



**COWLEY COLLEGE  
& Area Vocational Technical School**

**COURSE PROCEDURE FOR**

**AG COMPUTATION  
AGR1213 3 Credit Hours**

**Student Level:**

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

**Catalog Description:**

**AGR1213 - AG COMPUTATION (3 hrs)**

Using basic mathematics, statistical interpretations, formulas, measurements, and basic algebra a student will use spread sheets and data analysis (e.g. MS Excel) to support agribusiness management decisions in a wide range of agriculture situations to increase understanding of problem solving and decision making.

**Prerequisites:**

None

**Co-requisites:**

None

**Controlling Purpose:**

The purpose of this this course is to provide the student with the knowledge and skill necessary to use basic mathematics, statistical interpretations, formulas, measurements, and algebra to create spread sheets and data analysis (e.g. MS Excel) to support agribusiness management decisions in a wide range of agriculture situations to increase understanding of problem solving and decision making.

**Learner Outcomes:**

Upon completion of the course, the student will:

1. Demonstrate the ability to perform basic mathematical computation
2. Utilize Basic Geometry and algebra in basic agriculture problem solving
3. Apply the use of mathematics to different agriculture areas.

**Units Outcomes and Criterion Based Evaluation Key for Core Content:**

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: Basic Mathematical Computation</b>						
Outcomes: Upon completion of this unit, the students will be able to successfully demonstrate the ability to perform basic mathematical computation.						
A	B	C	D	F	N	Specific Competencies:
						Demonstrate the ability to:
						Convert numbers to and from fractions to decimals, and percentages
						Use algebraic expressions to solve problems
						Use geometric formulas to determine volumes and area.

<b>UNIT 2: Geometry and Algebra</b>						
Outcomes: Upon completion of this unit, the students will be able to successfully utilize basic geometry and algebra in basic agriculture problem solving.						
A	B	C	D	F	N	Specific Competencies:
						Demonstrate the ability to:
						Locate, describe and calculate area of specific parcels of land, using the Rectangular Survey
						Compute crop nutrient use and needs; seeding rates and crop harvest yields.
						Compute chemical application rates and calibrate sprayers to apply the computed rate.

### UNIT 3: Application of Math to Agriculture

Outcomes: Upon completion of this unit, the students will be able to successfully apply the use of mathematics to different agriculture areas.

A	B	C	D	F	N	Specific Competencies:
						Demonstrate the ability to:
						Define various animal nutrient needs and formulate rations to meet those needs.
						Explain moisture and dry matter content of forages and feeds.
						Compute proper stocking rates for various animal species on pastures.
						Calculate and project genetic values of various economic traits in offspring.
						Calculate economic values and ratios in the area of animal science.
						Create and analyze farm enterprise records, balance sheets and cash flow statements.
						Choose and compute depreciation schedules for agricultural applications.
						Calculate actual interest rates given various types of loans and terms.
						Define basis, cash price and futures price in any of several given types of common hedging methods.

#### **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.