

MURRAY STATE UNIVERSITY

Revised 9/15

SCHOOL OF AGRICULTURE

COURSE PREFIX: AGR

COURSE NUMBER: 360

CREDIT HOURS: 3

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. 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.

IV. 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

V. INSTRUCTIONAL ACTIVITIES:

- A. Lectures
- B. Demonstrations

- C. Laboratory exercises
- D. Possible Field trips

VI. 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.

VII. RESOURCES:

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

VIII. 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

IX. ATTENDANCE POLICY:

Students are expected to adhere to the MSU Attendance Policy outlined in the current *MSU Bulletin*.

X. ACADEMIC HONESTY POLICY:

Murray State University takes seriously its moral and educational obligation to maintain high standards of academic honesty and ethical behavior. Instructors are expected to evaluate students' academic achievements accurately, as well as ascertain that work submitted by students is authentic and the result of their own efforts, and consistent with established academic standards. Students are obligated to respect and abide by the basic standards of personal and professional integrity.

Violations of Academic Honesty include:

Cheating - Intentionally using or attempting to use unauthorized information such as books, notes, study aids, or other electronic, online, or digital devices in any academic exercise; as well as unauthorized communication of information by any means to or from others during any academic exercise.

Fabrication and Falsification - Intentional alteration or invention of any information or citation in an academic exercise. Falsification involves changing information whereas fabrication involves inventing or counterfeiting information.

Multiple Submission - The submission of substantial portions of the same academic work, including oral reports, for credit more than once without authorization from the instructor.

Plagiarism - Intentionally or knowingly representing the words, ideas, creative work, or data of someone else as one's own in any academic exercise, without due and proper acknowledgement.

Instructors should outline their expectations that may go beyond the scope of this policy at the beginning of each course and identify such expectations and restrictions in the course syllabus. When an instructor receives evidence, either directly or indirectly, of academic dishonesty, he or she should investigate the instance. The faculty member should then take appropriate disciplinary action.

Disciplinary action may include, but is not limited to the following:

- 1) Requiring the student(s) to repeat the exercise or do additional related exercise(s).
- 2) Lowering the grade or failing the student(s) on the particular exercise(s) involved.
- 3) Lowering the grade or failing the student(s) in the course.

If the disciplinary action results in the awarding of a grade of E in the course, the student(s) may not drop the course.

Faculty reserve the right to invalidate any exercise or other evaluative measures if substantial evidence exists that the integrity of the exercise has been compromised. Faculty also reserve the right to document in the course syllabi further academic honesty policy elements related to the individual disciplines.

A student may appeal the decision of the faculty member with the department chair in writing within five working days. Note: If, at any point in this process, the student alleges that actions have taken place that may be in violation of the Murray State University Non-Discrimination Statement, this process must be suspended and the matter be directed to the Office of Institutional Diversity, Equity and Access. Any appeal will be forwarded to the appropriate university committee as determined by the Provost.

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.

XI. NON-DISCRIMINATION POLICY AND STUDENTS WITH DISABILITIES:

Policy Statement

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 the Executive Director of Institutional Diversity, Equity and Access, 103 Wells Hall, (270) 809-3155 (voice), (270) 809-3361 (TDD).

Students with Disabilities

Students requiring special assistance due to a disability should visit the Office of Student Disability Services immediately for assistance with accommodations. For more information, students should contact the Office of Student Disability Services, 423 Wells Hall, Murray, KY 42071. 270-809-2018 (voice) 270-809-5889(TDD).

XII. 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.