Bachelor of Science (BS)  
Degree Code 118A  
Program of Study for 
FERMENTATION SCIENCES  

I. GENERAL EDUCATION CURRICULUM  

CHE 1101, 1110, 1102, and 1120 will fulfill the Science Inquiry Perspective. MAT 1110 will fulfill Quantitative Literacy. ECO 2030 may be used to meet Gen Ed Perspectives.  

II. MAJOR REQUIREMENTS  

(Not including 15 s.h. already counted in I, above)  

2.0 major GPA is required for graduation. Major GPA calculation includes all courses in the major department, plus any other courses under II.  

A. Fermentation Science (18 semester hours)  

FER 1000 (3) Principles of Fermentation Sciences  
FER 2000 (1) Social Implications of Fermented Beverages  
FER 3200 (3) Facility Design and Operation  
FER 4300 (3) Sensory Analysis of Wine and Beer (Pre: FER 4100 or FER/CHE 4200, STT 2810)  

Choose two of the following:  

FER 3000 (4) Viticulture: Vine Physiology and Vineyard Establishment (Pre: BIO 1801)  
FER 4100 (4) Wine Production and Analysis (Pre: CHE 2210/2211)  
CHE/FER 4200 (4) Brewing Science and Analysis (Pre: CHE 2210/2211)  

B. Chemistry (19 semester hours)  

CHE 1101/1110 (4) Introductory Chemistry I & Introductory Chemistry I Lab  
CHE 1102/1120 (4) Introductory Chemistry II & Introductory Chemistry II Lab (Pre: CHE 1101/1110)  
CHE 2101 (3) Fundamentals of Organic Chemistry (Pre: CHE 1102/1120; Co: CHE 2102)  
CHE 2102 (1) Fundamentals of Organic Chemistry Lab (Pre: CHE 1102/1120; Co: CHE 2101)  
CHE 2210 (3) Quantitative Analysis (Pre: CHE 1102/1120; Co: CHE 2101)  
CHE 2211 (1) Quantitative Analysis Lab (Co: CHE 2210)  
CHE 4580 (3) Biochemistry I (Pre: CHE 2101 or 2202)  

C. Biology (11 semester hours)  

BIO 1801 (4) Biological Concepts I (Co: CHE 1101)  
BIO 2600 (3) Cell Biology (Pre: BIO 1801, CHE 1102)  
BIO 3308 (4) Microbiology (Pre: CHE 1102/1120)  

D. Mathematics and Economics (10 semester hours)  

MAT 1110 (4) Calculus with Analytic Geometry I (Pre: MAT 1025 w/min grade of C-)  
STT 2810 (3) Introduction to Statistics (Pre: MAT 1010)  
ECO 2030 (3) Principles of Microeconomics (may be used in Gen Ed depending on choices)  

E. Focus area courses (12 - 14 semester hours)  

NUT 1202 (3) Basic Food Science  
NUT 3210 (3) Beverage Management  

Choose two of the following:  

SD 3100 (3) Principles of Agroecology  
SD 4200 (4) Ecologically-Based Pest Mgmt (Pre: SD 3100)  
TEC 3606 (3) Sust Water & Wastewater Tech (Pre: TEC 2029)  

Choose one of the following:  

HOS 2000 (3) Survey of the Hospitality & Tourism Industry  
HOS 3700 (3) Hospitality Management Operations I (Pre: HOS 2000)  
HOS 4040 (3) Destination Management  
MGT 3010 (3) Survey of Management  
MGT 3060 (3) Opportunity & Entrepreneurship  

III. MINOR (optional)  

Students are encouraged to pursue a minor in one of the following areas: Chemistry, Biology, Marketing, or Entrepreneurship.  

IV. ELECTIVES (taken to total 122 hours for the degree)  

2 semester hours of free electives must be outside the major discipline.  

Total major =85-87 hrs; Gen Ed courses may count in major (depends on choices) – up to 15; net major 70-72 hours.  

Electives recommended by department:  

MGT 3170 (3) Creativity & Design (Pre: MGT 3060); MGT 3190 (3) Int’l Entrepreneurship (Pre: MGT 3060); MGT 4650 (3) Venture Creation (Pre: FIN 3680; MGT 3060; MGT 3050; ”C” in WID); CHE 2526 (1) Chemical Safety (Pre: 1101/1110); HOS 3700 (3) Hospitality Management Operations I (Pre: HOS 2000); HOS 4040 (3) Destination Management