I. **TITLE:**

Greenhouse Production and Management

II. **CATALOG DESCRIPTION:**

A study of producing plants under transparency. Includes greenhouse management problems; heating, cooling, and humidity control; also cultural practices of several different crops. Prerequisites: Completion or concurrent enrollment in AGR 160.

III. **PURPOSE:**

The purpose is to make the student familiar with different types of greenhouse structures, construction materials, proper daily maintenance operation of greenhouse and equipment to properly control the growth and to learn crop development/scheduling of greenhouse plants.

IV. **COURSE OBJECTIVES:**

A. To develop an understanding and appreciation of the different types of greenhouses and their construction.
B. To develop an understanding of how climate control can be achieved in this greenhouse and how to operate the environmental systems.
C. To develop an in-depth understanding of how the limiting factors to plant growth influence final product appearance.
D. To develop an appreciation of how growing conditions in the greenhouse can be manipulated to produce the desired growth in a variety of plants.
E. To understand the daily routine of maintaining a greenhouse and the plant materials within.

V. **CONTENT OUTLINE:**

A. Introduction
B. Greenhouse Construction
C. Environmental Control in the Greenhouse
   1. Temperature (Heating and Cooling)
   2. Light (Natural versus artificial)
   3. Moisture
   4. Fertility
D. Growing Media: Types, Preparation and Utilization
E. Production of Important Greenhouse Plants
   1. Container grown crops
   2. Bedding plants
   3. Cut flowers

VI. INSTRUCTIONAL ACTIVITIES:

   A. Lectures
   B. Demonstrations
   C. Laboratory exercises
   D. Possible Field trips

VII. FIELD AND CLINICAL EXPERIENCES:

   Students will learn to identify environmental characteristics necessary for plant growth, maintain the greenhouses and surrounding spaces on a daily basis, and learn to evaluate the suitability of different types of greenhouses.

VIII. RESOURCES:

   A. Greenhouses
   B. Cold frame
   C. Laboratory facilities
   D. Area commercial greenhouses

IX. GRADING PROCEDURES:

   The course grade will be divided equally with 50% from lecture and lab. In lecture, three regular announced examinations of equal weight will be given during the semester equaling 30% of the grade, two math projects (5%), growing a greenhouse crop (5%), lecture attendance (5%) and a group management project (5%). The group management is a group grade with everyone in the group receiving the same grade. If the student chooses not to participate in the group project, they may substitute by taking the Kentucky Pesticide Applicator License exam and passing it for that 5%.

   The lab grades are different depending on students’ major status. Lab A consists of Horticulture and all other majors except Agriculture Education. Greenhouse field experience will account for 14%, plugging (3%), field trip (5%), greenhouse schedule (12%), greenhouse bench management (5%), AGR 160 management lab (3%), lab final (3%) and lab attendance (5%). Lab B consists of Agriculture Education majors only. Greenhouse field experience will account for 14%, plugging (3%), plant identification (5%), elementary teaching experience (3%), paper (2%), greenhouse bench management (5%), greenhouse schedule (10%), lab final (3%) and lab attendance (5%). A late penalty of 10% per week will be assessed to all late reports and projects and will NOT be accepted after more than two weeks delinquent. Each
student must complete a minimum of 80% of their field experience hours (22 of 28). If completion falls below the 80% level, the student will receive an Incomplete for the class. Missed experience hours must be made up within two weeks or they result in a zero for that week.

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

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 in 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 regarding nondiscrimination policies contact the Office of Equal Opportunities, 270-809-3155.

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.