FSTE-FOOD SCIENCE & TECHNOLOGY (FSTE)

FSTE 164G. Introduction to Food Science and Technology
4 Credits (3+2P)
An introductory course in the scientific study of the nature and composition of foods and their behavior during all aspects of their conversion from raw materials to consumer food products.

FSTE 175. ACES in the Hole Foods I
4 Credits
Food production activities related to operation of ACES in the Hole Foods, a student-run food company that will give FSTE majors hands-on experience in all aspects of developing, producing and marketing food products Restricted to Las Cruces campus only.
Prerequisite(s): Students enrolled in this class must possess A Food Handler Card.

FSTE 200. Special Topics
1-4 Credits
Specific topics and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester and a grand total of 9 credits.

FSTE 210G. Survey of Food and Agricultural Issues
3 Credits
Same as AG E 210G.

FSTE 263G. Food Science I
4 Credits (3+2P)
The scientific study of the principles involved in the preparation and evaluation of foods. May be repeated up to 4 credits.

FSTE 275. ACES in the Hole Foods II
4 Credits
Food production activities related to operation of ACES in the Hole Foods, a student-run food company that will give FSTE majors hands-on experience in all aspects of developing, producing and marketing food products. May be repeated up to 4 credits.
Prerequisite(s): FSTE 175 and Have a Food Handler Card.

FSTE 302. Food Microbiology
4 Credits (3+2P)
Detrimental and beneficial microbiological aspects of food products. Methods of quantification and identification of microorganisms associated with food spoilage and preservation. May be repeated up to 4 credits.
Prerequisite(s): BIOL 111G and BIOL 111L, or BIOL 211G and BIOL 211L, or BIOL 190, or consent of instructor.

FSTE 320. Food Analysis
3 Credits (2+2P)
Basic chemical and physical techniques used in establishing nutritional properties and overall acceptance of food products. May be repeated up to 3 credits.
Prerequisite(s): CHEM 111 or consent of instructor.

FSTE 328. Introduction to Food Engineering
3 Credits (2+2P)
Basic engineering principles including mass and energy balances, fluid flow, heat transfer and chemical kinetics and their application to food processing unit operations. Video and laboratory participation are used to enhance course content and relevance. May be repeated up to 3 credits.
Prerequisite(s): MATH 142G or consent of instructor.

FSTE 331. Food Preservation
3 Credits (2+2P)
Processes used in home and commercial food preservation, including canning, freezing, drying, and irradiation. May be repeated up to 3 credits.
Prerequisite(s): HNFS 263.

FSTE 375. ACES in the Hole Foods III
4 Credits (2+8P)
Food production activities related to operation of ACES in the Hole Foods, a student-run food company that will give FSTE majors hands-on experience in all aspects of developing, producing and marketing food products. May be repeated up to 8 credits. Restricted to: FSTE majors.
Prerequisite(s): FSTE 275 and Have a Food Handler Card.

FSTE 421. Food Chemistry
3 Credits
Comprehensive study of the chemical and physiochemical properties of food constituents. Chemical changes involved in the production, processing, and storage of food products and basic techniques used to evaluate chemical and physiochemical properties of foods.
Prerequisites: CHEM 111G, CHEM 112G, and CHEM 211, or consent of instructor.

FSTE 423. Food Processing Technologies
4 Credits (3+2P)
Common food processing unit operations such as raw material preparation, separation, concentration, fermentation, pasteurization, sterilization, extrusion, dehydration, baking, frying, chilling, freezing, controlled atmosphere storage, water, waste and energy management, packaging, materials handling and storage and process control. Application of principles to processing food in a laboratory setting.
Prerequisite(s): FSTE 328.

FSTE 425. Sensory Evaluation of Foods
3 Credits (2+2P)
Principles and procedures involved in the sensory evaluation of foods. Physiological, psychological and environmental factors affecting the evaluation of sensory properties. Analysis and interpretation of sensory data.
Prerequisite(s): FSTE 263G and A ST 311 or STAT 251.

FSTE 429. Product Development
3 Credits (1+4P)
Application of chemical, physical, nutritional and psychological principles and experimental methods to the development and evaluation of a food product for a specified food product development competition.
Prerequisite(s): FSTE 320 and FSTE 425.

FSTE 430. Designing and Brewing Great Beers of the World
3 Credits (1+4P)
The science and technology of brewing unit operations and the ingredients used in beer brewing. That knowledge is then applied to designing and brewing classic world beer styles. Styles investigated change every semester but typically include India Pale Ale, Pale Ale, Stout, Porter, Hefeweisen, Scottish Ale, and Black IPA. Comprehensive evaluation of the product relative to style guidelines completes the design-brew-evaluate cycle. Students must be at least 21 years of age on the first day of class. May be repeated up to 3 credits.

FSTE 450. Special Topics
1-4 Credits
Specific subjects and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester and a grand total of 9 credits towards a degree. Consent of instructor required.
FSTE 475. ACES in the Hole Foods IV  
1-4 Credits (2-8P)  
Food production activities related to operation of ACES in the Hole Foods, a student-run food company that will give FSTE majors hands-on experience in all aspects of developing, producing and marketing food products. May be repeated up to 8 credits. Restricted to: FSTE majors.  
Prerequisite(s): FSTE 375 Have a Food Handler Card.

FSTE 492. Special Problems  
1-4 Credits  
Individual research study in a selected subject of Family and Consumer Sciences. Maximum of 4 credits per semester and a grand total of 8 credits towards a degree. Consent of Instructor required.

FSTE 500. Data Analysis for Food Scientists  
3 Credits (3)  
An introduction to data analysis of food scientists. Modern statistical techniques used to analyze typical data collected by food scientists and researchers will be covered. Consent of Instructor required.

FSTE 520. Graduate Study in Food Microbiology  
3 Credits (2+3P)  
Detrimental and beneficial microbiological aspects of food products. Methods of quantification and identification of microorganisms associated with food spoilage and preservation. Additional work required at the graduate level.  
Prerequisites: BIOL 111G/111L, or BIOL 211G/211L, or BIOL 190, or consent of instructor.

FSTE 521. Graduate Study in Food Chemistry  
3 Credits  
Comprehensive study of the chemical and physiochemical properties of food constituents. Chemical changes involved in the production, processing and storage of food products and basic techniques used to evaluate chemical and physiochemical properties of foods. Additional work required at the graduate level.  
Prerequisites: CHEM 111G, CHEM 112G, and CHEM 211, or consent of instructor.

FSTE 523. Food Processing Technologies  
4 Credits (3+2P)  
Common food processing unit operations such as raw material preparation, separation, concentration, fermentation, pasteurization, sterilization, extrusion, dehydration, baking, frying, chilling, freezing, controlled atmosphere storage, water, waste and energy management, packaging, materials handling and storage and process control. Application of principles to processing food in a laboratory setting. Additional work beyond that for FSTE 423 required at the graduate level.  
Prerequisite(s): FSTE 528.

FSTE 524. Sensory Evaluation of Foods  
3 Credits (2+3P)  
Principles and procedures involved in the sensory evaluation of foods. Physiological, psychological and environmental factors affecting the evaluation of sensory properties. Analysis and interpretation of sensory data.  
Prerequisite(s): FSTE 263G and A ST 311 or STAT 251.

FSTE 525. Graduate Study in Food Analysis  
3 Credits (2+3P)  
Covers basic chemical and physical techniques used in establishing nutritional properties and overall acceptance of food products. Additional work required at the graduate level.  
Prerequisite(s): CHEM 111 or consent of instructor.

FSTE 532. Designing and Brewing Great Beers of the World  
3 Credits (2+2P)  
The science and technology of brewing unit operations and the ingredients used in beer brewing. That knowledge is then applied to designing and brewing classic world beer styles. Styles investigated change every semester but typically include India Pale Ale, Pale Ale, Stout, Porter, Hefeweisen, Scottish Ale, and Black IPA. Comprehensive evaluation of the product relative to style guidelines completes the design-brew-evaluate cycle. Students must be at least 21 years of age on the first day of class.

FSTE 560. Rumen Microbiology (so)  
3 Credits  
Same as ANSC 560.

FSTE 575. ACES in the Hole Foods  
1-4 Credits (2-8P)  
Food production activities related to operation of ACES in the Hole Foods, a student-run food company that will give FSTE majors hands-on experience in all aspects of developing, producing and marketing food products. May be repeated up to 8 credits.  
Prerequisite(s): Students must possess a food handler card.

FSTE 598. Special Research Programs  
1-4 Credits  
Individual investigations either analytical or experimental. Maximum of 4 credits per semester and no more than 6 credits towards a degree. Consent of Instructor required.