# Baking and Pastry Arts (OEC)

# Educational Effectiveness

# Assessment Plan

**University of Alaska Anchorage  
Community & Technical College**

**Version I**

**Adopted by**

**The Culinary Arts & Hospitality Administration Faculty: September 2020**

**Submitted to**

**Ray Weber, CTC Dean: 2020**

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## Mission Statement

The Mission of the Culinary Arts & Hospitality Program is to provide future industry professionals with the progressive and innovative Culinary Arts & Hospitality education they need to be successful in our industry.

## Program Introduction

Throughout the previous academic year, faculty from the Culinary Arts & Hospitality program discussed and formulated objectives, outcomes and assessment strategies for the OEC prospectus in Baking and Pastry Arts. Faculty and program leadership contributed to the required courses and OEC outcomes. The standards and skill competencies set by the National Restaurant Association Educational Foundation, the American Culinary Federation Educational Institution and the Council on Hotel Restaurant Institutional Education were researched to determine if the OEC in Baking and Pastry Arts meets national standards for similar endorsements. Our recent program accreditation through the American Culinary Federation (AAS degree in Culinary Arts) has given the program additional validity in learning outcomes and program assessment as well as direction for the new Occupational Endorsement in Culinary Arts.

This document defines the educational objectives and expected outcomes for the OEC in Baking and Pastry Arts and outlines a plan for assessing the achievement of the stated objectives and outcomes.

The faculty met and accepted this assessment plan revision in September 2020. The prospectus, OEC outcomes, assessment plan, and curriculum will be made available for approval through the CIM workflow.

## Assessment Process Introduction

This document defines the expected student learning outcomes for the OEC in Baking and Pastry Arts and outlines a plan for assessing the achievement of the stated outcomes.

The outcomes and tools were developed as measurable evidence of student learning. Faculty contributions resulted in succinct outcomes with strong verbiage that are student-friendly, measurable and achievable. The program meets all related instructional requirements. The minimum standards of computation, oral and written communication are assessed throughout this degree.

## Program Outcomes

**At the completion of this program, students are able to:**

* Apply theories and concepts of commercial baking and implement techniques to operate or function in a commercial bakery.
* Identify sanitation and safety codes and procedures necessary to maintain a safe foodservice facility.
* Demonstrate technical knowledge and critical thinking necessary for success in the field of baking and pastry arts.
* Demonstrate successful employability skills, including oral and written communication skills.

### Table 1: Association of Assessment Measures to Program Outcomes

| **Outcomes** | ServSafe Nat’l Exam | Bakery Skills Competency Evaluation | Alumni/  Employer  Surveys | Pre Post Test |
| --- | --- | --- | --- | --- |
| * Apply theories and concepts of commercial baking and implement techniques to operate or function in a commercial bakery | 0 | 1 | 0 | 1 |
| * Identify sanitation and safety codes and procedures necessary to maintain a safe foodservice facility | 1 | 1 | 0 | 1 |
| * Demonstrate technical knowledge and critical thinking necessary for success in the field of baking and pastry arts. | 1 | 1 | 1 | 1 |
| * Demonstrate successful employability skills, including oral and written communication skills. | 0 | 1 | 1 | 1 |

0 = Measure is not used to measure the associated outcome.

1 = Measure is used to measure the associated outcome.

## Assessment Measures

A description of the measures used in the assessment of the program outcomes and their implementation are summarized in Table 2 below. The measures and their relationships to the program outcomes are listed in Table 1, above. A pre-test will be given to students prior to entering the program to baseline their culinary, qualitative, and writing skills.

There is a separate appendix for each measure that shows the measure itself and describes its use and the factors that affect the results.

### Table 2: Program Outcomes Assessment Measures and Administration

| **Measure** | **Description** | **Frequency/ Start Date** | **Collection Method** | **Administered by** |
| --- | --- | --- | --- | --- |
| ServSafe Nat’l Exam | Measures student’s ability to identify and implement sanitation standards- must pass with 70% | Prior to entering labs | National Exam | Assigned Instructor/Proctor |
| Pre-Test/Post-Test | Measures students understanding of basic bakery knowledge, writing and quantitative skills | Week 1/Week 15 | Exam | Assigned Instructor |
| Bakery Skills Competency Evaluation | Measures student’s proficiency/competency with baking theory, concepts and techniques | End of Bakery Courses | Practical Evaluation | Assigned Instructor |
| Alumni/Employer  surveys | Measures student and employers’ satisfaction with program | Yearly | Survey | Dept. Advisor |

## Assessment Implementation & Analysis for Program Improvement

General Implementation Strategy

Faculty meets at least 3 times per academic year (August, January and May) to discuss and review the assessment plan. The current timeline for implementing the various components of the program assessment plan is:

Annually as needed Plan Revisions

Annually Data Collection

Annually Surveys

Annually (June) Data Analysis and UAA OA Report Preparation and Submission

Method of Data Analysis and Formulation of Recommendations for Program Improvement

The program faculty meet several times per year to review the data collected using the assessment measures. This meeting should result in recommendations for program changes that are designed to enhance performance relative to the program’s outcomes. The results of the data collection, an interpretation of the results, and the recommended programmatic changes will be forwarded to the Office of Academic Affairs (in the required format) by June 15th each year. A plan for implementing the recommended changes, including of advertising the changes to all the program’s stakeholders, will also be completed at this meeting. Initial creation of the assessment plan and any major changes will be submitted to UAA’s Academic Assessment Committee for review.

The proposed programmatic changes may be any action or change in policy that the faculty deems as being necessary to improve performance relative to program outcomes. Recommended changes should also consider workload (faculty, staff, and students), budgetary, facilities, and other relevant constraints. A few examples of changes made by programs at UAA include:

* changes in course content, scheduling, sequencing, prerequisites, delivery methods, etc.
* changes in faculty/staff assignments
* changes in advising methods and requirements
* addition and/or replacement of equipment
* changes to facilities

Modification of the Assessment Plan

The faculty, after reviewing the collected data and the processes used to collect it, may decide to alter the assessment plan. Changes may be made to any component of the plan, including the outcomes, assessment measures, or any other aspect of the plan. The changes will be approved by the faculty of the program. The modified assessment plan will be forwarded to the dean/director’s office and the Office of Academic Affairs.

## Appendix A: Serv Safe National Exam

Measure Description:

This is a national certification exam distributed by the National Restaurant Association’s Education Foundation. The program has utilized this exam since 1983 and finds it to be reliable and valid. The exam tests for food safety and sanitation concepts and practices of which an understanding is necessary to decrease the risk of food borne illness. It is a multiple-choice exam of 90 questions. The exam tool is sent certified mail to the instructor and must be strictly proctored. The completed exam answer sheets along with the exam tool and any unused exams are mailed back to the National Restaurant Association for scoring. A current Serv Safe certificate is required to take the bakery lab classes. Students must pass with a 70%. Pass rates are usually around 90%. NOTE: (An attachment of the exam tool is not provided as it is the property of the Nat’l Rest. Assoc.)

Factors that affect the collected data:

The exam is now mandatory which means students of varied abilities will take the Serv Safe exam, which will skew data from previous years when the exam was voluntary. The course will be condensed in 2020 to meet the needs of the incoming OEC students. The intensive nature of the condensed course (CA 104) may affect grades.

How to interpret the data:

Specifically, for both objectives and outcomes the data provides very accurate results. The data is known one month after the exam, so faculty can make changes in instruction methodology if needed.

The test results provide data that allows UAA student scores to be compared to national scores.

## Appendix B: Bakery Skills Competency Evaluation

Measure Description:

CA A111 Beginning Bakery and CA A202 Advanced Baking will be required courses for the OEC in Baking and Pastry Arts. The Bakery Skills Competency Evaluation will take place at the end of each course. The instructor will assess the student on a final project to be completed within a required time frame and from a specific category of product (i.e., pastries, cakes). The instructor will observe and assess the students based on a set of performance criteria. The Bakery Skills Competency Evaluation consists of six areas of criteria in which the student must perform proficiently. The categories are:

**Menu-** menu selection and research complete within required time frame

**Appearance of Finished Product-** innovative and aesthetic plate presentation, balance of colors, appropriate shape, focus and flow

**Taste of Finished Product-** texture, taste, aromatic, mouth feel, flavor balances

**Sanitation and Safety**- safe and sanitary work habits, clean stations, food products cooked to the proper temperature

**Selection of Project**- degree of difficulty, seasonality

**Time Management/Organization**- completion of project within required time frame

How to interpret the data:

Each standard will be given a point value from 1-10 depending on the level of importance to the final project. Students will be scored from 0-3, depending on their level of proficiency:

Outstanding =3

Superior =2

Competent =1

Inadequate =0

The student score will be multiplied times the point value for an overall score for each category. All scores will be tabulated to result in a final score.

**Grading Scale:**

* 1. Outstanding
  2. Superior
  3. Competent
  4. Improvement Needed

Less than 60 Inadequate

**Practical Evaluation- Baking:** Students will apply methods, concepts, principles & theories to complete practical examination. Each student will demonstrate the ability to create three different menu items from the stated category. Time limit for this evaluation will be 4.5 hours.

**Performance Standard Point Value Student Level Overall**

**(1-10) (0-3)**

1. Menu:

a. Menu research

b. Menu prepared in 15 minutes

c. Recipe Conversions/computation 4 X =

1. Selection of project:

a. Degree of difficulty

b. Seasonality 6 X =

1. Appearance of product:

a. Portion size

b. Ingredient colors harmonize.

c. Appropriate garnish on finished product

d. Presentation of finished product

e. Creativity and craftsmanship 6 X =

1. Taste of finished presentation:

a. Flavor balance

b. Texture

c. Aromatic

d. Nutritional balance 6 X =

1. Sanitation & Safety

a. Clean and complete uniform

b. Hair under control

c. Hands washed as needed

d. Work area sanitized

e. Products kept at proper temperature

f. Tools are in excellent condition

g. Safety considered when handling knives

h. Clean, organized work area 4 X =

1. Time Management/Organization

a. Project completed in acceptable time

b. Mise en place, everything in order

c. Sense of urgency

d. Order of Operation

e. Formula submitted with project 7 X =

**Grading Scale: Student Level:**

**99-90 points Outstanding 3 Outstanding**

**89-80 points Superior 2 Superior**

**79-70 points Competent 1 Competent**

**69-60 points Improvement Needed 0 Inadequate**

**Less than 60 Inadequate**

## Appendix C: Alumni and employer surveys

**Measure Description:**

Alumni and employer surveys will be administered on an annual basis to determine if the OEC training meets industry needs and to identify any gaps in training. Alumni will also be surveyed to identify satisfaction with program quality and instructional methods. Alumni surveys will be administered anonymously to the last 3 years of OEC graduates. Employer surveys will be sent to an established list serv of operations that consistently employee program graduates.

**How to interpret the data:**

The surveys will be a combination of qualitative and quantitative data. Quantitative responses will be quantified into visual graphics to assess patterns and responses. Qualitative data responses will be reviewed by faculty to determine validity and potential opportunities for program and curriculum improvement based on survey results.

## Appendix D: Pre and Post test

**Measure Description:**

A pre- and post-test will be administered to students as they enter the hands-on, practicum laboratories courses to identify baseline knowledge. At the completion of the lab courses, the tests will be administered again the results monitored. The test will focus on skill sets such as sanitation, advanced bakery competencies and commercial bakery operations.

**How to interpret the data:**

The overall objective is to determine what knowledge base the student enters with and whether or not learning outcomes have been met through the coursework. Scores will be evaluated and if they fall below a satisfactory percentage, curriculum and instructional practices can be re-taught. Theoretically, scores will be substantially higher for the post test, as skills will be reinforced continually throughout the laboratory courses.

**Sample Pre/Post-Test**

1. Cross contamination defined:

a. the transfer of pathogens or other harmful contaminants from one surface or food to another

b. when foods are contaminated at the source, such as a farm or processing plant

c. when you submerge a hose that is connected to a faucet into a mop bucket

d. the transfer of allergens from a food or work surface that contains an allergen to a food that does not contain the allergen

1. The temperature danger zone is:

a. the temperature range in which harmful bacteria multiply rapidly; it is 40° to 135°f

b. the temperature range in which harmful bacteria multiply rapidly; it is 41° to 135°f

c. the temperature range in which harmful bacteria multiply rapidly; it is 40° to 140°f

d. the temperature range in which harmful bacteria multiply rapidly; it is 41° to 140°f

1. What is the best preventative measure to stop the spread of pathogens?

a. wash your hands

b. sanitize work surfaces

c. use bleach as a sanitizer

d. store chemicals next to TCS foods

1. What is FIFO?

a. first in, first out; the scheduling method used for assigning line cooks shifts

b. first in, first out; a method of rotation for food product that utilizes oldest product first

c. fast inventory, fast ordering; a method of ordering product for an establishment

d. the acronym for the conditions needed for foodborne bacteria to grow

1. What is the proper way to store RTE foods with raw fish, beef and poultry?

a. Poultry on the top shelf, beef on the next shelf down, then fish and RTE foods on the bottom shelf

b. Fish on the top shelf, RTE foods on the next shelf down, then beef and poultry on the bottom shelf

c. RTE foods on the top shelf, fish on the next shelf down, then beef and poultry on the bottom shelf

d. Fish on the top shelf, beef on the next shelf down, then poultry and RTE foods on the bottom shelf

1. When should you wear gloves in the kitchen or bakery?

a. When handling any TCS food

b. Only when handling raw meats, such as chicken

c. Anytime you do not want food on your hands

d. When handling RTE foods, such as when you are plating a dish or bagging pastries

e. None of the above