CFISD Advanced Plant and Soil Science K

Scope and Sequence

Course Description:

Advanced Plant and Soil Science provides a way of learning about the natural world. Students should know how plant and soil science has influenced a vast body of knowledge, that there are still applications to be discovered, and that plant and soil science is the basis for many other fields of science. In this course, students will analyze such concepts as impact on production of food, fiber and other economic crops; factors within habitats and ecosystems; watershed, weathering, and erosion; along with origin and impact of fossil fuels and alternative energy sources.

- 1 credit, Grades 11-12
- Required prerequisite: Biology, Chemistry and Horticulture Science
- Fees may be required.

TEKS
Cluster: Agriculture, Food, and Natural Resources
Endorsement: Business & Industry
- Meets advanced course requirement (Y/N): Y
- Meets foundation requirement for math, science, fine arts, English, LOTE (Y/N-area): Y - science

Industry Certification/Credentials: n/a

<table>
<thead>
<tr>
<th>Instructional Units</th>
<th>Pacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Semester</td>
<td></td>
</tr>
<tr>
<td><strong>Unit 1 – Worlds of Opportunity</strong></td>
<td></td>
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<tr>
<td>A World without Enough Plants</td>
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<tr>
<td>Introduction to Plant Science</td>
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<td><strong>Unit 2 – Mineral Soils</strong></td>
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<tr>
<td>Understanding Soil Properties</td>
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<td>Soil Properties and Quality</td>
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<td>Soil Chemistry</td>
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<td>Soil pH and Salinity</td>
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<td><strong>Unit 3 – Soilless Systems</strong></td>
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</tr>
<tr>
<td>Potting Soil and Artificial Growing Media</td>
<td>1st Grading Period</td>
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<tr>
<td>Hydroponics</td>
<td></td>
</tr>
</tbody>
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**Unit 4 – Anatomy and Physiology**
- Cells: Life’s Smallest Units
- Cell Parts and Function
- Root Parts and Function
- Stems Parts and Function
- Leave It to Leaves

**Unit 5 – Taxonomy**
- Sorting Out Plants
- Classification Systems
- Plant Names
- Binomial Nomenclature

2nd Grading Period
## 2nd Semester

### Unit 6 – The Growing Environment
- Plant Food: Nutrients and Fertilizer
- Water Requirements
- Light Requirements
- Temperature Requirements

### Unit 7 – Plant Reproduction
- Plant Genetics
- Seed Anatomy and Germination
- Pollination, Fertilization, Dispersion
- Seed Anatomy and Germination
- Plant Multiplication: Asexual Propagation Methods
- Evolutionary Ideas
- Plant Adaptations

### Unit 8 – Surviving a Harsh Environment
- Pesky Bugs and Plants
- Plant Pests
- Plant Disease

### Unit 9 – Crop Production and Marketing
- Tools of Plant Production
- Structures and Equipment
- Plant Marketing Plants

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Primary Instructional Materials: iCEV Agricultural Science Site by CEV Multimedia Ltd.