BREW 122 Course Outline as of Fall 2016

CATALOG INFORMATION

Dept and Nbr: BREW 122 Title: APPLIED FERMENTATION SCI
Full Title: Applied Fermentation Science
Last Reviewed: 5/23/2016

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	3.00	Lab Scheduled	3.00	8	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	5.00		Contact Total	87.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 70.00 Total Student Learning Hours: 157.50

Title 5 Category:	AA Degree Applicable
Grading:	Grade or P/NP
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	
Formerly:	

Catalog Description:
Operation of pilot scale and commercial brewhouse to produce various beer styles from lager to stout to barley wine. Brewing will be preceded by a short lecture on each beer style.

Prerequisites/Corequisites:
Course Completion of BREW 100 and BREW 112;
AND Concurrent Enrollment in BREW 120

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:
Must be age 18 or older

Schedule of Classes Information:
Description: Operation of pilot scale and commercial brewhouse to produce various beer styles from lager to stout to barley wine. Brewing will be preceded by a short lecture on each beer style. (Grade or P/NP)
Prerequisites/Corequisites: Course Completion of BREW 100 and BREW 112;
AND Concurrent Enrollment in BREW 120
Recommended: Eligibility for ENGL 100 or ESL 100

Limits on Enrollment: Must be age 18 or older
Transfer Credit:
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**	Effective:	Inactive:
CSU GE:	**Transfer Area**	Effective:	Inactive:
IGETC:	**Transfer Area**	Effective:	Inactive:

CSU Transfer:	Effective:	Inactive:
UC Transfer:	Effective:	Inactive:

CID:

Certificate/Major Applicable:
Certificate Applicable Course

COURSE CONTENT

Student Learning Outcomes:
At the conclusion of this course, the student should be able to:
1. Students will be able to:
Apply knowledge of brewery systems and equipment to produce beer on a commercial scale.
Objectives:
Upon completion of this course, students will be able to:
1. Identify different beer styles and their ingredients.
2. Operate both pilot and commercial scale brewhouses.

Topics and Scope:

I. Brewing styles
- A. Lager
- B. Pilsner
- C. Wheat beer
- D. Lambic
- E. Fruit beer
- F. Saison
- G. Belgian ale
- H. American pale ale
- I. English pale ale
- J. IPA
- K. Bitter
- L. Scottish ale
- M. Porter
- N. Stout
- O. Barley wine

II. Brewing techniques for each style

Assignment:

1. Reading in required text, 20 - 40 pages per week
2. Create a manual of standard operation procedures for operating a small brewhouse
3. Create a poster organizing different beers by flavor
4. Lab Activities:
 a. Problem solving simulation exercises
 b. Demonstrate brewing of different styles of beer
 c. Group evaluation of product
7. Midterm and final exam

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Manual of standard operation procedures;	Writing 10 - 20%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Simulation exercises	Problem solving 20 - 40%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Brewing and evaluation	Skill Demonstrations 20 - 40%

Exams: All forms of formal testing, other than skill performance exams.

Midterm and final exam: multiple choice, true and false, completion	Exams 20 - 40%

Other: Includes any assessment tools that do not logically fit into the above categories.

Poster	Other Category 5 - 10%

Representative Textbooks and Materials:
Designing Great Beers: The Ultimate Guide to Brewing Classic Beer Styles, by Ray Daniels 1st edition (1998) Classic
Instructor prepared materials