****

**College of Agriculture and Natural resources**

**Department of Horticulture**

|  |  |
| --- | --- |
| **COURSE TITLE** | **Food safety and quality of horticultural produces** |
| **COURSE CODE** | **HORT3173** |
| **CREDIT HOURS** | **1 (1+0) 2 ECTS** |
| **ACADEMIC YEAR** | **2012 EC** |
| **SEMESTER** | **II** |
| **INSTRUCTOR** | **Mr. Ejigu Tilahun (MSc.)** |

1. **COURSE DESCRIPTION**

This course is designed for third year horticulture students to enable them with basic principles of food quality assurance including food quality standards and safety management. It also equips the students with skills of safe food handling practice.

1. **COURSE OBJECTIVES**

**MAIN OBJECTIVE**

After completing this course, students will be able to apply the basic principles of food quality assurance and safety management, perform food safety and quality audit and promote for safe food product handling.

**ENABLING OBJECTIVES:** to meet this objective students will:

* Describe the purpose of food grading and inspections for handling of fresh produce.
* Explain the principles of safety and quality assessment method of fruit and vegetable
* Discuss safety hazards of food (chemical, biological and physical) and its health risk
* Differentiate between sources of produce contamination
* Analyze principles and practices of food safety management (GAP, GHP, GMP and HACCP)
* Describe basic principles and techniques of safe food (products) handling during production, storage, preservation and processing, as well as their effects on the nutrient content of food
* Justify food quality and safety standards
* Recognize food laws and safety regulation
* Identify the major cause of produce deterioration in local market
* Inspect food safety hazards (chemical, physical and biological) at production, postharvest handling, processing and consumption)
* Demonstrate hazardous waste disposal and methodologies
* Promote use of appropriate protective materials and equipment
* Promote environmental, personal, equipments and tool hygiene

1. **PREREQUISITES:** Postharvest physiology and handling&Processing of fruits and vegetables
2. **COURSE OUTLINE**

|  |  |
| --- | --- |
| **Contents** | Lecture hours |
| **Chapter 1. Introduction**   * 1. Definitions of terms   2. Quality Attributes, Grading and Inspection | 2 |
| **Chapter 2. Food safety hazards and health risk**   * 1. Safety Hazards in Fresh Produce: Biological, Chemical and Physical   2. Fresh Produce, Food borne Diseases and Consumer Health | 3 |
| **Chapter 3. Sources of Product Contamination**   * 1. Soil and Water   2. Organic and Inorganic Fertilizers   3. Animal Exclusion and Pest Control   4. Worker Health and Hygiene   5. Field and Harvest Sanitation   6. Equipments and tools | 3 |
| **Chapter 4. Principles and practices of food safety management**   * 1. Good Agricultural Practices (GAP)   2. Good Hygienic Practice (GHP)   3. Good Manufacturing practices (GMP)   4. HACCP Principles   5. Food quality and safety standards (ISO 9001-2000) | 5 |
| **Chapter 5: Food laws and safety regulations**   * 1. International Food Laws and Regulations   2. Ethiopian Food Safety System   3. Using Safety devices and equipments | 2 |

1. **DESCRIPTION TEACHING AND LEARNING METHODS**

* Interactive learning
* Group discussion
* Interactive presentation
* Audio visual

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. **PRACTICAL SESSIONS PRACTICAL HRS**  |  |  | | --- | --- | | Identification of the major cause of produce deterioration | 2 | | Demonstration of appropriate protective materials and equipments | 1 | | | |
| 7. **DESCRIPTION OF ASSESSMENT METHODS** | | |
| **Assessment methods** | **Allotted marks in %** | **Chapter** |
| Written Exam assessment   * Test * Final exam |  |  |
| 25 | 1, 2, 3 and 4 |
| 50 | 3, 4 and 5 |
| Group work assignment & presentation | 10 | 3, 4 and 5 |
| Assignment/term paper/ | 15 | 3, 4 and 5 |
| **Total** | **100%** |  |
| **Grading:** As per the University’s regulation | |  |
| * **Students: Please remind that if you are prepared based on this course content, you will score better even excellent result on this course!!!**   **8. DESCRIPTION OF TEACHING AND LEARNING MATERIALS**   * Handout and articles * Checklist or laboratory manual * Audiovisual * Fruits and vegetables | | |
| **REFERENCES** | |  |
| * Alli Inteaz. 2004. Food Quality Assurance: Principles and Practices. CRC Press LLC, Florida, USA. * EC-ASEAN Economic Cooperation Programme. 2005.Guidelines on HACCP, GMP and GHP for ASEAN Food SMEs * Neal D. Fortin, J.D. 2009. Food regulation**,** law, science, policy and practice. John wiley & sons, inc**.,** New Jersey, USA. * Roberts C. A. 2001. The Food safety Information Handbook * Tricker. R. 2001. ISO 9001:2000 in Brief Second edition * Vaclavik. V. A. and Christian. E. W. 2008. Essentials of food science third edition | | |