GenEd Assessment Report for Department of Chemistry

1. Goals and Objectives:

Students taking the GnEd. Chemistry courses should be able to understand and apply the chemical knowledge. Students should be able to understand the nature of scientific knowledge. They should have a sufficient information to be able to apply it in their daily life.

Instructors should be using Bloom's taxonomy to guide the development of assessments (tests, quizzes and homework), curriculum (choosing the text book, variety of topics, projects, and other learning activities), and instructional methods such as questioning strategies.

For improving the GnEd. classes. The instructors must include certain criteria. Testing the level of **Knowledge** in scientific methods and topics taught, including some questions to examine the students' **Understanding** of the material covered. Students are supposed to **apply** key processes and scientific reasoning to **speculate** reasonable conclusions. Students should **learn** how to apply critical and logical thinking, as well as appropriate sources to **evaluate** the credibility of information in the results obtained. **Creating** new ways of teaching and testing to approach the best results possible.

2. Measures and Criterion:

Instructors should choose 10 questions from the created bank of questions designed by the GnEd Chemistry coordinator and the instructors teaching the GnEd. Instructors will report the results to the coordinator after the final exam. Students should be tested on using critical and logical thinking, knowledge of scientific methods.

3. Findings and Results [Report for Non-Major Chemistry (CHEM 101 and CHEM102) Spring 2018]:

The results for each section are given in the following tables in details:

GEN-ED Questions Grades.
Class: CHEM101-001- 40412 (Survey of Chemistry I)
Instructor: Priyadarshini Pathak
Semester: Spring 2018
Total # of students who took the final exam: 45

CORRECT ANSWERS OUT OF 10	NUMBER OF STUDENTS	% OF STUDENTS IN CLASS
10	**8**	**17.8**
9	**16**	**35.6**

8	**15**	**33.3**
7	**5**	**11.1**
6	**0**	**0.0**
5	**0**	**0.0**
4	**0**	**0.0**
3	**1**	**2.2**
2	**0**	**0.00**
1	**0**	**0.00**
0	**0**	**0.00**
	45	**100**

GEN-ED Questions Grades.
Class: CHEM101-002- 40416 (Survey of Chemistry I)
Instructor: Priyadarshini Pathak
Semester: Spring 2018
Total # of students who took the final exam: 22

CORRECT ANSWERS OUT OF 10	NUMBER OF STUDENTS	% OF STUDENTS IN CLASS
10	**3**	**13.6**
9	**8**	**36.4**
8	**4**	**18.2**
7	**5**	**22.7**
6	**1**	**4.6**
5	**1**	**4.6**
4	**0**	**0**
3	**0**	**0**
2	**0**	**0**
1	**0**	**0**

0	**0**	**0**
	22	**100**

GEN-ED Questions Grades.
Class: CHEM102-001- 42332 (Survey of Chemistry II)
Instructor: Ryan Simon
Semester: Spring 2018
Total # of students who took the final exam: 77

CORRECT ANSWERS OUT OF 10	NUMBER OF STUDENTS	% OF STUDENTS IN CLASS
10	**20**	**26.0**
9	**30**	**39.0**
8	**12**	**15.6**
7	**7**	**9.1**
6	**5**	**6.5**
5	**1**	**1.3**
4	**1**	**1.3**
3	**0**	**0**
2	**0**	**0**
1	**0**	**0**
0	**1**	**1.3**
	77	**100**

4. Comments on Results and Future Plan:

The results were acceptable for the students who were enrolled in two sections of the non-major course CHEM 101 (Survey of Chemistry I). Results improved compared to fall 2017, because the instructor was teaching the class for the second time, which made her well prepared and more confident. The number of students enrolled in CHEM101-001- 40412 Spring 2018 was 45 students. 86.7% of the students scored higher than 70% of the questions correct, 53.4 % of total number of students scored higher than 80%.

The number of students enrolled in CHEM101-002- 40416, spring 2018 was 22 students. 90.9% of the students scored higher than 70% of the questions correctly answered, 68.2% of total number of students scored higher than 80%. The results for section 002 is even better compared to section 001. Both classes were taught by the same instructor (adjunct professor); however, the number students were less than the first section. That resulted in better contact between the instructor and the students.

The number of students enrolled in CHEM102-001- 42332 (Survey of Chemistry II), spring 2018 was 77 students. This class is evaluated by GenEd for the first time. 89.7% of the students scored higher than 70% of the questions correct, and 80.6% of total number of students scored higher than 80%. The results for this class are better CHEM101. This is due to several reasons, first, it was taught by an instructor who taught CHEM102 for several semesters. Second, the instructor was the one who choose the book used for teaching this class. Finally, the students were familiarized with the chemistry topics when they passed CHEM101 the pre-req. class for Survey in Chemistry II.

The % calculated are exceptionally high. They can even be improved by choosing highly qualified instructors to teach these classes. If the classes are taught by adjunct professors, they should be given enough time to prepare the courses and should be mentored by a senior faculty to make sure they are in the right track. Performance can also be enhanced by using a wide variety of questions in homework assignments and quizzes.