1. **COURSE TITLE\*:** Greenhouse Management
2. **CATALOG – PREFIX/COURSE NUMBER/COURSE SECTION\*:** AGRI 1119
3. **PREREQUISITE(S)\*:** AGRI 1114  **COREQUISITE(S)\*:** None
4. **COURSE TIME/LOCATION/MODALITY: (*Course Syllabus – Individual Instructor Specific*)**
5. **CREDIT HOURS\*:** 4 **LECTURE HOURS\*:**  3

 **LABORATORY HOURS\*:** 1 (2 contact hours) **OBSERVATION HOURS\*:**  0

1. **FACULTY CONTACT INFORMATION: *(Course Syllabus – Individual Instructor Specific)***
2. **COURSE DESCRIPTION\*:**

This course introduces the student to greenhouses and related equipment used to manipulate the environment to the best economical advantage in the production of greenhouse crops: flower, vegetable, and foliage plants. Included are topics on greenhouse location and construction, heating, cooling, soils and fertility, lighting, crop scheduling, disease and insect control, and environmental considerations. Some attention is given to business and the retailing of crops grown.

1. **LEARNING OUTCOMES\*:**

Upon completion of this course, the student will be able to accurately:

1. Illustrate, explain, and compare various types of greenhouse structures.

2. Identify structural parts of the greenhouse.

3. Explain types of bed and bench systems used within greenhouses.

4. Explain and compare various heating systems for greenhouse applications.

5. Calculate heating requirements for given greenhouses.

6. Explain energy conservation options for greenhouse operations.

7. Explain and compare cooling system options for greenhouse applications.

8. Compare various types of growing media for different applications.

9. Explain proper watering techniques for greenhouse applications.

10. Demonstrate and explain how to take soil samples, interpret soil test results, and correct nutrient deficiency problems in the greenhouse.

11. Calculate proper fertility requirements for given floricultural crops.

12. Explain proper fertilization techniques for given floricultural crops.

13. Explain and compare and contrast various greenhouse lighting options.

14. Explain light spectra, intensity, and duration and their effects on floricultural crops.

15. Explain the necessity of temperature manipulation for floricultural crops.

16. Explain and demonstrate how to properly identify and control greenhouse insect and disease problems.

17. Explain various post-harvest considerations.

18. Explain proper crop scheduling for various important floricultural plants.

1. **ADOPTED TEXT(S)\*:**

*Ball Red Book – Volume I*

19th Edition **OR** 18th Edition

Chris Beytes, Editor.

Ball Publishing

ISBN: 9781733254113

*Ball Red Book – Volume II*

19th Edition **OR** 18th Edition

Chris Beytes, Editor.

Ball Publishing

ISBN: 9781733254120

**OR**

*Ball Red Book – Volume I & II*

19th Edition

Chris Beytes, Editor.

Ball Publishing

ISBN: 9781733254137

**9a: SUPPLEMENTAL TEXTS APPROVED BY FULL TIME DEPARTMENTAL FACULTY (INSTRUCTOR MUST NOTIFY THE BOOKSTORE BEFORE THE TEXTBOOK ORDERING DEADLINE DATE PRIOR TO ADOPTION) \*\*\*.**

1. **OTHER REQUIRED MATERIALS: (SEE APPENDIX C FOR TECHNOLOGY REQUEST FORM.)\*\***

Other resources may be required as the term progresses and will be announced or given in class

1. **GRADING SCALE\*\*\*:**

Grading will follow the policy in the catalog. The scale is as follows:

A: 90 – 100

 B: 80 – 89

 C: 70 – 79

 D: 60 – 69

 F: 0 – 59

1. **GRADING PROCEDURES OR ASSESSMENTS: (*Course Syllabus – Individual***

Knowledge of content is evaluated by various methods at the discretion of the instructor. All exams are comprehensive. Quizzes may be given at the instructor’s discretion. Make-up exams and quizzes will not be permitted.

***Instructor Specific)***

|  |  |  |
| --- | --- | --- |
| *Category* | ***EXAMPLE ONLY****Total Points* | *% of Grade* |
| Assignments | 150 | 15% |
| Quizzes  | 150 | 15% |
| Mid-term Exams (2) | 300 | 30% |
| Greenhouse Design Project | 200 | 20% |
| Final Exam | 150 | 15% |
| Attendance/Participation | 50 | 5% |
| Total | 1000 | 100% |

1. **COURSE METHODOLOGY: *(Course Syllabus – Individual Instructor Specific)***

This course may use lectures, discussion, video, computer slide show, in and out-of class assignments, work projects, research papers, and written exams as appropriate to the Learning Outcomes.

1. **COURSE OUTLINE: *(Course Syllabus – Individual Instructor Specific)***

***(Insert sample course outline with learning outcomes tied to assignments / topics.)***

The general section of the text is covered in detail, dealing with subjects common to all crops (heating, fertility, etc.) several important crops that illustrate special requirements are also studied (mums, poinsettias), in addition to bedding and foliage plants. Environmental considerations (plastic recycling, water recycling, pesticide handling) are taught and common-sense use of resources is stressed so that the students will be able to produce crops and profit. The goal is to enable the students to solve their own problems in production.

**Suggested Course Outline:** **Learning Outcome(s)**

Week 1 Introduction to greenhouses and their management 1

Week 2 Greenhouse structures 1, 2

Week 3 glazing, benches 3

Week 4 curtains and individualized environments 4, 5, 6, 7, 13

Week 5 irrigation Exam #1 9, 11, 12

Week 6 irrigation and fertigation 9, 11, 12

Week 7 climate control 4, 5, 6, 7

Week 8 mechanization 17

Week 9 living product transportation considerations 17

Week 10 pest control Exam #2 16

Week 11 headhouse functions and maintenance 1

Week 12 greenhouse business management 18

Week 13 retail greenhouse operations 18

Week 14 specific crops – management 8, 10, 14, 15

Week 15 specific crops – management 8, 10, 14, 15

Week 16 Final Exam (Exam #3)

1. **SPECIFIC MANAGEMENT REQUIREMENTS\*\*\*:**

**Student Responsibilities: Students must Read the Textbook and understand the Chapter Learning Objectives. Attend class and be prepared to participate in that day’s discussion, complete the Project(s) by the due dates, and complete the Quizzes & Exams by the due dates. Students must also Display Sincere adult Behavior in the classroom.  Students must do their own work!  No Plagiarism!**

Students may withdraw from classes according to the schedule in the student handbook. Withdrawal from classes may affect the student’s financial aid. See the FEE SCHEDULE section of the College Catalog for the policy on refunds and financial aid.

**Instructor Responsibilities:** It is the responsibility of the instructor to enhance and expand the meaning and application of the subject matter covered in the course. The instructor will not normally review the assigned text. The instructor will provide grades in a timely manner and make arrangements to be available for assistance as needed.

**16. FERPA:\***

Students need to understand that your work may be seen by others. Others may see your work when being distributed, during group project work, or if it is chosen for demonstration purposes. Students also need to know that there is a strong possibility that your work may be submitted to other entities for the purpose of plagiarism checks.

**17. ACCOMMODATIONS:\***

Students requesting accommodations may contact Ryan Hall, Accessibility Coordinator at rhall21@sscc.edu or 937-393-3431, X 2604.

Students seeking a religious accommodation for absences permitted under Ohio’s Testing Your Faith Act must provide the instructor and the Academic Affairs office with written notice of the specific dates for which the student requires an accommodation and must do so no later than fourteen (14) days after the first day of instruction or fourteen (14) days before the dates of absence, whichever comes first. For more information about Religious Accommodations, contact Ryan Hall, Accessibility Coordinator at rhall21@sscc.edu or 937-393-3431 X 2604.

**18. OTHER INFORMATION\*\*\*:**

**Classroom conduct:** Civility in the classroom is very important. As professionals, we expect students to conduct themselves in a courteous and respectful manner. Disruptive, rude, sarcastic, obscene, or disrespectful speech or behavior have a negative impact on everyone and will not be tolerated.

**SYLLABUS TEMPLATE KEY**

**\*** Item cannot be altered from that which is included in the master syllabus approved by the Curriculum Committee.

**\*\*** Any alteration or addition must be approved by the Curriculum Committee

**\*\*\*** Item should begin with language as approved in the master syllabus but may be added to at the discretion of the faculty member.