

Course Assessment Report
Washtenaw Community College

Discipline	Course Number	Title
Mathematics	191	MTH 191 05/24/2017- Calculus I
Division	Department	Faculty Preparer
Math, Science and Engineering Tech	Mathematics	Mohammed Abella
Date of Last Filed Assessment Report		

I. Assessment Results per Student Learning Outcome

Outcome 1: Solve elementary limit problems.

- Assessment Plan
 - Assessment Tool: Common departmental exam questions
 - Assessment Date: Winter 2012
 - Course section(s)/other population: All
 - Number students to be assessed: All
 - How the assessment will be scored: Departmentally-developed rubric.
 - Standard of success to be used for this assessment: 75% of the students will score 75% or higher.
 - Who will score and analyze the data: Departmental faculty.

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2017	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
249	34

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

All students in my section were assessed. I would have preferred to randomly select five (5) students from each section. However, because of construction in my pod area, I was unable to collect final exams from other instructors. This will be corrected in the next assessment.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

All students selected were on campus, taking face-to-face calculus.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

I used embedded assessment in the common final departmental exam

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

For this outcome, 26 out of 34 students scored higher than 83%. This represents 76.5% of the students.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

This was the most difficult outcome. To have 76.5% of the students score 83% or higher is quite an accomplishment.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

5 out of 34 students or 14.7% of the students received a 0 for this outcome. Even though the standard of success was met, and because topics for this outcome are covered early in the course, my plan and suggestion for everyone who teaches calculus is to review topics on limits throughout the semester.

Outcome 2: Solve differentiation problems and related application problems.

- Assessment Plan
 - Assessment Tool: Common departmental exam questions

- Assessment Date: Winter 2012
- Course section(s)/other population: All
- Number students to be assessed: All
- How the assessment will be scored: Departmentally-developed rubric.
- Standard of success to be used for this assessment: 75% of the students will score 75% or higher.
- Who will score and analyze the data: Departmental faculty.

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2017	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
249	34

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

All students in my section were assessed. I would have preferred to randomly select five (5) students from each section. However, because of construction in my pod area, I was unable to collect final exams from other instructors. This will be corrected in the next assessment.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

All students were on campus.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

This part of the assessment was embedded in the final exam.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: <u>Yes</u>
31 out of 34 students scored higher than 83% for this outcome. This represents 91.2% of the students.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

For this outcome, 91.2% of the students got a perfect score. This was the highest percentage of all the outcomes. It may be because 2 out of 5 chapters or 40% are on topics of differentiation.
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8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Even though the results indicate that the students did their best in this outcome, it cannot be taken for granted. For continuous improvement, all aspects of differentiation should continue to be covered with as much rigor and detail as before, regardless of the high score.
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Outcome 3: Solve elementary integration problems.

- Assessment Plan
 - Assessment Tool: Common departmental exam questions
 - Assessment Date: Winter 2012
 - Course section(s)/other population: All
 - Number students to be assessed: All
 - How the assessment will be scored: Departmentally-developed rubric.
 - Standard of success to be used for this assessment: 75% of the students will score 75% or higher.
 - Who will score and analyze the data: Departmental faculty.

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2017	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
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3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

All students in my section were assessed. I would have preferred to randomly select five (5) students from each section. However, because of construction in my pod area, I was unable to collect final exams from other instructors. This will be corrected in the next assessment.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

All students assessed were on campus.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

The assessment tool for this outcome was embedded in the common departmental final exam.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

23 out of 34 students received 100% for this part, and 3 out of 34 students received 83%. That is a total of 26 students. $26/34 = 0.765$, which is 76.5 % of the students.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Topics for this outcome were the last ones to be covered. Those topics were somewhat difficult, but 76.5% of the students received at least 83%, with 67% of the students receiving a perfect score of 100%. The students demonstrated their strength in integration techniques.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Because topics of this outcome were covered last, I was worried that the students would not do well on it, but a 76.5% rate of success was accomplished. The plan

for continued success or a higher rate of success is to continue to cover integration techniques and discuss their applications in as much detail as possible.

II. Course Summary and Action Plans Based on Assessment Results

1. Describe your overall impression of how this course is meeting the needs of students. Did the assessment process bring to light anything about student achievement of learning outcomes that surprised you?

Overall the course is meeting the students' needs. The students need topics on limits, differentiation, and integration in order to prepare them for Calculus II.

2. Describe when and how this information, including the action plan, was or will be shared with Departmental Faculty.

The general assessment results will be shared with all the math faculty at the next department meeting during In-Service. The detailed results will be shared with all faculty who teach calculus.

3. Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Other: Assessment Process	Collect a random sample of 5 students from each section of the course for the assessment process.	I was only able to assess all students in my section of the course. However, because of construction in my pod area, I was unable to collect final exams from other instructors. This will be corrected in the next assessment.	2017

4. Is there anything that you would like to mention that was not already captured?

5.

III. Attached Files

[MTH 191 data](#)

Faculty/Preparer:	Mohammed Abella	Date: 06/06/2017
Department Chair:	Lisa Rombes	Date: 06/07/2017
Dean:	Kristin Good	Date: 06/08/2017
Assessment Committee Chair:	Michelle Garey	Date: 09/18/2017

COURSE ASSESSMENT REPORT

I. Background Information

1. Course assessed:
 Course Discipline Code and Number: MTH 191
 Course Title: Calculus 1
 Division/Department Codes: MNB/MTH

2. Semester assessment was conducted (check one):
 Fall 20__
 Winter 20_09_
 Spring/Summer 20__

3. Assessment tool(s) used: check all that apply.
 Portfolio
 Standardized test
 Other external certification/licensure exam (specify):
 Survey
 Prompt
 Departmental exam
 Capstone experience (specify):
 Other (specify):

4. Have these tools been used before?
 Yes

If yes, have the tools been altered since its last administration? If so, briefly describe changes made.
 Yes, the questions were altered.

5. Indicate the number of students assessed/total number of students enrolled in the course.
 All the students took the assessment test.

6. Describe how students were selected for the assessment.
 A total of 20 tests were selected at random with no more than 10 from any one section.

II. Results

1. Briefly describe the changes that were implemented in the course as a result of the previous assessment.
 None

2. List each outcome that was assessed for this report exactly as it is stated on the course master syllabus.
 Solve elementary limit problems.
 Solve differentiation problems and related application problems.
 Solve elementary integration problems.

3. Briefly describe assessment results based on data collected during the course assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. *Please attach a summary of the data collected.*
 The tests were scored out of 15 points. The results were: 14, 14, 15, 15, 13, 14, 15, 15, 14, 13, 15, 15, 15, 15, 15, 15, 14, 14, 15, 15.

4. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. *Please attach the rubric/scoring guide used for the assessment.*

75% of the students achieve a $\frac{3}{4}$ or 75% score on the assessment.

100% of the students achieved that level of success.

COURSE ASSESSMENT REPORT

5. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.

Strengths: outcome number 1, solving elementary limit problems.

Weaknesses: outcome number 3, solving elementary integration problems

III. Changes influenced by assessment results

1. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses.
 recommend to all calculus 1 instructors to spend more time on evaluating limits of integration when calculating areas.

2. Identify intended changes that will be instituted based on results of this assessment activity (check all that apply). Please describe changes and give rationale for change.

- a. Outcomes/Assessments on the Master Syllabus

Change/rationale:

- b. Objectives/Evaluation on the Master Syllabus

Change/rationale:

- c. Course pre-requisites on the Master Syllabus

Change/rationale:

- d. 1st Day Handouts

Change/rationale:

- e. Course assignments

Change/rationale:

- f. Course materials (check all that apply)

Textbook

Handouts

Other:

- g. Instructional methods

Change/rationale:

- h. Individual lessons & activities

Change/rationale:

3. What is the timeline for implementing these actions? Winter 2010

IV. Future plans

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this course.

The assessment tool was effective in measuring student achievement of learning outcomes for calculus.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments.

3. Which outcomes from the master syllabus have been addressed in this report?

All

If "All", provide the report date for the next full review: winter 2012 .

If "Selected", provide the report date for remaining outcomes: _____

COURSE ASSESSMENT REPORT

Submitted by:

Print: Mohammed Abella _____ Signature Mohammed Abella Date: 08/06/2009
08/06/2009
Faculty/Preparer

Print: Kris Chatas _____ Signature Kris Chatas 9/9/09
Date: _____
Department Chair

Print: Marty Showalter _____ Signature M. Showalter 9/10/09
Date: _____
Dean/Administrator

logged 9/10/09 sj
Approved by the Assessment Committee 11//08