# Capstone in Agriculture Science Course No. 18003 Credit: 1.0

|  |  |  |  |
| --- | --- | --- | --- |
| **Student name:** |  | **Graduation Date:** |  |

Pathways and CIP Codes:Diversified Agricultural Science (01.0000)

Course Description: A capstone course intended to provide students with opportunities to develop skills and knowledge from the diverse Agricultural industry. The course features a deep dive into the Business, Communications and Leadership, Animal Science, Agronomy, Plant Science and Biotechnology sectors of Agriculture. The broad-based Agricultural competencies addressed in this course will help prepare students for a wide variety of options in future careers in within Agriculture and related occupations.

Directions:The following competencies are required for full approval of this course. Check the appropriate number to indicate the level of competency reached for learner evaluation.

**RATING SCALE:**

4. Exemplary Achievement: Student possesses outstanding knowledge, skills or professional attitude.

3. Proficient Achievement:Student demonstrates good knowledge, skills or professional attitude. Requires limited supervision.

2. Limited Achievement:Student demonstrates fragmented knowledge, skills or professional attitude. Requires close supervision.

1. Inadequate Achievement:Student lacks knowledge, skills or professional attitude.

0. No Instruction/Training:Student has not received instruction or training in this area.

## Benchmark 1: Agribusiness - Sales

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 1.1 | Identify, explain and organize components of the sales process. |  |
| 1.2 | Develop strategies to gain new customers. |  |
| 1.3 | Develop effective customer relationships using approaches that are consistent and comprehensive. |  |
| 1.4 | Demonstrate methods of building rapport. |  |
| 1.5 | Demonstrate methods of establishing credibility. |  |
| 1.6 | Practice proper phone etiquette. |  |
| 1.7 | Demonstrate methods of effective communication. |  |
| 1.8 | Devise sales practices to achieve goals. |  |
| 1.9 | Prepare and make sales presentations. |  |
| 1.10 | Use strategies to follow up sales to provide post-sales service. |  |
| 1.11 | Intercept, interpret and process customer complaints, needs and problems with products and services. |  |
| 1.12 | Identify and maintain needed sales records. |  |

## Benchmark 2: Animal Science - Anatomy

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 2.1 | Compare and Contrast desirable anatomical and physiological characteristics within and between species. |  |
| 2.2 | Explain the relation of animal tissues to growth, performance, and health. |  |
| 2.3 | Explain how the components and systems of animal anatomy and physiology relate to the production of animals. |  |
| 2.4 | Compare and contrast organ types and functions among animal species. |  |
| 2.5 | Explain the impact of body systems on performance, health, growth, and reproduction. |  |
| 2.6 | Explain the uses of the anatomical parts of the animal body’s in the agriculture industry. |  |
| 2.7 | Recognize common anatomical terms. |  |
| 2.8 | Identify all parts and functions of animals including bones, five major systems, muscles, and heart. |  |

## Benchmark 3: Animal science - health

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 3.1 | Fill and read a syringe. |  |
| 3.2 | Calculate medication amounts. |  |
| 3.3 | Properly read medication labels. |  |
| 3.4 | Identify withdrawal times for medications. |  |
| 3.5 | Describe the life cycle of internal and external parasites. |  |
| 3.6 | Describe the general clinical signs of an animal with a parasital and a bacterial infection. |  |
| 3.7 | Identify the different parasites that can be found within animals. |  |

## Benchmark 4: Agriculture Leadership and Communications – Career skills

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 4.1 | Prepare and Revise a Resume. |  |
| 4.2 | Write and Revise a Cover Letter. |  |
| 4.3 | Complete a Job Application. |  |
| 4.4 | Participate in a Job Interview. |  |
| 4.5 | Write a follow up letter. |  |

## Benchmark 5: Agriculture Leadership and Communications - Agriculture Trends and Policy Issues

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 5.1 | Research, examine, and discuss issues, trends, and policies that impact local, state, national and global agriculture. |  |
| 5.2 | Explain emerging trends and the opportunities they may create within agriculture. |  |
| 5.3 | Participate in a class debate over and agriculture issue, trend, or policy. |  |

## Benchmark 6: Agriculture Leadership and Communications - Ag Journalism and Communications

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 6.1 | Prepare an agricultural blog using credited sources of information. |  |
| 6.2 | Utilize appropriate software to design a magazine layout or newsletter for the FFA Chapter. |  |
| 6.3 | Design a video script and video for the promotion of the FFA Chapter or agriculture program. |  |
| 6.4 | Design and layout a web page for the FFA Chapter. |  |

## Benchmark 7: plant science - biotechnologty

### Competencies

| **#** | **Description** | **RATING** |
| --- | --- | --- |
| 7.1 | Define biotechnology and explore the historical impact it has had on agriculture. |  |
| 7.2 | Investigate current applications of biotechnology in agriculture. |  |
| 7.3 | Explore ethical, legal, and social biotechnology related issues. |  |
| 7.4 | Explain selective plant breeding. |  |
| 7.5 | Examine genetic engineering of plants. |  |
| 7.6 | Describe micropropagation techniques for plants. |  |

## Benchmark 8: Plant science – agronomy applications

### Competencies

| **#** | **Description** | **RATING** |
| --- | --- | --- |
| 8.1 | Define rangeland. |  |
| 8.2 | Evaluate range management systems, economics, and improvement techniques. |  |
| 8.3 | Determine livestock and wildlife use on rangeland. |  |
| 8.4 | Describe range management practices related to plant growth and development. |  |
| 8.5 | Evaluate the number and types of plant species in a rangeland area. |  |
| 8.6 | Evaluate how different tillage operations (plowing, chiseling, harrowing, discing, rototilling, etc.) affects the soil and water conservation, soil fertility, percolation, plant growth and development. |  |
| 8.7 | Describe input management practices related to plant growth and development, e.g., seed, fertilizer, irrigation, pest control, etc.. |  |
| 8.8 | Collect and prepare plant tissue and soil samples for analysis and interpret test results. |  |

I certify that the student has received training in the areas indicated.

Instructor Signature:

For more information, contact:

CTE Pathways Help Desk

(785) 296-4908

[pathwayshelpdesk@ksde.org](mailto:pathwayshelpdesk@ksde.org)



900 S.W. Jackson Street, Suite 102

Topeka, Kansas 66612-1212

[https://www.ksde.org](https://www.ksde.org/)

The Kansas State Department of Education does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities and provides equal access to any group officially affiliated with the Boy Scouts of America and other designated youth groups. The following person has been designated to handle inquiries regarding the nondiscrimination policies: KSDE General Counsel, Office of General Counsel, KSDE, Landon State Office Building, 900 S.W. Jackson, Suite 102, Topeka, KS 66612, (785) 296-3201.