



**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

Entomology

Course Prefix and Number

AGRI 1413

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

Principal insects and pests of crops and livestock, including life history, methods of attack, damage, and control are studied. Integrated pest management and biological controls are stressed.

Prerequisites/co requisites

None

Topical Outline

- A.) The Arthropod Plan**
 - a. Segmentation and Tagmosis
 - b. Exoskeleton
 - c. Size
 - d. Species Numbers
 - e. Arthropod Classes
- B.) The Insect Externally**
 - a. The Head
 - b. The Thorax
 - c. The Abdomen
- C.) The Insect Internally**
 - a. Digestive system
 - b. Circulatory System
 - c. Tracheal System and Respiration
 - d. Muscular System
 - e. Excretory System
 - f. Fat Body
 - g. Nervous System
 - h. Reproductive System
- D.) Development and Specialization**
 - a. Embryology
 - b. Postembryonic Development
 - c. Endocrine and Exocrine

Exam 1

- E.) Classification**
 - a. *Collembola*
 - b. *Thysanura*
 - c. *Ephemeroptera*
 - d. *Odonata*
 - e. *Blattaria*
 - f. *Mantodea*
 - g. *Phasmida*
 - h. *Orthoptera*

- i. *Isoptera*
- j. *Dermaptera*
- k. *Embioptera*
- l. *Plecoptera*
- m. *Zoraptera*
- n. *Psocoptera*
- o. *Mallophaga*
- p. *Anoplura*
- q. *Thysanoptera*
- r. *Hemiptera*
- s. *Megaloptera*
- t. *Neuroptera*
- u. *Coleoptera*
- v. *Strepsiptera*
- w. *Hymenoptera*
- x. *Mecoptera*
- y. *Trichoptera*
- z. *Lepidoptera*
- zz. *Siphonaptera*
- zzz. *Diptera*

Exam 2

F.) Making an Insect Collection

- a. Where and How to Collect
- b. Kill Bottle
- c. Relaxing
- d. Pinning
- e. Labeling
- f. Liquid Preservation

G.) Behavior

- a. Rhythms
- b. Locating Food and Initiating Feeding
- c. Locating Mates and Copulation
- d. Oviposition
- e. Orientation
- f. Migration
- g. Protective Behavior
- h. Concealing Coloration
- i. Revealing Coloration
- j. Mimicry

H.) From Solitary to Social

- a. Isoptera (termites)
- b. Hymenoptera (social wasps, ants, social bees)

I.) Parasitism By Insects

- a. Ectoparasites
- b. Endoparasites of Invertebrates
- c. Endoparasites of Vertebrates

d. Social Parasites

Exam 3

J.) Predation by Insects

- a. Odonata
- b. Mantodea
- c. Hemiptera
- d. Neuroptera
- e. Coleoptera
- f. Hymenoptera
- g. Diptera

K.) Insects, Plants, Livestock, Domestic Animals, and Humans

- a. Beneficial Aspects
- b. Detrimental Aspects

L.) Insect Pest Management

Final Exam

Course Learning Outcomes

Upon completion of this course you will be able to:

- 1.) Recognize that insects are of major economic importance.
- 2.) Differentiate between beneficial vs. harmful vs. neutral insects and their respective roles in the plant and animal kingdom.
- 3.) Design and implement effective control measures of economically destructive insects utilizing biological, chemical, mechanical, and or other methods.

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.
	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.
X	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. K.

Required Text(s)

Fundamentals of Entomology, sixth edition, by Richard J. Elzinga

Optional Text(s)

None

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 lecture and laboratory classes regularly and participate in class discussions and projects.
- 2.) Take the three major exams, turn in all assigned homework and take the final exam.
- 3.) Complete special assignment of collection, identifying, and mounting thirty-five insects, with a minimum of 8 insect orders represented in the collection

Semester Grade Computation:

- 1.) **Your presence** in class, **participation**, and **interest** shown will count 10% of your grade.

- 2.) The text and laboratory **assignments** will count 10% of your grade.
- 3.) The **insect collection** will count 20% of your grade.
- 4.) Three **major exams** and the **final exam** will count 60% of your semester grade.
- 5.) With prior approval, bonus points may be earned by a word processed research paper on a current topic in entomology.

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