I. **TITLE:**

   Advanced Soil Fertility

II. **CATALOG DESCRIPTION:**

   The chemistry of the essential elements in soils and the use and the manufacturing processes of various fertilizer materials are considered. Prerequisites: AGR 250.

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

III. **PURPOSE:**

   The purpose of this course is to study the chemistry of the essential elements in soils. Fertilizer manufacturing and application is also covered.

IV. **COURSE OBJECTIVES:**

   To develop a basic understanding of the chemistry of the essential elements in soils.

V. **CONTENT OUTLINE:**

   A. Early fertilizer practices
   B. Factors affecting plant growth
   C. Soil nitrogen
   D. Phosphorous in soils
   E. Soil potassium, calcium, and magnesium
   F. Sulfur and the trace elements
   G. Manufacture and properties of fertilizer
   H. Liming and pH
   I. Evaluating soil fertility
   J. Fertilizer application
VI. **INSTRUCTIONAL ACTIVITIES:**

Traditional lecture with handouts of questions to guide students through the material.

VII. **FIELD AND CLINICAL EXPERIENCES:**

None

VIII. **RESOURCES:**

A. Textbook
B. Slides

IX. **GRADING PROCEDURES:**

An hour exam is assigned after completing a topic or series of topics. Three or four exams are given plus a final. In general the grades in this course are assigned as follows:

- 90 - 100 = A
- 80 - 89 = B
- 70 - 79 = C
- 60 - 69 = D
- Below 60 = E

I may use my professional judgment to lower these percentages based on the performance of the high individuals in the class. NO extra work may be done to raise an individual’s grade.

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:

Soil Fertility and Fertilizers, 7th Edition by John L. Havin, James D. Beaton,
Samuel L. Tisdale and Weiner L. Nelson. (required)

XIII. PREREQUISITES:

AGR 250

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.