DESIGNATOR & NUMBER: ABT 131

COURSE TITLE: Agricultural Practices for Food Safety

CREDIT UNITS: 1.5

FACULTY INITIATOR: Aileen Rickert-Ehn

SEMESTER HOURS:

<table>
<thead>
<tr>
<th></th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture Contact Hours</td>
<td>24.00 - 27.00</td>
</tr>
<tr>
<td>Lab Contact Hours</td>
<td>0.00</td>
</tr>
<tr>
<td>Total Contact Hours</td>
<td>24.00 - 27.00</td>
</tr>
<tr>
<td>Total Out-of-Class Hours</td>
<td>48.00 - 54.00</td>
</tr>
<tr>
<td>Total Student Learning Hours</td>
<td>72.00 - 81.00</td>
</tr>
</tbody>
</table>

TOTAL CONTACT HOURS (BASED ON 16-18 WEEKS)

<table>
<thead>
<tr>
<th></th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>24.00 - 27.00</td>
</tr>
<tr>
<td>Lab</td>
<td>0.00</td>
</tr>
<tr>
<td>By Arrangement Lab Hours (DHR)</td>
<td>0.00</td>
</tr>
</tbody>
</table>

GRADING BASIS:
Grade Only

PREREQUISITE:

ABT 130: Introduction to Food Safety with a grade of "C" or better

COREQUISITE:

ADVISORY:

OTHER:

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.

**COURSE OBJECTIVES:**
Upon satisfactory completion of the course, students will be able to

1. identify and evaluate production hazards that could lead to food borne illness.
2. discuss the key points to account for in considering food safety guidelines for a specific commodity.
3. compose effective standard operating procedures.
4. evaluate the effectiveness of a standard operating procedure and revise when appropriate.
5. create an employee food safety training schedule.
6. compare and contrast alternative microbial eradication technologies.
7. summarize the role of specific government agencies in food safety with the respect to production agriculture.

**COURSE CONTENT:**

I. Good Agricultural Practices
   A. What is meant by GAPs?
   B. Field and farm conditions that may lead to food borne illness
   C. Potential hazards from agricultural inputs

II. Commodity specific food safety guidelines (emphasis where appropriate, depending on location)
   A. Meat, poultry and egg products
      1. The Pathogen Reduction/HACCP Regulation
      2. Carcass temperature regulatory requirements
      3. Using continuous time/temperature recorders
      4. Repackaging labeled meat products
      5. Compliance of meat sampling techniques
      6. Design and implementation of sampling and testing programs
      7. Federal inspection programs
   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, 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
      2. Tomatoes – overview of food safety guidelines

III. 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
   1. Local health departments
   2. California Department of Food and Agriculture
   3. Food and Drug Administration
   4. USDA Federal Inspection Service
   5. U.S. Environmental Protection Agency

IV. Technologies to support food safety
   A. Eradication technologies
      1. Ozone treatments
      2. Pasteurization
      3. Irradiation with X-Ray, Electron or Gamma
   B. Water treatment
   C. Microbiological testing

INSTRUCTIONAL METHODOLOGY:
Lecture
Individual Assistance
Other (Specify)
Audiovisual (including PowerPoint or other multimedia)
Demonstration
Discussion
Group Activity
Requires a minimum of three (3) hours of work per unit including class time and homework.
Other: Field Trips

METHODS OF EVALUATING OBJECTIVES OR OUTCOMES:
Methods of evaluation to determine if students have met objectives may include, but are not limited to the following:

CLASSROOM
Class Activity Class discussion, group projects, internet based assignments
Oral Assignments Class discussions and assignments
Written Assignments Short written answers on tests, outside assignments, and projects

EXAMS
Comprehensive Final Comprehensive final
Problem Solving Analysis and comparison of various eradication technologies
Skill Demonstration Writing effective standard operating procedures, create an employee safety training program
Objective Test Midterm and final
Quizzes Weekly

MINIMUM STUDENT MATERIALS:
Textbook(s) similar to:

Marriott, Norman G. *Principles of Food Sanitation*. 5th Ed, Springer Science Business Media,
2006
Binder containing handouts, including research papers, trade publication articles, protocols, GAP's, and other current information.
  • Food Safety Modernization Act: Standards for the Growing, Harvesting, Packing, and Holding of Produce for Human Consumption rule
  • Produce Safety Alliance standardized curriculum

COURSE ASSIGNMENTS

Examples of Reading Assignments
Course handouts, internet based materials as assigned, textbook assignments.

Examples of Writing Assignments
Report or case study of a procedure of good agricultural practice.

Examples of Outside Assignments
Complete a project of developing a set of specific standard operating procedures or an employee training program.