

Discipline: Agriculture	Sub-discipline: Food Safety
General Course Title: <b>Agricultural Practices for Food Safety</b>	Min. Units: <b>1.5 Semester</b>
Proposed Suffix:	
Course Description: Focuses on establishing agricultural practices as they relate to the production of farm products from a food safety standpoint. Covers the specific guidelines for some key agricultural commodities, regulating and monitoring food safety guidelines, writing standard operating procedures, employee training, and technologies to assist in production of safe food. Field trips may be required.	
Required Prerequisites or Co-Requisites <sup>1</sup>	
Advisories/Recommended Preparation <sup>2</sup>	
<p>Course Objectives: <i>At the conclusion of this course, the student should be able to:</i></p> <ul style="list-style-type: none"> <li>• describe production hazards that could lead to food borne illness.</li> <li>• discuss the key points to account for in considering food safety guidelines for a specific commodity.</li> <li>• write effective standard operating procedures.</li> <li>• evaluate the effectiveness of a standard operating procedure and revise when appropriate.</li> <li>• create an employee food safety training schedule.</li> <li>• compare and contrast alternative microbial eradication technologies.</li> </ul>	

<p>Course Content:</p> <ol style="list-style-type: none"> <li>1. Good Agricultural Practices <ol style="list-style-type: none"> <li>a. What is meant by GAP's?</li> <li>b. Field and farm conditions that may lead to food borne illness</li> <li>c. Potential hazards from agricultural inputs</li> </ol> </li> <li>2. Commodity specific food safety guidelines (emphasis where appropriate, depending on location) <ol style="list-style-type: none"> <li>a. Meat, poultry and egg products <ol style="list-style-type: none"> <li>1) The Pathogen Reduction/HACCP Regulation</li> <li>2) Carcass temperature regulatory requirements</li> <li>3) Using continuous time/temperature recorders</li> <li>4) Repackaging labeled meat products</li> <li>5) Compliance of meat sampling techniques</li> <li>6) Design and implementation of sampling and testing programs</li> <li>7) Federal inspection programs</li> </ol> </li> </ol> </li> </ol>
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<sup>1</sup> Prerequisite or co-requisite course need to be validated at the CCC level in accordance with Title 5 regulations; co-requisites for CCCs are the linked courses that must be taken at the same time as the primary or target course.

<sup>2</sup> Advisories or recommended preparation will not require validation but are recommendations to be considered by the student prior to enrolling.

- b. Leafy greens
  - 1) General requirements
  - 2) Environmental assessments
  - 3) Water considerations and hazards
  - 4) Soil amendments
  - 5) Non-synthetic crop treatments
  - 6) Worker hygiene and equipment sanitation
  - 7) Harvest and field personnel sanitation
  - 8) Production location considerations
- c. Canned, dehydrated and frozen products
  - 1) The risk of microbiological contamination
  - 2) Does processing destroy food borne pathogens?
  - 3) Food security issues and implementation of the Bioterrorism Act
- d. Other fresh fruits and vegetables
  - 1) Watermelons – overview of food safety guidelines (see appendix)
  - 2) Tomatoes – overview of food safety guidelines (see appendix)
- 3. Regulating and monitoring food safety during production
  - a. Writing standard operating procedures
  - b. Implementing standard operating procedures
  - c. Employee training and compliance
  - d. Field auditing
  - e. The role of government agencies
    - i. Local health departments
    - ii. California Department of Food and Agriculture
    - iii. Food and Drug Administration
    - iv. USDA Federal Inspection Service
    - v. U.S. Environmental Protection Agency
- 4. Technologies to support food safety
  - a. Eradication technologies
    - i. Ozone treatments
    - ii. Pasteurization
    - iii. Irradiation with X-Ray, Electron or Gamma
  - b. Water treatment
  - c. Microbiological testing

Methods of Evaluation: Lecture  
 Comprehensive Quizzes and Exams  
 Written Critical Thinking Scenarios  
 Problem Analysis and Solution

Methods of Evaluation:

Research Papers	
Typical Textbooks, Online "Best practices" and commodity guideline manuals, or other support materials.	
<b>CSU GE Area</b>	
<b>Statewide Articulation: TBD</b>	
FDRG Lead Signature:	Date: 4/15/09
Neil Ledford, Hartnell College	
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