Minnesota State University Moorhead

BIOL 310: Science of Brewing

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 2

Lab Hours/Week: 1

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: Goal 03 - Natural Science

This course will cover scientific and historical background into the scientific processes involved in brewing and fermentation science. Key scientific techniques and best practices will be covered in both lecture and lab. MnTC Goal 3.

B. COURSE EFFECTIVE DATES: 02/01/2018 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Lab and scientific experience for understanding all aspects of the brewing and fermenting process such as enzyme action, sugar breakdown and fermentation, and preservation by essential hop oils.

D. LEARNING OUTCOMES (General)

1. Perform key scientific processes involved in brewing and fermenting such as enzymatic breakdown of stored starches, fermentation of sugars by yeast and bacteria, and preservative characteristics of essential hop oils. Students will learn how to use the appropriate instruments and equipment for each stage of the brewing process.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

Goal 03 - Natural Science

1. Demonstrate understanding of scientific theories.
2. Formulate and test hypotheses by performing laboratory, simulation, or field experiments in at least two of the natural science disciplines. One of these experimental components should develop, in greater depth, students' laboratory experience in the collection of data, its statistical and graphical analysis, and an appreciation of its sources of error and uncertainty.
3. Communicate their experimental findings, analyses, and interpretations both orally and in writing.

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted