

DESE Model Curriculum

GRADE LEVEL/UNIT TITLE: 11-12/Growing Structures

Course Code:

COURSE INTRODUCTION:

The Greenhouse Operation and Management course develops a basic understanding of greenhouse techniques. The production of greenhouse crops will be used to demonstrate procedures such as plants started from cuttings, seeds, grafts, and layering. Students will manage their own crop as a greenhouse project. (CD 016765, CIP 01.0604)

Course Rationale – Agriculture encompasses the food, fiber, conservation and natural resource systems, employing over 20% of the nation’s workforce. Cutting, seeding, grafting, layering, and management of a greenhouse provide entry level and entrepreneurial opportunities for students with an interest in horticulture.

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UNIT DESCRIPTION: Students will identify essential greenhouse components and functions, as well as identifying how environmental factors are controlled.		SUGGESTED UNIT TIMELINE: 2 WEEKS CLASS PERIOD (min.): 50 MINUTES				
ESSENTIAL QUESTIONS: 1. What are the essential components and functions of a successful greenhouse? 2. What role do environmental factors play in the greenhouse?						
ESSENTIAL MEASURABLE LEARNING OBJECTIVES	CCSS LEARNING GOALS (Anchor Standards/Clusters)	CROSSWALK TO STANDARDS				
		GLEs/CLEs	PS	CCSS	AFNR Standards	DOK
1. Distinguish types of greenhouses by materials, structures, and layout.				RI11-12.7 RH11-12.7 RST11-12.9 RI11-12.3 A-SSE.3 modeling	PS.02.01.02.b	2
2. Describe how environmental factors in a greenhouse are controlled.				RI11-12.7 RH11-12.7 RST11-12.9 RI11-12.3 SL11-12.4 A-SSE.3 Modeling	PST.01.01.01.b PS.03.02.04.b	2
3. Identify energy and cost-saving factors in greenhouse structures.				RI11-12.7 RH11-12.7	PST.01.01.01.b PS.03.02.04.b	3

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				RST11-12.9 RI11-12.3 A-SSE.3 Modeling		
4. Unit: Demonstrate an understanding of greenhouse structures by making a scale model greenhouse and providing specifics on the materials and costs involved.				RI11-12.7 RH11-12.7 RST11-12.9 RI11-12.3 SL11-12.4 A-SSE.3 Modeling	PST.01.01.01.b PS.03.02.04.b PST.04.01.02.b PST.04.01.01.b	4
<p>ASSESSMENT DESCRIPTIONS*: (Write a brief overview here. Identify Formative/Summative. Actual assessments will be accessed by a link to PDF file or Word doc.)</p> <p>Students will be given the scenario that the department’s instructors want to a new school greenhouse. Students will work individually or in groups to develop a plan to present to the school board (classmates) to convince the board that the greenhouse is needed. They will present their plan in the form of a five-minute sales pitch that will include a visual aid, such as a diagram of the greenhouse, list of materials, and a price sheet that provides the overall cost.</p> <p>Assessment will be based on the overall content and presentation of the plan.</p> <p>*Attach Unit Summative Assessment, including Scoring Guides/Scoring Keys/Alignment Codes and DOK Levels for all items. Label each assessment according to the unit descriptions above (i.e., Grade Level/Course Title/Course Code, Unit #.)</p>						
Obj. #	INSTRUCTIONAL STRATEGIES (research-based): (Teacher Methods)					
1-3	1. Lecture, discussion, Guest Speaker					
3-4	2. Student Project					
Obj. #	INSTRUCTIONAL ACTIVITIES: (What Students Do)					
1-3	1. Students will respond to study questions in lessons 1 through 3.					
3-4	2. Students will complete “AS 2.1, Plan Your Own: Part I” and “AS 2.2, Plan Your Own: Part II.”					

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| | <p>3. Additional activities that relate to the unit objective can be found under the headings “Other Activity and Strategy” and “Unit II Activity” in the following locations: p. 47, p. 74, and pp. 92–93.</p> |
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UNIT RESOURCES: (include internet addresses for linking)

- Biondo, R. J. *Greenhouse Production*. Pearson Prentice Hall, 2004.
- *Greenhouse Operation and Management*. University of Missouri-Columbia, Instructional Materials Laboratory, 2002.
- Hummert International. Accessed January 17, 2012, from <http://www.hummert.com/>.
- Stuppy, Inc. Accessed January 17, 2012, from <http://www.stuppy.com/>.
- Students will use additional outside sources to complete this activity.