



**COWLEY COLLEGE  
& Area Vocational Technical School**

**COURSE PROCEDURE FOR**

**AGR1266 Crop & Plant Science  
4 Credit Hour**

**Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

**Catalog Description:**

**AGR1266 Crop & Plant Science (4cr)**

This course looks at crops and forage plant and the science through history up to today. This course shows how crops fit into all of society and how crops and the by-products contribute to the wellbeing of humans and industries from a worldwide perspective. This course explores the agronomics of crops (including field, small grains, grasses and legumes) and the culture needs. The class also explores crop rotation, soil prep and fertilization, varieties, pests, harvesting and storage of the products. As well as the environmental factors, soils and pests and associated management practices. Lab will be used to insure knowledge of these practices. This course consists of lecture (3cr) and lab (1cr).

**Prerequisites:**

None

**Co-requisites:**

None

**Controlling Purpose:**

The purpose of this this course is to study crops and forage plant and the science through history up to today. This course shows how crops fit into all of society and how crops and the by-products contribute to the wellbeing of humans and industries from a worldwide perspective. This course explores the agronomics of crops (including field, small grains, grasses and legumes) and the culture needs. The class also explores crop rotation, soil prep and fertilization, varieties, pests, harvesting and storage of the products. As well as the environmental factors, soils and pests and associated management practices. Lab will be used to insure knowledge of these practices.

**Learner Outcomes:**

Upon completion of the course, the student will

1. Summarize the evolution of agriculture through history and the role of sustainability in the future.
2. Evaluate soil formation, land classification, and soil fertility.
3. Analyze water irrigation and conservation practices.
4. Analyze integrated pest management and insect control.

Rev. 6/4/2018

DISCLAIMER: THIS INFORMATION IS SUBJECT TO CHANGE. FOR THE OFFICIAL COURSE PROCEDURE CONTACT ACADEMIC AFFAIRS.

5. Evaluate plant diseases and weed control.
6. Classify the selection, cultural practices, harvesting, and storage of seven crop varieties (grain, sugar, oil, fiber, specialty, forage, veg/fruit/nut).

**Units Outcomes and Clock Hours of Instruction for Core Curriculum:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

Evaluation Key:

- A = All major and minor goals have been achieved and the achievement level is considerably above the minimum required for doing more advanced work in the same field.
- B = All major goals have been achieved, but the student has failed to achieve some of the less important goals. However, the student has progressed to the point where the goals of work at the next level can be easily achieved.
- C = All major goals have been achieved, but many of the minor goals have not been achieved. In this grade range, the minimum level of proficiency represents a person who has achieved the major goals to the minimum amount of preparation necessary for taking more advanced work in the same field, but without any major handicap of inadequacy in his background.
- D = A few of the major goals have been achieved, but the student’s achievement is so limited that he is not well prepared to work at a more advanced level in the same field.
- F = Failing, will be computed in GPA and hours attempted.
- N = No instruction or training in this area.

<b>UNIT 1:</b>						
Outcomes: Summarize the evolution of agriculture through history and the role of sustainability in the future.						
A	B	C	D	F	N	Specific Competencies <i>Students will be able to</i>
						Describe what crop and plant science is.
						Evaluate the value of main crops produced for mankind.
						Describe the worldwide systems of agricultural production.
						Discuss how production is effected in the world.
						Describe the part of the role crops play in human nutrition.

<b>UNIT 2: Evaluate soil formation, land classification, and soil fertility.</b>						
Outcomes:						
A	B	C	D	F	N	Specific Competencies <i>Students will be able to</i>
						Describe the physical and biological qualities of soil and its formation.
						Describe land capabilities, capability factors, and capability classifications
						Analyze the components of soil fertility
						Demonstrate soil sampling and analysis
						Illustrate how soil amendments are used with plants

<b>UNIT 3:</b>						
Outcomes: Analyze water irrigation and conservation practices.						
A	B	C	D	F	N	Specific Competencies <i>Students will be able to</i>
						Explain soil moisture management.
						Describe quality irrigation water.
						Evaluate sources of water.
						Demonstrate methods of water application.
						Demonstrate efficient use of water.
						Demonstrate the use of chemicals in irrigation.

<b>UNIT 4:</b>						
Outcomes: Analyze integrated pest management and insect control.						
A	B	C	D	F	N	Specific Competencies <i>Students will be able to</i>
						Explain the meaning and importance of agroecosystems.
						Illustrate pest control tactics with Integrated Pest Management (IPM)
						Demonstrate important safety practices with pesticides.
						Distinguish between beneficial and harmful insects.
						Describe scouting procedures and define economic thresholds.
						Explain how insect and nematode control is monitored.

<b>UNIT 5:</b>						
Outcomes: Evaluate plant diseases and weed control.						
A	B	C	D	F	N	Specific Competencies <i>Students will be able to</i>
						Describe the types and causes of plant diseases.
						Identify common plant diseases.
						Describe the dispersal of plant diseases.
						Discuss methods of plant disease control.
						Explain weeds and losses caused by weeds.
						Classify the types of weeds based on life cycle and growth.
						Analyze ways weeds are spread.
						Apply methods of weed control.
						Explain herbicide selectivity.
						Demonstrate herbicide applications

<b>UNIT 6:</b>						
Outcomes: Classify the selection, cultural practices, harvesting, and storage of seven crop varieties (grain, sugar, oil, fiber, specialty, forage, veg/fruit/nut).						
A	B	C	D	F	N	Specific Competencies <i>Students will be able to</i>
						List seven crop varieties (grain, sugar, oil, fiber, specialty, forage, veg/fruit/nut)
						Classify crops according to production location.
						Explain or demonstrate cultural practices of various crops.
						Explain or demonstrate the selection of various crops.
						Describe or Illustrate the harvesting and storage techniques for various crops.

**Projects Required:**

Varies, refer to syllabus.

**Textbook:**

Contact Bookstore for current textbook.

**Materials/Equipment Required:**

None

**Attendance Policy:**

Students should adhere to the attendance policy outlined by the instructor in the course syllabus.

**Grading Policy:**

The grading policy will be outlined by the instructor in the course syllabus.

**Maximum class size:**

Based on classroom occupancy

**Course Time Frame:**

The U.S. Department of Education, Higher Learning Commission and the Kansas Board of Regents define credit hour and have specific regulations that the college must follow when developing, teaching and assessing the educational aspects of the college. A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally-established equivalency that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work for approximately fifteen weeks for one semester hour of credit or an equivalent amount of work over a different amount of time. The number of semester hours of credit allowed for each distance education or blended hybrid courses shall be assigned by the college based on the amount of time needed to achieve the same course outcomes in a purely face-to-face format.

**Refer to the following policies:**

[402.00 Academic Code of Conduct](#)

[263.00 Student Appeal of Course Grades](#)

[403.00 Student Code of Conduct](#)

**Disability Services Program:**

Cowley College, in recognition of state and federal laws, will accommodate a student with a documented disability. If a student has a disability which may impact work in this class and which requires accommodations, contact the Disability Services Coordinator.