

Appro. 1-20-04
SEE ATTACHED

COURSE OF STUDY

COURSE 6542
CREDITS 2698

TITLE: Agriculture Science I
DEPARTMENT: Science
YEAR: 2004-2005
COURSE LENGTH: One year
GRADE LEVEL: 9 - 12
PRE-REQUISITES: None

1.0 BRIEF DESCRIPTION OF THE COURSE

Agriculture Science I meets graduation requirements for science, while presenting a survey of the animal and plant industries in California. In addition, the student studies how animals and plants affect human life. Career exploration and skill preparation are integral parts of the curriculum. Students are involved in an agriculture project as a hands-on activity. Students will be prepared to take the Integrated Science I California Standards Test. The Integrated Science components include Biology, Chemistry, Earth Science and Scientific Investigation. This is a revision of an existing course to include the Integrated Science I standards to students can receive science credit for the course.

2.0 MAJOR GOALS AND OBJECTIVES OF AGRICULTURE SCIENCE I

2.1 The student will develop an understanding of the complexities of the California agriculture industries and the application of integrated science concepts in agriculture, and their significance to quality of life.

(see attachment for matrix of Science and Agriculture Standards covered in the course)

3.0 COURSE CONTENT AND SUGGESTED TIMELINE

3.1 What is Agriculture?	1 week
3.2 FFA Orientation	3 weeks
3.3 Agriculture and the Economy	2 weeks
3.4 Periodic Table	1 week
3.5 Water	2 weeks
3.6 Soil	3 weeks
3.7 Plants	6 weeks
3.8 Speech	2 weeks
3.9 Introduction to Livestock	1 week
3.10 Livestock Breeds and Anatomy	3 weeks
3.11 Livestock Feeding	3 weeks
3.12 Livestock Health	3 weeks
3.12 Agriculture Issues	6 weeks

4.0 TYPICAL ACTIVITIES

- 4.1 Presentation of information: teacher lectures, note-taking, student projects
- 4.2 Audio-visuals: video-taped programs, video-streaming, slides
- 4.3 Interactive use of technology: computer programs, Internet research, power point presentations, web-based interactive lessons
- 4.4 Discovery: small group and independent lab work

- 4.5 Review and reinforcement: vocabulary and study guides
- 4.6 Proof of comprehension: quizzes, examinations, reports, projects

5.0 MEANS AND METHODS OF EVALUATION

- 5.1 20% FFA Activity Participation
- 5.3 20% Supervised Agriculture Experience Project
- 5.4 50% Laboratory activities, class assignments, unit exams and reports
- 5.5 10% Class notebook

6.0 MATERIALS FOR EARTH SCIENCE

- 6.1 *Agriscience: Fundamentals and Applications*, 2nd ed., Del Mar Publishers, 1997.
- 6.2 *Introduction to Word Agriscience and Technology*, Interstate Publishers, 1997.
- 6.3 *Official California FFA Record Book*, California Association FFA, 1998.
- 6.4 *Official FFA Manual*, National FFA Organization, 2001.

Approved by:

Department Chair

Date

Principal

Date

Correlation of Integrated Science Standards to Agriculture Standards

Kimberly Smith January 2004

Integrated Science Standard	Agriculture Science Standard	Evidence
Ecology 6.a, b, c, d	2.1-3	Water cycle chart Pollution lab Water quality labs Land use maps Agriculture/Environmental Issues Speech Internet research Guest speakers
Evolution 8.a, b	11.1-4	Domestication timeline Uses of livestock Historical data
Atoms/Molecules 1.a, b, c, d, e		Atomic structure lab Reading the Periodic Table
Chemical Bonds 2.a, b, c	14.2 16.1	Structure of six main nutrients Water properties lab Soil testing lab (N-P-K)
Acids and Bases 5.a	16.2	pH testing
Chemical Thermodynamics 7.b	16.1	Composting lab
Dynamic Earth Processes 3.b, c, d, e	16.1	Soil formation Plate tectonics Geologic hazard maps
Biogeochemical Cycles 7.a, b	16.2 17.3	Nitrogen, carbon cycle Photosynthesis lab
California Geology 9.b, c	16.1 19.3	Geologic hazard maps Research projects Agriculture Issues Speech
Scientific Investigation 1.a, b, c, d, e, f, g, h, j, k, l, m, n	9.1-3 15.1 19.1-4	Lab activities Graphing Feed-to-weight gain calculations Fertilizer applications Animal health behavior Internet research and retrieval Research projects

As currently outlined, Agriculture Science I meets 80% of the Integrated Science I standards delineated in the California Standards Test Blueprint. Areas that are covered include:

Ecology	11.7%
Evolution	5.0
Atomic and Molecular Structure	10.0
Chemical Bonds	6.7
Acids and Bases	5.0
Chemical Thermodynamics	3.3
Dynamic Earth Processes	15.0
Biogeochemical Cycles	8.3
California Geology	5.0
Investigation and Experimentation	10.0
Total	80.0%

The only area not covered is Physics at 20%.

DATE: January 20, 2004
TO: **BOARD OF EDUCATION**
FROM: Peter M. Schiff, Superintendent of Schools
PREPARED BY: Robert W. Graeff, Ed.D., Assistant Superintendent
Education Services
SUBJECT: **APPROVAL OF REVISED COURSE OF STUDY -
AGRICULTURE SCIENCE I**

SUMMARY:

Currently, students who complete Agriculture Science I do not receive high school Science credit nor are they prepared to take any of the California Standards Tests in Science. By rewriting the current Agricultural Science I course – aligned with the state’s blue print for Integrated Science – students will earn high school Science credit and be prepared to take the Integrated Science test within the CST battery.

Agriculture Science I meets graduation requirements for science and presents a survey of the animal and plant industries in California. In addition, the student studies how animals and plants affect human life. Career exploration and skill preparation are integral parts of the curriculum. Students are involved in an agriculture project as a hands-on activity. The Integrated Science components include Biology, Chemistry, Earth Science, and Scientific Investigation.

Robert Graeff, Assistant Superintendent for Education Services, will present the course to the Governing Board for approval. A complete course description is attached.

RECOMMENDATION: Approve the Revised Agriculture Science I Course of Study.

Resource: Steve Petsche

Information

Disc/Poss. Action

Action

Consent