processes and operate equipment and facilities for production of high quality, safe, and nutritious food with minimal impact of these operations on the environment.

Students learn to apply engineering principles and concepts to handle, store, process, package, and distribute food and related products. In addition to engineering principles, the food engineering specialization provides an understanding of the chemical, biochemical, microbiological, and physical characteristics of food. Students study concepts of food refrigeration, freezing, thermal processing, drying, and other food operations, food digestion, and health and nutrition in food system design.

Food engineers work as practicing engineers, scientists, and managers in the food industry.

Recommended Biological Science Electives

Code	Title	Units
ANS 112	Sustainable Animal Agriculture	3
BIS 101	Genes & Gene Expression	4
or BIS 101V	Genes & Gene Expression	
BIS 102	Structure & Function of Biomolecules	3
or BIS 102V	Structure & Function of Biomolecules	
BIS 103	Bioenergetics & Metabolism	3
FST 100A	Food Chemistry	4
FST 100B	Food Properties	4
FST 101A	Food Chemistry Laboratory	3
FST 101B	Food Properties Laboratory	2
FST 102A	Malting & Brewing Science	4
FST 104	Food Microbiology	3
FST 104L	Food Microbiology Laboratory	4
FST 107	Food Sensory Science	4
FST 117	Design & Analysis for Sensory Food Science	4
FST 119	Chemistry & Technology of Milk & Dairy Products	4
FST 123	Introduction to Enzymology	3
FST 123L	Enzymology Laboratory	2
FST/ETX 128	Food Toxicology	3
MMG 102	Introductory Microbiology	3
or MIC 102 DISCON		
MMG 103L		2
or MIC 103L DISCONTINUED FOR FALL 2026 **		
PLS 172	Biology and Quality of Harvested Crops	4
PLS 174	Microbiology & Safety of Fresh Fruits & Vegetables	3
PLS 196	(Discontinued for spring 2024) **	3

**
Course(s) discontinued; see your advisor for course options.

Recommended Engineering Electives

Code	Title	Units
EBS 135	Bioenvironmental Engineering	4
EBS 161	Kinetics & Bioreactor Design	4
ECH 160	Fundamentals of Biomanufacturing (Discontinued for spring 2026) **	3
ENG 180	Engineering Analysis	4

**
Course(s) discontinued; see your advisor for course options.

Suggested Advisors

G. Bornhorst, J. de Moura Bell, I. Donis-Gonzalez, T. Jeoh, N. Nitin, Z. Pan, D. Slaughter

Lead Undergraduate Advisor

S. Vougioukas

Students graduating with a B.S. degree in Biological Systems Engineering from UC Davis are prepared to:

- Apply life sciences in engineering at the biochemical, cellular, organism, and macro levels.
- Solve biological systems engineering problems while employed in the private or public sector.
- Consider the environmental, economic, and social consequences of their engineering activities.
- Communicate effectively with professional colleagues and public constituencies.
- Act in an ethical manner.
- Continue their education to adapt and thrive in a changing professional world.