SEWARD COUNTY COMMUNITY COLLEGE
COURSE SYLLABUS

I. TITLE OF COURSE: AG1714- Greenhouse Operations With Lab

II. COURSE DESCRIPTION: 4 credit hours
3 **credit hours of lecture and** 2 **credit hours of lab per week.**

A study of an ecological approach in greenhouse design and management. A laboratory period is an integral part of the course designed to give the student an opportunity to observe first-hand the use of greenhouse and hydroponic practices in the lab and greenhouse settings. For each unit of credit, a minimum of three hours per week with one of the hours for class and two hours for studying/preparation outside of class is expected.

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Pre-requisite: NA

III. PROGRAM AND/OR DEPARTMENT MISSION STATEMENT:

The agricultural program at Seward County Community College/Area Technical School provides opportunities to further each student's knowledge and apply specific methods and techniques to the management and performance of agricultural operations.

IV. TEXTBOOK AND MATERIALS:

Greenhouse Operation and Management, Paul V. Nelson, Prentice Hall, 7th Edition, 2012

V. SCCC OUTCOMES

Students who successfully complete this course will demonstrate the ability to do the following SCCC Outcomes.

I: Read with comprehension, be critical of what they read, and apply knowledge gained to real life
II: Communicate ideas clearly and proficiently in writing, appropriately adjusting content and arrangement for varying audiences, purposes, and situations.
III: Communicate their ideas clearly and proficiently in speaking, appropriately adjusting content fand arrangement for varying audiences, purposes, and situations.
IV: Demonstrate mathematical skills using a variety of techniques and technologies.
V: Demonstrate the ability to think critically by gathering facts, generating insights, analyzing data, and evaluating information
VI: Exhibit skills in information and technological literacy

VI. COURSE OUTCOMES:

The student will learn to identify and understand Solar siting.
The student will learn to identify and understand Passive Solar concepts.
The student will learn to identify and understand greenhouse construction.
The student will learn to identify and understand heating, and cooling.
The student will learn to identify and understand the environmental control systems
The student will learn to identify and understand the root substrate pasteurization.
The student will learn to identify and understand watering.
The student will learn to identify and understand fertilization.
The student will learn to identify and understand alternative cropping systems.
The student will learn to identify and understand hydroponics.
The student will learn to identify and understand fertilization.

The student will learn to identify and understand carbon dioxide fertilization.
The student will learn to identify and understand light and temperature.
The student will learn to identify and understand chemical growth regulation
The student will learn to identify and understand insect control.
The student will learn to identify and understand disease control.

VII. COURSE OUTLINE:

1. Solar siting
2. Passive Solar Values
3. Greenhouse Construction
4. Heating, and cooling environmental control systems
5. Root substrate
6. Root substrate pasteurization
7. Watering
8. Fertilization
9. Alternative cropping system
10. Hydroponics
11. Carbon dioxide fertilization
12. Light and temperature
13. Chemical growth regulation
14. Insect control
15. Disease control

VIII. INSTRUCTIONAL METHODS:

Lecture
Discussion
Group Activities
Class Handouts
Video presentation
Hands-on experience
Instructor presentation/demonstrations

IX. INSTRUCTIONAL AND RESOURCE MATERIALS:

The Solar Greenhouse
Hydroponics, by Howard Resh
Greenhouse Suppliers
Class Handouts

X. METHODS OF ASSESSMENT:

Methods of assessing the general course outcomes and the specific course competencies include class participation, attendance, exam scores, homework assignments, and presentation assignments.
SCCC Outcome #1 will be assessed and measured by class participation and comprehension of material read.
SCCCS Outcome #2 will be assessed and measured by written explanations for thoughts and ideas related to soil science through exams and written work.
SCCC Outcome #3 will be assessed and measured by classroom discussions, and oral presentations.

SCCC Outcome #5 will be assessed and measured by students decisions regarding interpretations from soil surveys.
SCCC Outcome #6 will be assessed and measured by students use of current soil analysis programs and technologies

XI. ADA STATEMENT:

Under the Americans with Disabilities Act, Seward County Community College will make reasonable accommodations for students with documented disabilities. If you need support or assistance because of a disability, you may be eligible for academic accommodations. Students should identify themselves to the Dean of Students at 620-417-1106 or going to the Student Success Center in the Hobble Academic building, room 149 A.

Syllabus Reviewed: 10/31/2018 16:02:42