

Annual Academic Assessment Report

(BS/FOOD SCIENCE)

(May 10, 2024)

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

The Student Learning Outcomes provided below are those related to Quality Assurance.

SLO QA.1: Define food quality and food safety terms.

1. SLO QA.1 was assessed in Spring 2023 in FDSC 2523 Sanitation and Safety in Food Processing Operations. Two different Learning Assessment Techniques (LAT) were used to assess QA.1:

LAT 1 (Knowledge grid) *administered to 39 students enrolled in FDSC 2523 in-class. Students worked in pairs to complete the knowledge grid assignment in 20-minutes of class. Students were evaluated using a rubric on a 5-point scale.*

LAT 2 (Exam question) *administered to 39 students in-class. Students had 75 minutes to complete the exam during class. Students were evaluated using an exam key with 2 points per question.*

2. Key Findings for SLO QA.1:

LAT 1 (Knowledge grid) *12/39 (30.8%) students scored 5 points, 8/39 (20.5%) students scored 4.5 points, 11/39 (28.2%) students scored 4 points, 8/39 (20.5%) students scored 0 points.*

LAT 2 (Exam question) *31/39 (79.5%) students scored 2 points; 8/39 (20.5%) students scored 0 points.*

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

LAT 1 (Knowledge Grid) *Our first data point indicates that ELO [QA1] was met as more than half our students scored above 90% in the rubric.*

LAT 2 (Exam questions) *Our third data point indicates that ELO [QA1] was met as more than half our students earned above 80% of the total points.*

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

Although indications are that this ELO [QA. 1] was met, we would like to see a higher percentage of students scoring in the highest point range for LAT1. For LAT1, we would limit the number of terms provided and increase the number of times the assignment occurs in the course. The ELO QA2 includes a wide range of terms it would be beneficial to split them into a couple of knowledge grids to evaluate more terms more often.

SLO QA.2: Apply principles of quality assurance and control.

1. SLO QA.2 was assessed in Fall 2023 in FDSC 3103 Food Processing. Two different Learning Assessment Techniques (LAT) were used to assess QA.2:

LAT 1 (Best Summary): *administered to a group of 22 students enrolled in FDSC 3103; students had one week to complete the take-home assignment. Students were assessed using a 100-point rubric.*

LAT 2 (Open ended questions): *administered to a group of 22 students enrolled in FDSC 3103; students had 50 mins to complete the exam. Students were assessed using a 20-point rubric.*

2. Key Findings for SLO QA.2:

LAT 1 (Best Summary): *18/22 (81.8%) students scored 90-100 points; 3/22 (13.6%) students scored 80-90 points; and 1/22 (4.5%) scored lower than 80 points.*

LAT 2 (Open ended questions): *9/22 (40.9%) students scored 18-20 points; 7/22 (31.8%) students scored 16-18 points; 5/22 (22.7%) students scored 14-16 points; and 1/22 (4.5%) scored lower than 14 points.*

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

LAT 1 (Best Summary): *Our first data point indicates that ELO QA 2 was met, as more than half of the students scored within the highest point range of the rubric.*

LAT 2 (Open ended questions): *Our second data point indicates that ELO QA 2 was met, as more than half of the students earned more than 80% of the total points.*

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

Although indications are that this ELO [QA. 2] was met, we would like to see a higher percentage of students scoring in the highest point range on LAT2. Therefore, we will revisit LAT 2 assessment instrument for validity, and reevaluate item selection. We also believe we could enhance learning in LAT 1 by asking students to evaluate their peer's summaries.

SLO QA.4: Evaluate food quality assessment systems (e.g. statistical process control).

1. SLO QA.4 was assessed in Fall 2023 in FDSC 3103 Food Processing. Two different Learning Assessment Techniques (LAT) were used to assess QA.4:

LAT 1 (Problem recognition task) administered to a group of 22 students enrolled in FDSC 3103; students had 50 mins to complete the exam. Students were assessed using a 16-point rubric.

LAT 2 (Documented problem solution) administered to a group of 22 students enrolled in FDSC 3103; students had one week to complete the take-home assignment. Students were assessed using a 100-point rubric.

2. Key Findings for SLO QA.4:

LAT 1 (Problem recognition task): 9/22 (40.9%) students scored 14.4-16 points; 10/22 (45.5%) students scored 12.8-14.4 points; 2/22 (9.1%) students scored 11.2-12.8 points; and 1/22 (4.5%) scored lower than 11.2 points.

LAT 2 (Documented problem solution): 11/22 (50.0%) students scored 90-100 points; 4/22 (18.2%) students scored 80-90 points; 4/22 (18.2%) students scored 70-80 points; and 3/22 (13.6%) scored lower than 70 points.

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

LAT 1 (Problem recognition task): *Our first data point indicates that ELO QA 4 was met, as more than half of the students earned more than 80% of the total points.*

LAT 2 (Documented problem solution): *Our second data point indicates that ELO QA 4 was met, as half of the students scored within the highest point range of the rubric.*

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

Although indications are that this ELO [QA. 4] was met, we would like to see a higher percentage of students scoring in the highest point range for both LATs. We will add another assessment to complement the in-class group activity for LAT 1. For LAT2, the data for one of the questions was generated in the class by the students. Real-life data improved their learning and can be applied to all the problems in the assignment.

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 2024 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 20 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. The assessment included a poster, final presentation, and written report. We also evaluated their group collaboration through peer evaluations which were considered in the assessment.*

LAT 2 (Reflective Essay): *administered to a group of 20 students enrolled in FDSC 4713/5713; students were assessed in a reflective essay about the product development project and how they applied their written and oral communication skills, quantitative literacy, diversity awareness, and critical thinking.*

2. Key Findings for SLO 6.1:

LAT 1 (Product Development Brief): Poster: 20/20 (100%) scored 50/50 pts; Presentation: 20/20 (100%) scored 150/150 pts; Written report: 6/20 (30%) scored 98/100 pts, 7/20 (35%) scored 96 pts, 7/20 (35%) scored 94 pts; Peer Evaluation: 12/20 (60%) scored at least 48/50 pts, 4/20 (20%) scored 47 pts, 3/20 (15%) scored 46 pts, 1/20 (5%) scored 43 pts, 1/20 (5%) scored 39 pts

LAT 2 (Reflective Essay): 14/20 (70%) students scored 20/20 pts; 13/20 (65%) students scored 19/20 pts, and 1/20 (5%) scored 0 pts.

Based on these two components, our students were scored on a scale of 0 to 4. 19/20 (95%) students scored 4/4 pts; 1/20 (5%) students scored 2/4 pts.

Scale (Only students who earn a 2, 3, or 4 will be considered proficient.)

- 4 represents outstanding achievement
- 3 represents good achievement
- 2 represents average achievement
- 1 represents poor achievement

0 indicates no achievement

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 met as 100% scored within the highest point range in the project brief assignment.*

LAT 2 (Reflective Essay): *Our second data point indicates that ELO [6.1] was met, as 70% of the students achieved the highest point total. We are concerned that we had one student choose not to complete LAT 2, and we had similar issues last year in the course.*

Based on the scores, all students were considered proficient.

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

Based on the results, there are no actions needed for LAT 1. Although all students were considered proficient, we would like to see all 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.