



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 – Life Sciences

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.

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

Prerequisites/Corequisites - None

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

Prepared by Dr. Dan Lawlor	Signature 	Date
Department Head Dr. Dan Lawlor	Signature 	Date
Division Chair Kim Raun	Signature 	Date 10-31-07
Vice President Dr. Ty Pate	Signature 	Date 11-1-07



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
1. Introduction, definition of agronomy	One week
2. Significance of crops worldwide	
3. Agronomic classification of crops	
4. History of agriculture	One week
5. Factors affecting crop production: climate, soil, economics	Three weeks
6. Soil Separates & Texture	Two weeks
7. Soil Density & Structure	One week
8. Soil Color	One week
9. Soil Moisture	One week
10. Water Movement and Penetration in Soils	One week
11. Local Crops: Corn, Sorghum, Rice, Cotton, Soybean Cultural practices--seedbed preparation, planting time and date, inoculation, fertilizer, varieties, herbicides, insects, diseases, harvesting, storage (for each crop)	Five weeks

Suggested Laboratory experiences:

1. Land Measurement
2. Soil Sampling and Testing
3. Germination (Four weeks)
4. Field trip to cotton gin
5. Sprayer calibration
6. Field trip to grain elevator
7. Field trip to USDA offices
8. Field trip-irrigation systems
9. Fertilizer application -- calculations (Three weeks)

II. Course Learning Outcomes

Course Learning Outcome	Method of Assessment
<p>Students will :</p> <ol style="list-style-type: none"> 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 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 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 8. Examine and evaluate the economics of crop production regarding inputs, both fixed and variable, budgets, and marketing factors 9. Predict crop growth and production through extensive knowledge of germination rates of various crops 10. Analyze and evaluate seed quality including the classes of seeds; breeders, foundation, registered, and certified 11. Understand and be able to demonstrate the importance of proper seed depth 12. Identify, compare and contrast the types of root systems of plants such as primary, secondary, adventitious, and specialized. 13. Indicate knowledge of crop improvement including objectives in crop breeding and methods of crop improvement such as introduction, selection, and hybridization. 14. Identify and discuss the major crops grown in the Coastal Bend area 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 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 	<ol style="list-style-type: none"> 1. Lecture exams and assignments 2. Lecture exams and assignments 3. Lecture exams and assignments 4. Laboratory assignments 5. Lecture exams 6. Lecture exams and laboratory assignments 7. Lecture exams 8. Lecture exams and laboratory assignments 9. Lecture exams 10. Lecture exams and laboratory exercises and assignment 11. Lecture exams and laboratory assignments 12. Lecture exams 13. Lecture exams and laboratory assignments 14. Lecture exams and laboratory exercises 15. Lecture exams 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 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, attendance, 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 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.

Total 100% --- 100-90=A
89-80=B
79-70=C
69-60=D
below 60=F

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**
Attach the following:

- Program SCANS Matrix
- Course SCANS Competencies Checklist