RAW MATERIALS AND BREWING PROCESS — BREW 1200

A. Course Description
   - Credits: 4.00
   - Lecture Hours/Week: 2.00
   - Lab Hours/Week: 2.00
   - OJT Hours/Week: 0
   - Prerequisites: None
   - Corequisites: None
   - MnTC Goals: None

In this course students will learn about the characteristics and variables related to the main ingredients used in the beer brewing process - water, barley/malt, hops, adjuncts, yeast, and other ingredients. The students will also learn more in-depth about the brewing process including equipment and procedures involved in wort production, fermentation, clarification, and filtration.

B. Course Effective Dates: 1/12/15 – Present

C. Outline of Major Content Areas
   - As noted on course syllabus

D. Learning Outcomes
   1. Adjuncts & other ingredients: non-malted grains, sugars, fruit
   2. Aging
   3. Barley, Malt, and Malting: grain components, types of malt, malting process, malt analysis, malt enzymes, specialty malts
   4. Clarification & filtration
   5. Fermentation: ales, lagers
   6. Hops & Hops Preparation: growing, chemistry, utilization & calculations, fresh (undried) hops
   7. Water: source, quality, cost, treatment, contaminants, alkalinity & pH, ions, testing.
   8. Wort production: mashing, separation, boiling, clarification & chilling, fermentation
   9. Yeast: biology, propagation, storage & handling

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

F. Learner Outcomes Assessment
   - As noted on course syllabus
G. Special Information

None noted