Course Assessment Report
Washtenaw Community College

Discipline	Course Number	Title
Chemistry	102	CEM 102 11/21/2016-Chemistry for Elementary Teachers
Division	Department	Faculty Preparer
Math, Science and Engineering Tech	Physical Sciences	Breege Concannon
Date of Last Filed Assessment Report		

I. Assessment Results per Student Learning Outcome

Outcome 1: Recognize the concepts and principles of general chemistry as they relate to matter and its changes, basic atomic theory, chemical reactions, gases, solutions, bonding, energy, equilibrium, nomenclature, biochemistry, and organic chemistry at a basic level.

- Assessment Plan
    - Assessment Tool: Unit tests will have common multiple choice questions used for overall assessment.
    - Assessment Date: Winter 2013
    - Course section(s)/other population: all
    - Number students to be assessed: all
    - How the assessment will be scored: Answer Key
    - Standard of success to be used for this assessment: 70% of students must score an overall average of 70% or higher on unit test questions.
    - Who will score and analyze the data: Full-time chemistry faculty will blind-score and analyze data.

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)
	2012	

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

# of students enrolled	# of students assessed
15	15

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 were assessed.

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.

There is only one section of cem102, and all students were assessed.

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

All students in the course took a multiple choice exam. It was scored using an answer key.

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
Questions from three unit tests were used in the assessment. They are included in the assessment report, and the average score was 87.5%. The standard of success was 70% of the students would score 70% or higher and this was achieved.

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

Students performed above the standard, the questions were from three different unit tests covering various areas of general chemistry, and the averages were about the same for each unit test.

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.

There were three questions which students in general did poorly on, one involved balancing chemical equations with only 57% of them answering it correctly, another on polar covalent bonds with a 47% success rate, and the last on redox reactions where 53% were successful. Since these are topics that are not typically covered in an elementary education classroom I believe I did not emphasize these as much as a concept like states of matter which would be taught in elementary education. Since it was only one sampling and the course is not being taught

anymore at WCC, and these topics are not important to elementary teachers no changes are envisioned.

Outcome 2: Develop and teach a lesson plan for elementary age children based on one of the principles of chemistry.

- Assessment Plan
    - Assessment Tool: Lesson plan
    - Assessment Date: Winter 2013
    - Course section(s)/other population: All sections
    - Number students to be assessed: All students
    - How the assessment will be scored: Departmentally-developed rubric
    - Standard of success to be used for this assessment: 70% of the students will score 70% or higher.
    - Who will score and analyze the data: Full-time faculty will score and analyze the data.

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)
	2012	

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

# of students enrolled	# of students assessed
15	15

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.

This was no assessed

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.

This was not assessed

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

This was not assessed

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: No
This was not assessed

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

This was not assessed

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.

Not assessed

Outcome 3: Perform laboratory experiments in a safe manner related to science processes and concepts: measurement, density, chemical reactions, gases, acids and bases and bonding using standard laboratory equipment and materials that are easily obtainable.

- Assessment Plan
    - Assessment Tool: Lab reports
    - Assessment Date: Winter 2013
    - 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: 70% of students must score an overall average of 14/20 points on the lab report.
    - Who will score and analyze the data: Full-time chemistry faculty will blind-score and analyze data.

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)
	2012	

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

# of students enrolled	# of students assessed
15	15

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.

This was not assessed

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.

This was not assessed

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

This was not assessed

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: No
This was not assessed

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

Not assessed

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.

Not assessed

Outcome 2: Develop and teach a lesson plan for elementary age children based on one of the principles of chemistry.

- Assessment Plan
    - Assessment Tool: Teaching lesson plan, observation and reflection checklists.
    - Assessment Date: Winter 2013
    - Course section(s)/other population: All sections
    - Number students to be assessed: All students
    - How the assessment will be scored: Departmentally-developed rubric
    - Standard of success to be used for this assessment: 70% of the students will score 70% or higher.
    - Who will score and analyze the data: Full-time faculty will score and analyze the data.

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)
	2012	

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

# of students enrolled	# of students assessed
15	15

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.

N/A

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.

Not assessed

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

Not assessed

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: No
Not assessed

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

This was not assessed

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.

Not assessed

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?

The students are meeting the outcomes, they did really well in most areas of general chemistry, and are very willing to learn. As the assessment was over three unit tests it gives a more accurate view of the student learning in the course, and the students are focused on the tests at the time.

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

We will discuss this during department meetings.

3. Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
No changes intended.			

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

5.

III. Attached Files

Faculty/Preparer:	Breege Concannon	**Date:** 11/21/2016
Department Chair:	Kathleen Butcher	**Date:** 01/03/2017
Dean:	Kristin Good	**Date:** 01/06/2017
Assessment Committee Chair:	Ruth Walsh	**Date:** 01/31/2017