



**COWLEY COLLEGE
& Area Vocational Technical School**

COURSE PROCEDURE FOR

**QUALITY ASSESSMENT AND FLOUR ADDITIVES
MLL3595 2 Credit Hours**

Student Level:

This course is open to high school and post-secondary level students.

Catalog Description:

MLL3595 – QUALITY ASSESSMENT AND FLOUR ADDITIVES (2 hrs) In this course, students will be introduced to and acquire an understanding of chemical analysis, physical and organoleptic issues, bacteriological and mycotoxins, enzyme activity, functional characterization, storage conditions, and flour and milled grain product additives.

Prerequisites:

None

Controlling Purpose:

This course is designed to help the student increase their understanding of the various issues and components related to milled grain product additives.

Learner Outcomes:

Upon completion of the course, the student will be able to demonstrate a knowledge of chemical analysis, physical and organoleptic issues, bacteriological and mycotoxins, enzyme activity, functional characterization, storage conditions, and flour and milled grain product additives.

Units Outcomes and Criterion Based Evaluation Key for Core Content:

The following defines the minimum core content not including the final examination period. Instructors may add other content as time allows.

Evaluation Key:

- A = All major and minor goals have been achieved and the achievement level is considerably above the minimum required for doing more advanced work in the same field.
- B = All major goals have been achieved, but the student has failed to achieve some of the less important goals. However, the student has progressed to the point where the goals of work at the next level can be easily achieved.
- C = All major goals have been achieved, but many of the minor goals have not been

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achieved. In this grade range, the minimum level of proficiency represents a person who has achieved the major goals to the minimum amount of preparation necessary for taking more advanced work in the same field, but without any major handicap of inadequacy in his background.

- D = A few of the major goals have been achieved, but the student's achievement is so limited that he is not well prepared to work at a more advanced level in the same field.
- F = Failing, will be computed in GPA and hours attempted.
- N = No instruction or training in this area.

UNIT 1: General Flour Quality Testing

Outcomes: Upon completion of this unit, the students will be able to demonstrate and identify various testing utilized in determining flour quality.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Identify chemical and non-chemical tests.
						Identify special flour and dough tests.
						Identify baking tests.
						Explain the importance of uniformity.

UNIT 2: Impact of Milling Process on Flour Quality Attributes

Outcomes: Upon completion of this unit, the students will be able to successfully identify moisture impact, wheat selection, grind and sifting impact, and process control basics involved in flour quality.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Identify and correct for moisture impact on attribute measurement.
						Explain how wheat selection can impact flour attributes.
						Explain how grinding and sifting changes impact quality attributes.
						Demonstrate understanding basics of process control parameters mean and standard deviation.

UNIT 3: Food Safety Concepts

Outcomes: Upon completion of this unit, the students will be able to define the concepts of food safety and a food safety program for the flour mill.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Explain meaning of food safety.
						Identify stakeholders in a food safety program.
						Identify major elements in a food safety program.

UNIT 4: Hazard Analysis and Critical Control Points (HACCP)

Outcomes: Upon completion of this unit, the students will be able to define an HACCP plan and its required components.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Define a HACCP plan.
						Explain activities required to develop a HACCP plan.
						Explain importance of training to HACCP plan implementation.

UNIT 5: Flour and Milled Grain Product Additives

Outcomes: Upon completion of this unit, the students will be able to successfully define categories of flour additives and the successful implementation of an additive process in the flour mill.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Explain categories of flour additives and their general role in flour.
						Identify proper steps in additive addition.
						Develop a feeder calibration curves for flour and flour additive.

Projects Required:

As assigned.

Textbook:

Contact Bookstore for current textbook.

Materials/Equipment Required:

Various wheat-based products readily available to consumers.

Attendance Policy:

Students should adhere to the attendance policy outlined by the instructor in the course syllabus.

Grading Policy:

The grading policy will be outlined by the instructor in the course syllabus.

Maximum class size:

Based on classroom occupancy

Course Timeframe:

The U.S. Department of Education, Higher Learning Commission and the Kansas Board of Regents define credit hour and have specific regulations that the college must follow when developing, teaching and assessing the educational aspects of the college. A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally-established equivalency that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work for approximately fifteen weeks for one semester hour of credit or an equivalent amount of work over a different amount of time. The number of semester hours of credit allowed for each distance education or blended hybrid courses shall be assigned by the college based on the amount of time needed to achieve the same course outcomes in a purely face-to-face format.

Refer to the following policies:

[402.00 Academic Code of Conduct](#)

[263.00 Student Appeal of Course Grades](#)

[403.00 Student Code of Conduct](#)

Disability Services Program:

Cowley College, in recognition of state and federal laws, will accommodate a student with a documented disability. If a student has a disability, which may impact work in this class which requires accommodations, contact the Disability Services Coordinator.