

Course Assessment- Part B: Your Results & Analysis

COMPLETE

#492

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

MTH 252 - Calculus II - 1096432 - John Evans - Winter 2021

*** 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.

I have been concerned with lower success rates through zoom than I am used to seeing face to face, but this class did quite while. Out of 24 students, 2 received F's while the other 22 received a C or higher. The 2 that did receive F's were not no shows, but stopped attending very early in the term. One of them turned in no assignments and the other did only 3 minor assignments (bi-weekly quizzes).

*** Outcome #1**

Recognize applications in which the concept of differentiation or integration can aid in overall understanding.

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

22/24 = 92%

*** Outcome #2**

Construct appropriate models using definite, indefinite, or improper integrals, or basic differential equations.

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

22/24 = 92%

*** Outcome #3**

Analyze and effectively communicate results within a mathematical context.

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

20/24 (22 students turned in the second project, but two of them scored only 60%)

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

Student success in math comes from students working problems, finding their errors, and fixing those errors. Math 252 is a hard class - harder than anything most college students ever take, and my approach is a little different. I see little value in trying to prevent students from getting frustrated. (I know that in some disciplines frustration is devastating.) Instead I focus on giving students strategies for dealing with frustration and continuing to forge ahead. Most students in Math 252 are in STEM majors, and a big part of finishing a STEM degree is managing and dealing with frustration. At first this is odd for students, but by Math 252 they are used to this approach and most actually appreciate it.

*** 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.**

I have never seen such a big difference in before/after assessments from students. Apparently they felt strongly that they learned quite a bit in this class. In my experience with calculus, students often underestimate how much they learned because there is a lot more there than it seems (we cover a relatively small number of sections in the book) and calculus has a habit of making students feel dumb (and teachers too). That was a nice surprise. I had a record number of high school students in that class as well, many of whom did not have the first part of calculus from me. For the most part they did really well, which made me wonder how much they really learned. From their answers it would appear that they learned quite a bit.

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

yes. definitely

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

none really - I just really want back in the class room. One of the optional questions I asked had to do with break out rooms for students working on problems in class (a big part of my teaching style) since I don't use them. It seems that students are split down the middle more or less in seeing their value.

The main adjustment that may need to be done has to do with technology and which topics are no longer as important as they were in the past. Approximately a third of Math 252 is techniques of integration. Of course part of that is theoretical and conceptual and is totally appropriate, but a big part of that is learning how to actually find integrals. Some of the techniques probably hold value, but others may not. I need to reevaluate how much class time to devote to something that can be done using technology. That is, how much of integration technique is useful conceptually, and how much has been delegated by technology to what amounts to "arithmetic."

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

I know a few other instructors around the state, I will contact them to see where they are in addressing that question.

*** 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.**

I make adjustments all the time, as all of us do. I don't recall anything specific or related to the last time I did this for Math 252.

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

(No response)

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: "Source and Evidence" and "Organization and Presentation" and ILO #2: Critical Thinking/Problem Solving. The areas that faculty are focusing on are: "Student's Position" (Critical Thinking) and "Evaluate Potential Solutions" (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"

I won't claim to have given it heavy coverage, but I did remind students of the need to site their sources in the one writing assignment they had. I talk about assumptions all the time, and one topic from Math 252 really puts that right in a student's face.