SYLLABUS FOR PLANTS AND SOCIETY BIO 120
4 credits, 3 hours lecture/2 hours laboratory.

Pre/requisites: BIO 110, MAT 010, ENG 091 or ESL 091. If taught in Spanish SPA 222

COURSE DESCRIPTION:

This course introduces students to the world of plants and their vital role in human life. The student will learn about plant morphology; how plants reproduce; how they obtain energy in order to survive. The course emphasizes on the role of plants in human society as sources of food, medicine, fiber, fuel, etc. This course provides a critical review of science, technology and the environment as related to plant domestication and current world food, medicine and fiber production. Social implications associated with the biological and technical aspects of crop production are presented as a substantial part of modern society. Students will find many opportunities for enrichment on topics that relate to plants and historical developments, environmental issues, and how personal choices impact the global vegetation resource.


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4. PLANTS AND HUMAN HEALTH

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COURSE CONTENTS

CHAPTER  1. *INTRODUCTION: WHAT IS A PLANT?*
   Plants and Human Society
   The flowering plants
   The non-flowering plants

2. *PLANT CELL*
   Early studies of cells
   The cell wall; cell membrane, and cell organelles

3. *STEMS, ROOTS, LEAVES*
   Plant tissues
   Plant organs: Stems, Roots, and Leaves

5. *FLOWERS*
   Floral organs
   Meiosis in flowering plants
   Pollination and Fertilization

6. *FRUITS: SUPERMARKET BOTANY*
   Fruit types
Seed structure and germination
Dicot and Monocot seeds
Edible fruits

8. **NAMING PLANTS**
   Early History of plant classification
   How plants are named
   Taxonomic Hierarchy

11. **AGRICULTURE**
    Origins of agriculture
    Foraging societies and their diets
    Characteristics of domesticated plants
    Centers of plants domestication

12. **WHEAT & MAIZE**
    Characteristics of the Grass Family
    Grains – origin and evolution
    Other important grains and grasses

13. **LEGUMES**
    Characteristics of the Legume Family
    Important legume food crops
    Other legumes of interest

14. **STARCHES**
    Storage organs: modified stems, storage roots
    White potato: South American origins
    Other important starchy staples

15. **FEEDING THE WORLD**
    Crop improvement
    The Green Revolution
    Alternative crops: The search for new foods

16. **STIMULANT BEVERAGES**
    Coffee: Arabian drink, plantations, varieties
    Tea: Origins, cultivation and processing
    Chocolate: Food of Gods, cultivation and processing
    Other caffeine beverages
17. **HERBS AND SPICES**
   
   Essential oils
   History of spices
   Herbs and spices of economic importance

18. **CLOTH AND FIBERS**
   
   Fibers: types of fiber, cotton, linen, rayon
   Other fibers
   Wood and wood products
   Paper: pulp and paper making

19. **MEDICINAL PLANTS**
   
   History of Plants in Medicine
   Active principle in plants: alkaloids and Glycosides
   Medicinal plants; Herbal remedies

20. **PSYCHOACTIVE DRUGS**
   
   History of Psychoactive plants
   The Tropane alkaloids
   Distillation

21. **POISONOUS AND ALLERGY PLANTS**
   
   Poisonous Plants in the Wild
   Poisonous Plants in the Backyard
   Insecticides from Plants
   Allergy Plants
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