

# Annual Academic Assessment Report

## (BS/FOOD SCIENCE)

(May 11, 2023)

### 1. Results of analysis of assessment of Student Learning Outcome (SLO)

*The Student Learning Outcomes provided below are those related to Food Chemistry.*

#### **SLO FC.1. Discuss major chemical reactions that limit shelf life of foods.**

1. SLO FC.1 was assessed in Fall 2022 in FDSC 4304/5304 Food Chemistry. Two different Learning Assessment Techniques (LAT) were used to assess FC.1:

**LAT 1 (Objective Test Items):** administered to a group of 35 students enrolled in FDSC 4304/5304; students were assessed in an in-class examination period and given as much time as they needed.

**LAT 2 (Open ended questions):** administered to a group of 35 students enrolled in FDSC 4304/5304; students were assessed in an in-class examination period and given as much time as they needed, and with pre-lab essays.

2. Key Findings for SLO FC.1:

**LAT 1 (Objective test items):** 24/35 (68.6%) students scored 2 points; 11/35 (31.4%) students scored 0 points.

**LAT 2 (Open ended questions):** 22/35 (63%) scored 15 points, 7/35 (20%) scored 12 points, 4/35 (11%) scored 9 points and 2 scored 4 points.

3. Interpretation of key findings in connection to student learning:

**LAT 1 (Objective test items):** The first data point indicates that ELO [FC 1] was met.

**LAT 2 (Open ended questions):** The second data point indicates that ELO [FC 1] was met.

4. Description of anticipated actions for improvement of teaching and learning based on key findings:

Although indications are that this ELO [FC 1] was met, we would like to see a higher percentage of students scoring in the highest point range on both LAT. Therefore, we will revisit LAT assessment instruments for validity, and reevaluate item selection.

### **SLO FC 6: Explain the principles behind analytical techniques associated with food.**

1. SLO FC.6 was assessed in Fall 2022 in FDSC 4304 Food Chemistry. Two different Learning Assessment Techniques (LAT) were used to assess FC.6:

**LAT 1 (Quick write)** administered to a group of 35 students enrolled in FDSC 4304/5304; students were assessed in an in-class examination period and given as much time as they needed.

**LAT 2 (Comprehensive factors list)** administered to a group of 35 students enrolled in FDSC 4304/5304; assessed by pre-lab essays and in-class examination.

2. Key Findings for SLO FC.6:

LAT 1 (Quick write): 31/35 (90%) scored 3 points, 3/35 (8%) scored 2 points, 1/35 (2%) scored 1 point.

LAT 2 (Comprehensive factors list): 22/35 (63%) scored 10 points, 5/35 scored 9 points, 5/35 scored 8 points and 3/35 (9%) scored 7 points.

3. Interpretation of key findings in connection to student learning:

LAT 1 (Quick write): Our first data point indicates that ELO [FC 6] was met, as 90% of the students scored within the highest point range of the total points available.

LAT 2 (Comprehensive factors list): Our second data point also indicates that ELO [FC 6] was met as more than 50% of students scored in the highest point range.

4. Description of anticipated actions for improvement of teaching and learning based on key findings:

Although indications are that this ELO [FC 6] was met, we would like to see a higher percentage of students scoring in the highest point range on LAT 2. Therefore, we will revisit LAT 2 assessment instruments for validity, and reevaluate item selection.

### **SLO FC 7: Evaluate the appropriate analytical technique when presented with a practical problem**

1. SLO FC.7 was assessed in Fall 2022 in FDSC 4304 Food Chemistry. Two different Learning Assessment Techniques (LAT) were used to assess FC.7:

**LAT 1 (Analytic memo)** administered to a group of 35 students enrolled in FDSC 4304/5304; students were assessed by lab report framed as an Application Note to an employer.

**LAT 2 (Open ended question)** administered to a group of 35 students enrolled in FDSC 4304/5304; assessed by in-class examinations.

2. Key Findings for SLO FC.7:

**LAT 1 (Analytic memo)** 29/35 (83%) scored 50 points, 1/35 (3%) scored 47 points, 1/35 (3%) scored 45 points, 4/35 (11%) scored 0 points.

**LAT 2 (Exam questions)** 15/34 (44%) scored 10 points, 10/34 (29.4%) scored 8 points, 8/34 scored 6 points, 1/34 scored 4 points..

3. Interpretation of key findings in connection to student learning:

**LAT 1 (Analytic memo)** Our first data point indicates that ELO [FC 7] was met, as 83% of the students scored within the highest point range of the total points available.

**LAT 2 (Exam questions)** Our second data point however indicates that less than half, only 44%, of the students achieved the highest point total.

4. Description of anticipated actions for improvement of teaching and learning based on key findings:

Based on the inconsistency of our 2 data points, we plan on the following:

- Revisit both assessment instruments for validity
- Revise both lecture and laboratory materials to emphasize this ELO [FC 7]

**General SLO 6.1. Gain the ability to synthesize, integrate, and apply knowledge developed throughout the undergraduate years.**

1. SLO 6.1 was assessed in Spring 2023 in FDSC 4713/5713 Product Innovation. Two different Learning Assessment Techniques (LAT) were used to assess SLO 6.1:

**LAT 1 (Product Development Brief):** administered to a group of 24 students enrolled in FDSC 4713/5713; students were assessed in groups on the development or solution to a product development brief provided by Simmons Foods. Assessment included a final presentation and written report.

**LAT 2 (Reflective Essay):** administered to a group of 24 students enrolled in FDSC 4713/5713; students were assessed in a reflective essay about the product development

project and how they applied their communication skills, food science skills, and critical thinking.

2. Key Findings for SLO 6.1:

**LAT 1 (Product Development Brief):** Presentation: 14/24 (58%) scored 114/120 pts, 3/24 (13%) scored 115 pts, 7/24 (29%) scored 120 pts; Written report: 7/24 (29%) scored 81.25/87.5 pts, 7/24 (29%) scored 84.38 pts, 10/24 (42%) scored 87.5 pts

**LAT 2 (Reflective Essay):** 4/24 (17%) students scored 0/12.5 pts, 1/24 (4%) scored 6.25 pts, 2/24 (8%) scored 9.38 pts, 2/24 (8%) scored 10.93 pts, 15/24 (63%) scored 12.5 pts

3. Interpretation of key findings in connection to student learning:

**LAT 1 (Product Development Brief):** Our first data point indicates that ELO [6.1] was not met as 29% achieved the highest point total. However, 100% of the students scored above 90% on both the project and presentation.

**LAT 2 (Reflective Essay):** Our second data point indicates that ELO [6.1] was met, as 63% of the students achieved the highest point total.

4. Description of anticipated actions for improvement of teaching and learning based on key findings:

We would like to see a higher percentage of students scoring in the highest point range on LAT 1. Therefore, we will revisit LAT 1 assessment instruments for validity. Furthermore, we would like to see more students completing LAT 2 and will re-evaluate the assessment timing in the course to improve participation.

**2. Any changes to degree/certificate planned or made on the basis of the assessment and analysis.**

No changes to the degree program are planned nor were made on the basis of the assessment and analysis.

**3. Any changes to the assessment process made or planned.**

No changes to the assessment process have been made or planned.