# Research in Agriculture Course No. 18206 Credit: 1.0

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

Pathways and CIP Codes: **Animal Science, Health, and Related Industries (01.0901); Agricultural Technology and Mechanical Systems (01.0201); Diversified Agricultural Science (01.0000); Food Products and Processing Systems (01.0401); Natural Resources and Environmental Sustainability (03.0101); Plant Science and Industry Operations (01.1101).**

Course Description: Allows students to prepare, conduct and evaluate science based projects as they relate to science in agriculture in the classroom, shop, or greenhouse.

Special Note: The AFNR College and Career Ready Skills are to be taught throughout the course utilizing FFA and SAE programming found at the Kansas Ag Ed website. Specific activities may be found in the SAE for All Teachers Guide and at National FFA.org. The AFNR College and Career Ready Skills competencies can be found at Kansas Ag Ed.

Opportunities in Agriculture Education & FFA:Classroom and laboratory instruction integrates and/or is supplemented by experiential, project, and leadership and personal development through FFA .Students should be introduced to FFA through leadership activities and College and Career Ready Skills. Specific FFA information and activities may be found in the “National FFA Student Handbook, 16thedition”. Student activities, scoring rubrics, grading examples, and teacher lessons are all found in the “FFA Student Handbook Teachers Guide”. Additional information can be found at [www.ffa.org](http://www.ffa.org/).

Workplace Skills, Supervised Agricultural Experience and Record Keeping: Classroom and laboratory instruction integratesand/or is supplemented by experiential, project, and work based learning through SAE. Specific SAE activities that support the College and Career Ready Skills may be found in the “SAE for All Guide”. Students should be introduced to Foundational SAE’s and the AET student portfolio system. Student activities, scoring rubrics, grading examples, and teacher lessons are all found in the “SAE for All Teachers Guide”. Additional information is found in the SAE Individual Learning Guides and Teacher Editions and in the AFNR College and Career Ready Competency Profile found at *Kansas Ag* *Ed.*

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: Current Current Events in agriculture

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 1.1 | Stay up to date on current agriculture events. |  |
| 1.2 | Research current issues affecting the agriculture industry.  |  |
| 1.3 | Identify consumer trends affecting agriculture. |  |

## Benchmark 2: Positive & Negative Perspectives of Agriculture

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 2.1 | Research outlooks and perspectives on the agriculture industry different than your own.  |  |
| 2.2 | Participate in a class debate over an agricultural issue.  |  |

## Benchmark 3: career readiness

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 3.1 | Revise your Resume.  |  |
| 3.2 | Write a cover letter.  |  |
| 3.3 | Complete a job application.  |  |
| 3.4 | Participate in a job interview.  |  |
| 3.5 | Write a follow-up letter. |  |
| 3.6 | Select, schedule and complete one job shadowing experience in your career pathway each semester. |  |

## Benchmark 4: Furthering your Education

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 4.1 | Research and compare at least three different colleges or technical programs to further education in your pathway.  |  |
| 4.2 | Brainstorm strategies to ensure success in your future education.  |  |
| 4.3 | Apply for College Scholarships. |  |
| 4.4 | Complete the FAFSA Financial Aid Form. |  |

## Benchmark 5: Public Speaking/Group Presentations

### Competencies

| **#** | **Description** | **RATING** |
| --- | --- | --- |
| 5.1 | Research a 6-8 minute speech on an agricultural topic.  |  |
| 5.2 | Write a final manuscript for a 6-8 minute speech over an agriculture topic using MLA style with title page and works cited.  |  |
| 5.3 | Present a memorized 6-8 minute agriculture speech to the class.  |  |
| 5.4 | Lead a class discussion over a topic. |  |
| 5.5 | Lead a small group discussion.  |  |
| 5.6 | Teach a technical concept to the class.  |  |

## Benchmark 6: Technology in Agriculture

### Competencies

| **#** | **Description** | **Rating** |
| --- | --- | --- |
| 6.1 | Report on uses of global information systems (GIS) in agriculture.  |  |
| 6.2 | Utilize a GPS receiver to find a location given coordinates.  |  |
| 6.3 | Design a webpage for an agricultural business. |  |
| 6.4 | Explore uses of Blogging, Podcasting and other social media technology in the agriculture industry.  |  |
| 6.5 | Research online marketing opportunities and strategies for agricultural products. |  |
| 6.6 | Discuss the impact of unmanned aerial vehicle (UAV) technology on agriculture. |  |

## Benchmark 7: Government Regulations

### Competencies

| **#** | **Description** | **rating** |
| --- | --- | --- |
| 7.1 | Identify Common Safety Concerns/Issues relating to your pathway.  |  |
| 7.2 | Explore government regulations and paperwork required for different agricultural business.  |  |
| 7.3 | Complete a state and federal income tax return. |  |

## Benchmark 8: Advanced Agricultural Lab Activity

### Competencies

| **#** | **Description** | **Rating** |
| --- | --- | --- |
| 8.1 | Select and develop outcomes for an advanced agriculture laboratory activity for the first semester.  |  |
| 8.2 | Select and develop outcomes for an advanced agriculture laboratory activity for the second semester.  |  |

## Benchmark 9: technical writing

### Competencies

| **#** | **Description** | **Rating** |
| --- | --- | --- |
| 9.1 | Develop a research proposal. |  |
| 9.2 | Complete a scientific manuscript using APA format. |  |
| 9.3 | Utilize a peer review to edit a scientific manuscript. |  |
| 9.4 | Discuss ethical considerations for research writing. |  |

## Benchmark 10: Reviewing Research Literature

### Competencies

| **#** | **Description** | **rating** |
| --- | --- | --- |
| 10.1 | Identify gaps in current research for local, state, national, and global agriculture issues. |  |
| 10.2 | Complete a literature review for an agricultural experiment. |  |
| 10.3 | Discuss APA references and in-text citations. |  |
| 10.4 | Discuss the use of reliable research sources. |  |

## Benchmark 11: Experimental Design

### Competencies

| **#** | **Description** | **Rating** |
| --- | --- | --- |
| 11.1 | Develop a hypothesis for an agricultural experiment. |  |
| 11.2 | Identify independent, dependent, and control variables. |  |
| 11.3 | Develop proper experimental design for agricultural research. |  |
| 11.4 | Identify suitable methods for collecting data. |  |
| 11.5 | Discuss ethical considerations in experimental design. |  |

## Benchmark 12: Data Analysis and Reporting

### Competencies

| **#** | **Description** | **Rating** |
| --- | --- | --- |
| 12.1 | Collect data for an agricultural experiment. |  |
| 12.2 | Describe the differences between quantitative and qualitative data. |  |
| 12.3 | Discuss the interpretation of statistical results. |  |
| 12.4 | Evaluate the use of data analysis software. |  |

## Benchmark 13: Research Communication

### Competencies

| **#** | **Description** | **Rating** |
| --- | --- | --- |
| 13.1 | Articulate the results of an agricultural experiment in a research manuscript. |  |
| 13.2 | Discuss oral presentation skills for communicating research. |  |
| 13.3 | Develop research poster to communicate results. |  |
| 13.4 | Present the findings of a research project to an audience. |  |

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

Instructor Signature:

For more information, contact:

CTE Pathways Help Desk

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