Date Approved by DJUSD Board of Education:

Secondary Course Description

Course descriptions are updated and reviewed with all new text adoptions.

COVER PAGE

1. Course Title: Agriculture Biotechnology & Engineering Systems, Honors

2. Transcript Title / Abbreviation: Ag Sys Mgt

3. Transcript Course Code / Number (Office Use Only): 564400

4. School: Davis Senior High School

5. **District**: Davis Joint Unified School District

6. Department: Agriculture

7. Graduation Requirement it meets: Life or Physical Science

8. Length of Course: 1 year

9. Graduation Credits: 10

10. School / District Web Site: http://www.djusd.net

11. CBEDS Course Code: 7135

12. School Contact:

Name: Alexander Hess

Title/Position: Dept. Chair/Teacher

Phone: 530-757-5400 **Ext.:**

Fax: 530-757-5492

E-mail: ahess@djusd.net

13. Subject Area:

- [ ] History/Social Science
- [ ] English
- [ ] Mathematics
- [x] Science
- [x] CTE
- [ ] Language other than English
- [ ] Visual & Performing Arts
- [x] DJUSD Graduation Elective
- [x] College Prep Elective (will seek UC/CSU approval)

14. Grade Level(s): 10-12

15. UC/CSU Requirement: D Interdisciplinary Lab Science

16. Seeking "Honors" Distinction? [x] Yes [ ] No

17. GPA Types: Weighted GPA (Honors)

18. Credit Value:

- [ ] 0.5 (half year or semester equivalent)
- [x] 1.0 (one year equivalent)
- [ ] 2.0 (two year equivalent)
- [ ] Other: _____

19. Was this course previously approved by UC? [x] Yes [ ] No

If so, in what year? 2016-17 **Under what course title?** Advanced Interdisciplinary Science for Sustainable Agriculture

20. Pre-Requisites: Ag Bio or Biology, Ag Chemistry or Chemistry

Co-Requisites:

21. Preliminary Approval - Secondary Site Principal Signature (Must be signed before proceeding to Step 22):

_____

22. Date Course Proposal with Preliminary Approval (Step 15) sent to Associate Superintendent, Educational Services: _____

23. Review & Approval:

Date		Signature
_____	**Site Curriculum and Instruction Leadership Team**	**Signature/Title** _____
_____	**Secondary Department Articulation/Collaboration**	**Signature/Title** _____

Secondary Principal Signatures: _____ _____

Date: _____ _____

BACKGROUND INFORMATION

Brief Course Description:

This course is designed to be a research, lab-based class that engages students to put into practice the concept of laboratory science and research with agricultural management principles, biotechnology, bioengineering and career applications within the agriculture industry. Students will develop laboratory skills, critical thinking, and communication skills currently used in medical and agriculture biotechnology industries. Students will explore studies in plant science systems, animal science systems, natural resource systems, and food science systems to develop an Agriscience experimental research project in which students design and conduct an experiment to solve a relevant issue. Final projects will be eligible for Career Development Event competition at FFA events. Throughout the course, students will be graded on participation in intra-curricular FFA activities as well as the development and maintenance of an ongoing Supervised Agricultural Experience Program (SAEP).

Context for Course:

List the State/District Standards addressed in this course.

History of Course Development:

COURSE GOALS AND/OR MAJOR STUDENT OUTCOMES

COURSE OBJECTIVES

COURSE OUTLINE

Content Standards	Key Assignments
UNIT 1: AGRISCIENCE RESEARCH METHODS AND STANDARD LABORATORY OPERATING PROCEDURES	GMO Survey Lab; DNA Extraction; Transformation
UNIT 2: PLANT SCIENCE SYSTEMS	History and Evolution of Bioengineering; GMOs; Soil Management
UNIT 3: ANIMAL SCIENCE SYSTEMS	History of Bioengineering; Plant and Soil Management; Construct an experimental Design
UNIT 4: NATURAL RESOURCE SYSTEMS	Know your resources; Renew-a-bean; water flow
UNIT 5: FOOD SCIENCE SYSTEMS	Foodborne disease; Identifying HACCP; Food labeling

TEXTS AND SUPPLEMENTAL INSTRUCTIONAL MATERIALS

Title, Author, Publisher, Edition:

Agriscience Fundamentals and Applications by: I. DeVere Burton (Cengage Learning)

Biotechnology - Science of the New Millennium by: Ellyn Daugherty (Paradigm Publishing, Inc.)

Previously Adopted? ☐ **Yes** ☐ **No (If no, provide information directly below)**

Cost per book	Total Cost	Budget Source

Other:

DIFFERENTIATED INSTRUCTIONAL METHODS AND/OR STRATEGIES

ASSESSMENT METHODS AND/OR TOOLS

ASSESSMENT CRITERIA

HONORS COURSES ONLY

Indicate how this honors course is different from the standard course.