Program Assessment Report

Program: Chemical Technology - Associate in Applied Science

Year: 16/17

Division: Science and Mathematics

Contact: Cynthia Peck & Joan Sabourin

Delta College

Actions Taken in Response to Last Year's Report

The students were required analyze two IR spectra that had been obtained from the Infra-Red spectrophotometer A similiar experiment was performed by the students in the lab

Rationale for Current Assessments

Assessment 1 of 1

Goal / Project

Outcome(s)

Evaluate results from chemical experimentation.

Standard / Objective

The expectation is that the students will score greater than 70% completing the analysis of two separate IR spectra, indicating the bond stretches, the wavenumbers observed and the potential functional groups represented in the spectra.

Method of assessment

Capstone Exam(s) / Mock Prof Exam

Comment/Details about the method of assessment

The students were required analyze two IR spectra that had been obtained from the Infra-Red spectrophotometer

Courses Affected

CHM 210, 220, 210L, 220L & 230

Time Frame

Winter 2017

Submitted By

Dave Baker

Result

Result

(2) Results met expectation/standard

Data Collection (general or specific stats regarding results)

The answers were graded by the faculty teaching the course using a rubric that had been developed. As an average all of the Chemical Technology students (4) in the CHM 220LW class scored greater than the expectation of 70%. Three students scored about the 70% expcetation. One scored slightly less at 63%. The average score of all of the chemical technology student was 76.7%

What We Learned (areas for improvements, strengths, etc.)

This is the first time this broader assessment skill that relates to analysis of IR spectra has been evaluated. The students ability complete the analysis of unknown spectra . I do not think anything needs to be addressed with the chemical technology students, just a little more focused tutoring at the beginning to emphasize the importance of being able to complete these types of analysis on data and lab results

Use of Data to Improve Student Success

These types of analyses of data are an important part of every laboratory experiment and are fundamental in a rapid evalaution of a reaction, looking at reactants used and products produced. These are aspects every chemical technician should be familair and comfortable completing. The data suggest that the majority of chemical technician students are competent in these areas. A very important point is that all of the chemical technology students have taken the analytical chemistry course CHM 230, which should provide ample opportunity for review and reinforcement of this particular skill and technique.

Institutional Student Learning Outcomes

- [x] Apply Knowledge and Skills
- [x] Think Critically
- [ ] Communicate Effectively
- [ ] Act Responsibly

Comments and Action Plan

Discipline/Program Comments

This is the first time this assesment has been used. I am hopeful that a high expectation above 70% can be maintained by the chemical technology students. The poorer performance by one student needs to be addressed with a more focused discussion and analysis of IR spectra, during the presentation and application of this analytical technique, in class and in lab, with more re-emphasising of how waveneumbers and bond stretches can be directly correlated to organic functional groups present in a molecule

Advisory Board Comments

Assessment Committee Comments

Curriculum Council Comments

Action Plan

Actions Taken in Response to Older Reports