



**TRINITY VALLEY COMMUNITY COLLEGE
ADMINISTRATIVE-MASTER SYLLABUS**

The Administrative- Master Syllabus is an administrative tool; it is **not intended to be distributed to students**. It is the intention of this Administrative-Master Syllabus to provide a general description of the course, outline the required elements of the course and to lay the foundation for course assessment for the improvement of student learning, as specified by the faculty of TVCC, regardless of who teaches the course, the timeframe by which it is instructed, or the instructional method by which the course is delivered. It is not intended to restrict the manner by which an individual faculty member teaches the course but to be an administrative tool to aid in the improvement of instruction. The Administrative-Master Syllabus will demonstrate that there is consistency and comparability in course offerings.

Course Title

Crop Science

Course Prefix and Number

AGRI 1407

Department – Division

Agriculture and Ranch Management

Course Type – select from one of the following categories.

- **Academic General Education Course** (from ACGM – but not in TVCC Core)
- **Academic TVCC Core Course**
- **WECM Courses**

Semester Credit Hours: Lecture Hours: Lab/other hours

Semester Credit Hours	Lecture Hours	Lab/Other* Hours
4	3	3

Other hours include practicum, clinical or other types of non-lecture instruction. *If other, please specify: _____

Course Catalog Description

Scientific approach to agronomic crops; their importance, value, use characteristics, classification, distribution, climatic and soil requirements, production, storage, improvement and seed technology.

Prerequisites/co requisites

None

Topical Outline

- I.) **Plants: Structure, Classification, Growth, Reproduction, and Utilization**
 - A.) The Role of Cultivated Plants in the Living World
 - B.) Structure of Higher Plants
 - C.) Naming and Classifying Plants
 - D.) Origin, Domestication, and Improvement of Cultivated Plants
 - E.) Propagation of Plants
 - F.) Vegetative and Reproductive Growth and Development
 - G.) Photosynthesis, Respiration, and Translocation

Exam 1

- H.) Soil and Soil Water
 - I.) Soil and Water Management and Mineral Nutrition
 - J.) Climatic Influences on Crop Production
 - K.) Biological Competitors of Useful Plants
 - L.) Harvest, Preservation, Transportation, and Storage

- II.) **An Overview of the Fruit Crops and Ornamental Plants**
 - A.) Cultural Practices in Orchards and Vineyards
 - B.) Flowering and Fruiting in Fruit Crops

Exam 2

- C.) Nursery Production: Field, Above-Ground Container, and Pot-In-Pot Cultures
- D.) Lawns and Turfgrasses

- III.) **Major Agronomic, Vegetable, and Fruit Crops**
 - A.) Agronomic Crops Grown for Food, Feed, or Oil
 - B.) Forage and Fiber Crops

Exam 3

- C.) Vegetable Crops Grown for Fruits or Seeds
- D.) Vegetable Crops Grown for Flowers, Leaves, or Stems
- E.) Vegetable Crops Grown for Underground Parts
- F.) Temperate Zone Fruit and Nut Crops
- G.) Subtropical Fruit and Nut Crops
- H.) Tropical Fruit and Nut Crops

Exam 4 Final

Course Learning Outcomes

This course is designed to familiarize students with the geography, classification, botany, history, and basic production practices involved in the growing of agronomic and some horticultural crops of Texas, the U.S. and the World. During the course of the semester, students should also become familiar with recent and current research findings involving crop improvement, better techniques of crop production, and advancements in seed technology, soil and water management, and genetic engineering of crop plants.

Upon completion of this course, the student should be able to demonstrate proficiency in the following areas:

- 1.) Various classification methods of crop plants.
- 2.) The leading world food and fiber crops.
- 3.) The determining factors of crop distribution.
- 4.) The geographical cropping areas throughout the US.
- 5.) The botanical structure of crop plants.
- 6.) The management of soil and water.
- 7.) The importance, origin and history, adaptation, specific botany, groups or classes, nutritive requirements, culture and management, pests, utilization, and other factors of the major agronomic crops, and some vegetable, fruit and nut crop plants. Major agronomic crops studied will include:

- | | |
|----------------------|--------------------------|
| A.) Corn | <i>Zea mays</i> |
| B.) Sorghum | <i>Sorghum bicolor</i> |
| C.) Wheat | <i>Triticum aestivum</i> |
| D.) Rye | <i>Secale cereale</i> |
| E.) Triticale | <i>Triticum secale</i> |
| F.) Barley | <i>Hordeum vulgare</i> |
| G.) Oats | <i>Avena sativa</i> |
| H.) Rice | <i>Oryza sativa</i> |

- I.) Soybeans *Glycine max*
- J.) Cotton *Gossypium hirsutum*
- K.) Peanuts *Arachis hypogaea*
- L.) Sunflower *Helianthus annuus*
- M.) Sugar Beets *Beta vulgaris*
- N.) Sugarcane *Saccharum officinarum*

Relationship to General Education Outcomes – In addition to the core competencies, Trinity Valley Community College has established ten general education goals which specify knowledge and skills that students should gain from completing courses in the various component areas of the core curriculum. Information regarding curriculum and assessment as a means for the improvement of student learning through the general education component. (Select all that apply.)

Mark with an "X"	General Education Outcome
X	A. To communicate clearly and effectively in both oral and written English.
X	B. To improve reading skills focused on comprehending, analyzing, interpreting, and evaluating printed materials.
X	C. To understand mathematical information and utilize mathematical skills.
X	D. To demonstrate qualitative and quantitative critical thinking skills.
	E. To understand and appreciate cultural and ethnic diversity.
	F. To utilize computer based technology in accessing information, solving problems, and communicating.
	G. To recognize and evaluate artistic achievements in the visual and performing arts.
	H. To improve basic understanding of political, economic, and social systems.
X	I. To demonstrate knowledge of the physical universe and living systems.
X	J. To develop skills and strategies to become an engaged learner.

Required Text(s)

Hartmanns Plant Science, 4th edition by Margaret J. McMahon, Anton M. Kofranek, Vincent E. Rubatzky, published by Prentice Hall ISBN # 0-13-114075-2

Optional Text(s)

Material/Technology to be supplied by the student.

Course Requirements/Grading System – describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course; not intended to restrict the individual nature by which each faculty member who teaches the course determines course requirements and final student performance, but should offer consistency within reason for all sections taught for those departments without a standardized format.

Course Requirements:

- 1.) Attend class and lab sessions regularly and participate in class discussions, and laboratory exercises.
- 2.) Complete a laboratory project and turn in the lab project report and weekly photos as a term paper by the due date (see instruction sheets for lab project and term paper).
- 3.) Complete assigned laboratory exercises including participating in scheduled field trips.
- 4.) Take the three major exams and the final examination as scheduled.

Semester Grade Computation:

Semester grades will be determined on the following basis:

- 1.) Your **presence**, class **participation**, and **interest** will count 10% of your grade.
- 2.) Three major **exams** and the **final** examination, will count 60% of your grade.
- 3.) The **laboratory exercises/quizzes and field trip participation** will count 15% overall.
- 4.) The **lab project** with the **term paper** will count 15% of your final average.
- 5.) With prior approval from the instructor, a word-processed research paper on a course related topic might earn bonus points.

Approvals – the contents of this document have been reviewed and are found to be accurate.

Prepared by Marc Robinson	Signature	Date 1/16/08
Department Head	Signature	Date
Division Chair	Signature	Date
Vice President	Signature	Date