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 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

Equate 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/Corequisites - None

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

Prepared by

Dr. Dan Lawler

Signature

Date

Department Head

Dr. Dan Lawler

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Date

Division Chair

Kim Raun

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Dr. Ty Pate

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Administrative-Master Syllabus
form approved June/2006 revised 11-02-06
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:

<table>
<thead>
<tr>
<th>TOPICAL OUTLINE</th>
<th>DEDICATED INSTRUCTIONAL TIME</th>
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<tbody>
<tr>
<td>1. Introduction, definition of agronomy</td>
<td>One week</td>
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<tr>
<td>2. Significance of crops worldwide</td>
<td>One week</td>
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<td>3. Agronomic classification of crops</td>
<td>Three weeks</td>
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<td>4. History of agriculture</td>
<td>One week</td>
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<td>5. Factors affecting crop production: climate, soil, economics</td>
<td>Three weeks</td>
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<td>6. Soil Separates &amp; Texture</td>
<td>Two weeks</td>
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<td>7. Soil Density &amp; Structure</td>
<td>One week</td>
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<td>8. Soil Color</td>
<td>One week</td>
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<td>9. Soil Moisture</td>
<td>One week</td>
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<tr>
<td>10. Water Movement and Penetration in Soils</td>
<td>One week</td>
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<tr>
<td>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)</td>
<td>Five weeks</td>
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</table>

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

<table>
<thead>
<tr>
<th>Course Learning Outcome</th>
<th>Method of Assessment</th>
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<tbody>
<tr>
<td>Students will:</td>
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<tr>
<td>1. Explain and define the principle of agronomy</td>
<td>1. Lecture exams and assignments</td>
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<tr>
<td>2. Understand and discuss the significance of crops worldwide</td>
<td>2. Lecture exams and assignments</td>
</tr>
<tr>
<td>3. Compare and contrast the different agronomic classifications as well as special purpose crops</td>
<td>3. Lecture exams and assignments</td>
</tr>
<tr>
<td>4. Calculate acreage and area to determine resources necessary in crop production such as planting, fertilizing, and chemical applications</td>
<td>4. Laboratory assignments</td>
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<tr>
<td>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.</td>
<td>5. Lecture exams</td>
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<tr>
<td>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</td>
<td>6. Lecture exams and laboratory assignments</td>
</tr>
<tr>
<td>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</td>
<td>7. Lecture exams</td>
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<tr>
<td>8. Examine and evaluate the economics of crop production regarding inputs, both fixed and variable, budgets, and marketing factors</td>
<td>8. Lecture exams and laboratory assignments</td>
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<td>9. Predict crop growth and production through extensive knowledge of germination rates of various crops</td>
<td>9. Lecture exams</td>
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<tr>
<td>10. Analyze and evaluate seed quality including the classes of seeds; breeders, foundation, registered, and certified</td>
<td>10. Lecture exams and laboratory exercises and assignment</td>
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<tr>
<td>11. Understand and be able to demonstrate the importance of proper seed depth</td>
<td>11. Lecture exams and laboratory assignments</td>
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<td>12. Identify, compare and contrast the types of root systems of plants such as primary, secondary, adventitious, and specialized.</td>
<td>12. Lecture exams</td>
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<tr>
<td>13. Indicate knowledge of crop improvement including objectives in crop breeding and methods of crop improvement such as introduction, selection, and hybridization.</td>
<td>13. Lecture exams and laboratory assignments</td>
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<tr>
<td>14. Identify and discuss the major crops grown in the Coastal Bend area</td>
<td>14. Lecture exams and laboratory exercises</td>
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<td>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</td>
<td>15. Lecture exams</td>
</tr>
<tr>
<td>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</td>
<td>16. Lecture exams and laboratory exercises</td>
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</tbody>
</table>
III. Required Text(s), Optional Text(s) and/or Materials to be Supplied by Student.


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