

ORIGINATOR'S SECTION:

1. College: CHABSS CoBA CoEHHS CSM
 Desired Term and Year of Implementation (e.g., Fall 2008):
 Fall 2017

2. Course is to be considered for G.E.? (If yes, also fill out appropriate GE form*) Yes No

3. Course will be a variable-topics (generic) course? Yes No
 ("generic" is a placeholder for topics)

4. Course abbreviation and Number:* ENGB 351

5. Title: (Titles using jargon, slang, copyrighted names, trade names, or any non-essential punctuation may not be used.)
Process EngiBeerTM II

6. Abbreviated Title for PeopleSoft:
 (no more than 25 characters, including spaces)
 Process Engb II

7. Number of Units: 3

8. Catalog Description: (Not to exceed 80 words; language should conform to catalog copy. Please consult the catalog for models of style and format; include all necessary information regarding consent for enrollment, pre- and/or corequisites, repeated enrollment, crosslisting, as detailed below. Such information does not count toward the 80-word limit.)

 Second in a two-course sequence designed to familiarize students with large-scale/commercial brewing production. Emphasizes equipment maintenance and advanced sanitation, water management, use of laboratory techniques for monitoring the brewing process, bottling/packaging techniques, and further investigation of brewery cost analysis and design. Builds on ENGB 350 by providing further learning pertaining to the management and/or ownership of a craft brewery. Curriculum includes creative projects and real world advice from experienced brew-masters. *Prerequisite: ENGB 350*

9. Why is this course being proposed?

 Course is being proposed as part of EngiBeerTM certificate program through extended learning.

10. Mode of Instruction*
 For definitions of the Course Classification Numbers:
http://www.csusm.edu/academic_programs/curriculumschedule/catalogcurricula/DOCUMENTS/Curricular_Forms_Tab/Instructional%20Mode%20Conventions.pdf

Type of Instruction	Number of Credit Units	Instructional Mode (Course Classification Number)
Lecture	3	C-02
Activity		
Lab		

11. Grading Method:*
 Normal (N) (Allows Letter Grade +/-, and Credit/No Credit)
 Normal Plus Report-in-Progress (NP) (Allows Letter Grade +/-, Credit/No Credit, and Report-in-Progress)
 Credit/No Credit Only (C)
 Credit/No Credit or Report-in-Progress Only (CP)

12. If the (NP) or (CP) grading system was selected, please explain the need for this grade option.

13. Course Requires Consent for Enrollment? Yes No

 Faculty Credential Analyst Dean Program/Department - Director/Chair

14. Course Can be Taken for Credit More than Once? Yes No
 If yes, how many times? (including first offering)

15. Is Course Crosslisted: Yes No

 If yes, indicate which course and check "yes" in item #22 below.

16. Prerequisite(s): Yes No **ENGB 350**

* If Originator is uncertain of this entry, please consult with Program/Department Director/Chair.

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17. Corequisite(s): Yes No

18. Documentation attached: Syllabus Detailed Course Outline

19. If this course has been offered as a topic, please enter topic abbreviation, number, and suffix:*

20. How often will this course be offered once established? * Annually, as part of Engineering program through Extended Learning.

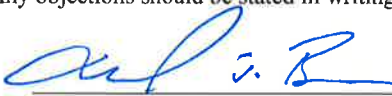
PROGRAM DIRECTOR/CHAIR - COLLEGE CURRICULUM COMMITTEE SECTION:
(Mandatory information – all items in this section must be completed.)

21. Does this course fulfill a requirement for any major (i.e., core course or elective for a major, majors in other departments, minors in other departments)? Yes No

If yes, please specify:
 Required course in the Advanced Brewing Certificate and elective in Basic EngiBeerig™ Certificate.

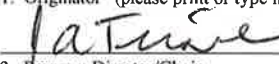


22. Does this course impact other discipline(s)? *(If there is any uncertainty as to whether a particular discipline is affected, check "yes" and obtain signature.)* Yes No

If yes, obtain signature(s). Any objections should be stated in writing and attached to this form.

Physics Discipline		<u>10/17/17</u>	<input checked="" type="checkbox"/> Support	<input type="checkbox"/> Oppose
	Signature	Date		
Discipline	_____	_____	_____ Support	_____ Oppose
	Signature	Date		

SIGNATURES : (COLLEGE LEVEL) :

(UNIVERSITY LEVEL)

- 1. Originator (please print or type name) Charles De Leone 2/17/17
Date
- 2. Program Director/Chair  10/23/17
Date
- 3. College Curriculum Committee  10/27/17
Date
- 4. College Dean (or Designee)  10/31/17
Date

- 5. UCC Committee Chair _____ Date
- 6. Vice President for Academic Affairs (or Designee) _____ Date
- 7. President (or Designee) _____ Date

* If Originator is uncertain of this entry, please consult with Program/Department Director/Chair.

ENGB 351 – Process EngiBeerTM II PROSPECTIVE COURSE OUTLINE

Instructor TBD

Email TBD

Office TBD

Best contact number TBD

Text: Practical Handbook for Specialty Brewer: Volumes 1-3 (v.1 Raw Materials and Brewhouse Operations), (v.2 Fermentation Cellaring, and Packaging Operations), (v.3 Brewing Engineering and Plant Operations), Edited by Ockert, Karl.

Course Description: This course is the second in a two-course sequence designed to familiarize students with large-scale/commercial brewing production. The course emphasizes equipment maintenance and advanced sanitation, water management, use of laboratory techniques for monitoring the brewing process, bottling and packaging techniques, and further investigation of brewery cost analysis and design. It builds on ENGB 350 by providing further learning in areas that pertain to the management and/or ownership of a craft brewery. Curriculum includes creative projects and real world advice from experienced brewmasters. The course will contain workshops where students can get hands-on experience including field trips where students can ask questions of professionals in the industry.

Student Learning Outcomes:

Upon successful completion of the course, students will be able to:

1. Articulate the importance of sanitation in the brewery. Students will attend a workshop that will show, on a microscopic level, the live results of proper or improper sanitation. Students will be shown bacteria that have grown in a non-sanitized environment along with what a sterile environment looks like (most likely in petri dishes).
2. Further understand water usage in the brewery, including wastewater, water filtering, and processing.
3. Demonstrate knowledge of various packaging sizes and methods including keg sizes, types and construction, bottle sizes and packaging equipment.
4. Describe details of the costs involved when starting and running a brewery including legal, construction, equipment, utilities, expansion, payroll, maintenance and more.
5. Describe the required maintenance of equipment, both at startup and for expansion.
6. Detail the importance of safety in the brewery, including the handling of hazardous materials and mechanical and chemical processes.

7. Design simple draft systems for tasting rooms or growler fill stations and bottle shop operations.
8. Understand various laboratory methods and techniques for monitoring the brewing process.

Prerequisite: ENGB 350

Course Activities: Homework will include the reading of specified chapters in the MBAA Practical Handbooks.

Quizzes: Quizzes will be based on assigned text from the MBAA Practical Handbooks, handouts containing supplemental information and lab/workshop participation.

Tests: Midterm and Final: Midterm topics include material from Weeks 1 through 7. The final exam will be comprehensive.

Projects:

Students will choose to complete a final course project from one of the following options:

1. Students will create a Gantt chart showing the timeline for opening a brewery along with the estimated costs involved.
2. Students can invent something (a new product, service, or app) that will help the brewing industry or improve or update an existing piece of equipment, packaging, process, etc.

Paper: This assignment fulfill the All-University Writing Requirement.

1. Seven to 10 page writing assignment on the benefits of a brewery laboratory. Paper should explain the processes and techniques for gathering analytical data and performing quality control along with discussion of costs and benefits of on-site laboratory capability versus reliance on laboratory service providers.

Grading Scheme example:

	# of Items	Pts. Per Item	Total Points
Homework Quizzes	11*	2	20
Paper1	1	20	20

Midterm Exam	1	20	20
Final Exam	1	20	20
Class Projects	2	10	20

*Note that the lowest quiz grade will be dropped.

Letter grades will be determined based on total points, and be assigned as follows:

- A – 90-100
- B – 80-90
- C – 70-80
- D – 60-70
- F – less than 60

Anticipated schedule: (subject to change)

<u>Lectures</u>	<u>Topics</u>	<u>Readings</u>
Week 1	Course Introduction/Tasting rooms	Vol 2 Ch 4
Week 2	Sanitation workshop	
Week 3	Laboratory Methods/Lab Paper	Vol 2 Ch 5
Week 4	Environmental Engineering	
Week 5	(Invention Project) Draft Systems	Vol 3 Ch 3
Week 6	Cost Analysis	
Week 7	Real Estate, Location, City Licenses, Permits, and related issues	
Week 8	Midterm	

Week 9	Safety	Vol 3 Ch 5
Week 10	Brewery Field Trip	
Week 11	Gantt Chart Project	
Week 12	Maintenance	
Week 13	Packaging	Vol 3 Ch 4
Week 14	Water use and efficiency	
Week 15	Final Exam	
Week 16	Brewery Field Trip	