimension were largely met. Students began this project with a fairly solid understanding of the fundamentals, but lacked the experience resulting in additional problem solving as problems were found and addressed throughout the process.

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

100.

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

Time was spend addressing the key factors that related each outcome item to life outside the classroom via comparisons to real world scenarios that students use in daily life. Offering these skills and introducing them in a way that students relate to by using day to day scenarios and application encouraged students to retain and continue to use the skills learned.

* 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.

In comparison, I feel that students achieved higher understanding than they are willing to give themselves on a 1-5 scale. The associated skills are foundational, and due to the nature of the trade, these skills will largely remain in a "developmental" status.

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

Yes

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

Based on my analysis, some adjustments to the scale of projects involved in order to increased the repetition of these projects would greatly improve the growth, and I believe it would also improve the students ability to reflect on that growth in a more measurable manner..

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

Materials, and most likely an increase in budget to reflect said change.

* 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.

As this is my first year of instruction I do not have data to to apply to this question.

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

I typically handle these with how they relate to everyday items, household objects, and life outside the classroom.

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: "Curiosity" - Encouraging our students to "Ask deeper questions about other cultures and seek out answers to these questions" 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"

Being my first year of instruction, my primary focus was to take these students from the whiteboard and apply their knowledge. Through the application of written manufacturing process, applied mathematics, as well as introducing basic metallurgy/chemistry, this course aided in the the students abilities in both quantitative literacy and critical thinking/problem solving.