I. **TITLE:**

Advance Precision Agriculture

II. **CATALOG DESCRIPTION:**

An agricultural course designed for students who desire to apply and expand knowledge of the acquisition and analysis of geographically referenced data for the management of crop production systems, data formats, geographic information systems, grid sampling, soil fertility and physical properties, herbicide management, yield monitoring, variable-rate applications, crop modeling, and economics.

Prerequisites: AGR 339, 471, and 539.

*To receive graduate credit for this course, a student must be admitted to graduate studies prior to registering for the course.*

III. **PURPOSE:**

To advance students’ skills necessary to work effectively and competitively in the precision agriculture industry.

IV. **COURSE OBJECTIVES:**

Upon enrollment in this class, you agreed you wanted to learn:

A. Advanced fundamentals of precision agriculture.
B. Skills necessary to work productively in the precision agriculture industry.

V. **CONTENT OUTLINE:**

In order to accomplish these objectives, you agreed you wanted to study:

A. Advanced Data Analysis Techniques
B. Implementation of Soil Test Results
C. Sales and Marketing of Precision Agriculture Equipment and Services
D. Precision Agriculture Product Analysis and Use
E. Application Recommendations and Variable Rate Technology
VI. **INSTRUCTIONAL ACTIVITIES:**

A. Practical Hands-On Experience  
B. Internet Searches  
C. Computer Programs  
D. Guest Speakers  
E. Demonstrations  
F. Field Trips  
G. Research  
H. Problem Solving Independent Assignments

VII. **FIELD AND CLINICAL EXPERIENCES:**

Students will complete several field trips and clinical experiences, including a practicum in the precision agriculture field.

VIII. **RESOURCES:**

A. Ag Leader Corporation  
B. Local Agriculture Businesses  
C. Precision Agriculture Equipment

IX. **GRADING PROCEDURES:**

The following is an evaluation outline. All point values and assignments are subject to change at my discretion.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>POINTS POSSIBLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm exam</td>
<td>200</td>
</tr>
<tr>
<td>Final Portfolio</td>
<td>200</td>
</tr>
<tr>
<td>Computer Program Lab</td>
<td>150</td>
</tr>
<tr>
<td>Mapping/Application Lab</td>
<td>150</td>
</tr>
<tr>
<td>Study Guides</td>
<td>150</td>
</tr>
<tr>
<td>Homework</td>
<td>100</td>
</tr>
<tr>
<td>Lab Reports</td>
<td>50</td>
</tr>
<tr>
<td>Total Possible Points</td>
<td>1000</td>
</tr>
</tbody>
</table>

Grading scale:  
900 – 1000 = A  
800 – 899 = B  
700 – 799 = C  
600 – 699 = D  
Below 600 = E
Graduate Students: Students receiving graduate credit for this course will be required to submit a field experience portfolio in addition to undergraduate work.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>POINTS POSSIBLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Field Experience Portfolio</td>
<td>200</td>
</tr>
<tr>
<td>Total Possible Points</td>
<td>1200</td>
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</tbody>
</table>

X. **ATTENDANCE POLICY:**

Please refer to the most current copy of the *Murray State University’s Undergraduate Bulletin and Graduate Bulletin.*

XI. **ACADEMIC HONESTY POLICY:**

(Adopted by the MSU Board of Regents)

Cheating, plagiarism (submitting another person’s material as one’s own), or doing work for another person which will receive academic credit are all impermissible. This includes the use of unauthorized books, notebooks, or other sources in order to secure or give help during an examination, the unauthorized copying of examinations, assignments, reports, term papers, or the presentation on unacknowledged material as if it were the student’s own work. Disciplinary action may be taken beyond the academic discipline administered by the faculty member who teaches the course in which the cheating took place.

NOTE: The School of Agriculture Faculty have adopted and implemented an Academic Honesty Policy in addition to the University Honesty Policy, which can be found in the current *Undergraduate Bulletin and Graduate Bulletin.* The policy sets guidelines regarding acts of dishonesty and the procedure to follow should an event occur. It is each Agriculture student’s responsibility to obtain and read a copy of this document. The School’s Academic Honesty Policy can be obtained by asking for a copy from any Agriculture Faculty member or the Secretary.

XII. **TEXT AND REFERENCES:**

*The Precision Farming Guide for Agriculturalists* by Deere and Company

XIII. **PREREQUISITES:**

AGR 339, 471, and 539

XIV. **STATEMENT OF AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY:**

Murray State University endorses the intent of all federal and state
laws created to prohibit discrimination. Murray State University does not discriminate on the basis of race, color, national origin, gender, sexual orientation, religion, age, veteran status, or disability in employment, admissions, or the provision of services and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities equal access to participate in all programs and activities. For more information, contact Sabrina Y. Dial, Director of Equal Opportunity, Murray State University, 103 Wells Hall, Murray, KY 42071-3318. Telephone: 270-809-3155 (voice), 270-809-3361 (TDD).

XV. **MSU SCHOOL OF AGRICULTURE CELL PHONE POLICY**

The School of Agriculture recognizes that in today’s world cell phones are a familiar and often necessary form of communication for students.

It shall be the policy of the School that no cell phone usage shall be allowed in class and/or labs without the prior consent of the course instructor. This shall include verbal calling, incoming calls, email, text messaging, and use of cell phone calculators on tests and quizzes.

Cell phones must be kept off and out of sight (i.e. secured to a person’s belt or kept in a bag or purse away from desks and lab counters).

Should a student’s cell phone be visible, ring, or other form of unauthorized usage that is interruptive to the class or lab, the student may be asked to leave class and not return for that class/lab period.

Upon prior consent of the instructor, a student may obtain permission to have their phone on in case of an emergency or in critical family situations.

This policy also includes pagers and other electronic equipment such as blackberries and/or computers/laptops.