I. **TITLE:**

   Plant Propagation

II. **CATALOG DESCRIPTION:**

   A study propagating methods for horticultural plants. Includes the principles and practices of cuttings, grafting and budding, layering, and seed propagation.

   Prerequisite: Completion or concurrent enrollment of AGR 160.

III. **PURPOSE:**

   The purpose of this course is to make the student appreciate the many varied approaches to propagating plants. The student should become familiar with how different techniques are carried out and why they are effective.

IV. **COURSE OBJECTIVES:**

   A. To develop an understanding of the numerous terms commonly used when discussing plant propagation.
   B. To develop an understanding of the basic principles important to the successful propagation of plants sexually and asexually.
   C. To develop an understanding of how certain techniques used in propagation are accomplished.
   D. To develop a certain degree of skill in using plant propagation techniques.
   E. To study the different effects of hormones and growth regulators.

V. **CONTENT OUTLINE:**

   A. General aspects of plant propagation
      1. Basic types of propagation
      2. Plant nomenclature
      3. Environmental factors
   B. Sexual propagation
      1. Seed production
      2. Seed testing and storage
      3. Seed dormancy problems and how to overcome them
      4. Plant production with seeds
   C. Asexual propagation
      1. General aspects of asexual propagation
2. Anatomical and physiological basis of propagation by cuttings
3. Techniques of propagation by cuttings
4. Layering
5. Theoretical aspects of grafting and budding
6. Techniques of grafting
7. Techniques of budding
8. Propagation by specialized stems and roots
9. Micropropagation

VI. **INSTRUCTIONAL ACTIVITIES:**

A. Lecture
B. Demonstrations
C. Field trips
D. Laboratory exercises

Demonstrations will be used to illustrate certain points in lecture, as well as, prepare students for some laboratory exercises. A field trip will be used to show different commercial facilities for propagation, as well as, the commercial propagation of some specific plants.

Laboratory exercises will be organized in experimental fashion to illustrate lecture points and to help the student develop propagation skills.

VII. **FIELD AND CLINICAL EXPERIENCES:**

Students will learn how to propagate a variety of plants using techniques such as stem, leaf bud, and root cuttings, air layering, crown division, whip grafting, and chip budding in the greenhouse and outdoors.

VIII. **RESOURCES:**

A. Greenhouse and laboratory facilities
B. Plant materials outdoor and indoor, on campus and the University farm

IX. **GRADING PROCEDURES:**

The overall grade will be comprised of twelve quizzes (24% of grade), 14 weekly lab assignments (31%), propagation lesson (5%), lab lesson (5%), elementary school project (5%), propagation log (10%), comprehensive final exam (10%), and attendance/lab participation (10%).

Grading Scale:
90 – 100 = A  
80 – 89.9 = B  
70 – 79.9 = C  
60 – 69.9 = D  
Below 60 = E
Make-up policy: Announced examinations may be made up if the student is forced to miss the examination because of events beyond the student’s control. Quizzes must be made up within one week of the originally scheduled time. This time limit will only be waived in unusual circumstances. Written reports must be received on time in order for the student to receive full credit. **Late work will be lowered by 10% each week it is delinquent. Work will NOT be accepted after two weeks past the due date.**

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:**


XIII. **PREREQUISITES:**

Completion or concurrent enrollment of AGR 160.
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. **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.