# 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); 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.

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:

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