Wharton County Junior College

Administrative - Master Syllabus
COVER SHEET

***Purpose**: 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 Wharton County Junior College, 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.*

Course Title – Agronomy

Course Prefix and Number – AGRI 1407

Department - Agriculture **Division** – Math & Science

Course Type: (check one)
- ☒ Academic General Education Course (from ACGM – but not in WCJC Core)
- ☐ Academic WCJC Core Course
- ☐ WECM course (This course is a Special Topics or Unique Needs Course: Y☐ or N☐)

Semester Credit Hours # : Lecture hours# : Lab/other hours # **4:3:2**

Equated Pay hours for course – 4 equated pay hours per course

Course Catalog Description – A study of the growth, cultivation, and management of common field and forage crops including nutrient requirements, soil and water management, planting, fertilization, harvesting, and pest management.

Prerequisites/Co requisites - None

List Lab/ Other Hours
Lab Hours 2
Clinical Hours
Practicum Hours
Other (list)

Prepared by Sean Amestoy ***Date*** 11-22-11

Reviewed by department head Gene Bahnsen ***Date*** 11-22-11

Accuracy verified by Division Chair Kevin Dees ***Date*** 11/22/2011

Approved by Dean of Vocational Instruction or Vice President of Instruction
Leigh Ann Collins ***Date*** 11-9-12

I. Topical Outline – Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, clinical or other non-lecture instruction):

Lecture:

Topical Outline	Dedicated Instructional Time
Introduction, definition of agronomy	One week
Significance of crops worldwide	
Agronomic classification of crops	
History of agriculture	One week
Factors affecting crop production: climate,	
Soil, economics	Three weeks
Soil Separates & Textures	Two weeks
Soil Density & Structure	One week
Soil Color	One week
Soil Moisture	One week
Water Movement and Penetration in Soils	One week
Local Crops: Corn, Sorghum, Rice, Cotton, Soybean	
Cultural practices – seedbed preparation, planting	
Time and date, inoculation, fertilizer, varieties,	
Herbicides, insects, diseases, harvesting, storage	Five Weeks

Suggested Laboratory experiences:

Land Measurement	
Soil Sampling and Testing	
Germination	Four weeks
Field trip to the cotton gin	
Sprayer calibration	
Field trip to grain elevator	
Field trip to USDA offices	
Field trip to irrigation systems	
Fertilizer application – calculations	Three weeks

II. Course Learning Outcomes

Course Learning Outcome	Method of Assessment
Students will: 1. Explain and define the principle of agronomy. 2. Understand and discuss the significance of crops worldwide 3. Compare and contrast the different agronomic classifications as well as special purpose crops 4. Calculate acreage and area to determine resources necessary in crop production such as planting, fertilizing, and chemical applications	1. Lecture, exams, and assignments 2. Lecture, exams, and assignments 3. Lecture, exams, and assignments 4. Laboratory assignments 5. Lecture, and exams

5. Discuss the history of agriculture including reasons for the increased efficiency of the American farmer, the variations in producing and selling costs, as well as distribution aspects	
6. Identify climatic differences and their relationship to crop production, including: annual rainfall, frequency of rain, infiltration of various rainfall amounts, humidity, temperature, and the length of the growing season	6. Lecture, exams, and laboratory assignments
7. Compare and contrast soils regarding their differences in classification, texture, structure, color, tilth, topography and slope, and inhibitory factors. Afterward, be able to analyze and evaluate their relationship to various crops	7. Lecture, and exams
8. Examine and evaluate the economics of crop production regarding inputs, both fixed and variable, budgets, and marketing factors	8. Lecture, exams, and laboratory assignments
9. Predict crop growth and production through extensive knowledge of germination rates of various crops	9. Lecture, and exams
10. Analyze and evaluate seed quality including the classes of seeds: breeders, foundation, registered, and certified	10. Lecture, exams, and laboratory exercises and assignment
11. Understand and be able to demonstrate the importance of proper seed depth	11. Lecture, exams, and laboratory assignments
12. Identify, compare and contrast the types of root systems of plants such as primary, secondary, adventitious, and specialized	12. Lecture, and exams
13. Indicate knowledge of crop improvement including objectives in crop breeding and methods of crop improvement such as introduction, selection, and hybridization	13. Lecture, exams, and laboratory assignments
14. Identify and discuss the major crops grown in the Coastal Bend area	14. Lecture, exams, and laboratory exercises
15. Discuss the history of corn in the gulf coast area, including its origin and adaptation to the area and its relationship to the climate of this area	15. Lecture, and exams
16. Identify the different corn groups such as Dent, Flint, Flour, Popcorn, Sweet corn, Waxy, and Pod and their importance to the gulf coast area	16. Lecture, exams, and laboratory exercises

III. Required Text(s), Optional Text(s) and/or Materials to be Supplied by Student.
Principles of Crop Production: Theory, Techniques, and Technology, Second Edition. 2005. George Acquaah. Pearson/Prentice-Hall, Inc., Upper Saddle River, NJ 07458. ISBN 0-13-114556-8 (required)

(Or)

Principles of Field Crop Production, Fourth Edition. 2006. J.H. martin, R.P. Waldren and D.L. Stamp. Pearson Education, Inc., Upper Saddle River, NJ 07458 ISBN 0-13-025967-5 (required)

IV. Suggested Course Maximum - 24

V. List any specific spatial or physical requirements beyond a typical classroom required to teach the course.

The lecture room also should include sufficient dry erase (or chalk) board for notes and illustrations, a computer with internet access and overhead computer projector (for instructor's use) and a traditional overhead projector.

Laboratory classroom required.

VI. Course Requirements/Grading System – Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course

Students are required to read the textbook chapters assigned to them. Throughout the semester, the students have 4 major lecture exams, several quizzes and assignments.

Evaluative Procedures:
The following method is used to arrive at the final grade:

Lecture grade makes up 2/3 of the course grade. Lecture grade is determined by four major exams and class attendance/participation. Each Exam counts as 1/5 of the lecture grade along with the attendance/participation counting 1/5 of the lecture grade.
Lab grade makes up 1/3 of the course grade. Lab grade is determined by participation and satisfactory completion and evaluation of lab assignments and quizzes.

The grade classifications as outlined in the College Catalog are employed:

A – 90 – 100% Excellent
B – 80 – 89% Good
C – 70 – 79% Average
D – 60 – 69% Poor
F – Below 60% Failure
W – Withdrawn

VII. Curriculum Checklist

☒ - **Academic General Education Course** (from ACGM – but not in WCJC Core)
No additional documentation needed

☐ - **Academic WCJC Core Course**
Attach the Core Curriculum Checklist, including the following:
- Basic Intellectual Competencies
- Perspectives
- Exemplary Educational Objectives

☐ - **WECM Courses**
If needed, revise the Program SCANS Matrix & Competencies Checklist.