Landscape Design & Management

COURSE OUTLINE

1. Course Title: Landscape Design & Management
2. CBEDS Title: Horticulture and the Environment
3. CBEDS Number: 4050
4. Job Titles:

Nursery & Turf Operator	Nursery Worker
Salesman,	Plant Propagator
Gardener	Golf Course Maintenance
Landscape	Grounds Worker
Gardening Business	Garden Store Sales

5. Course Description:
This course will allow each student to gain practical experiences in design and maintenance of various landscape situations. Areas of study will include; landscape drawing and design, safety, equipment operation, career exploration, turf and lawn care, irrigation and drainage, identification of landscape and turf plants, pests and diseases, job estimating and bidding, environmental planning and interpersonal skills. Students will be required to maintain a supervised agriscience experience project throughout the year.

Student Outcomes and Objectives:
Students will:
1. Develop a comprehensive landscape design.
2. Use landscape and turf equipment safely.
3. Develop entry-level job skills.
4. Develop industry appropriate interpersonal skills.
5. Evaluate landscape and turf options for a variety of situations.
6. Maintain various landscape areas.
7. Establish and maintain a Supervised Agriscience Experience Program or Ag Co-Op.

Integrated throughout the course are career preparation standards, which include basic academic skills, communication, interpersonal skills, problem solving, workplace safety, technology, and employment literacy.

Pathway	
Recommended Sequence	**Courses**
Introductory	Power Mechanics or Computer Foundations
Skill Building	**Landscape Design & Management** or Computer Assisted Drafting & Design or Ag Welding & Fabrication
Advanced Skill	Advanced Computer Assisted Drafting & Design or Power Mechanics or Ag Co-Op

6. Hours: *Students receive up to 180 hours of classroom instruction.*

7. Prerequisites: None

8. Date (of creation/revision): July 2010

Italicized references "negotiated" curriculum; all other references "guaranteed" curriculum.

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Upon successful completion of this course, students will be able to demonstrate the following skills necessary for entry-level employment.

Instructional Units and Competencies	Course Hours	Model Curr. Standards	CA Academic Content Standards	CAHSEE
I. CAREER PREPARATION A. Career Planning and Management. 1. Know the personal qualifications, interests, aptitudes, knowledge, and skills necessary to succeed in careers. a. Students will identify skills needed for job success b. Students will identify the education and experience required for moving along a career ladder. 2. Understand the scope of career opportunities and know the requirements for education, training, and licensure. a. Students will describe how to find a job. b. Students will select two jobs in the field and map out a timeline for completing education and/or licensing requirements. 3. Know the main strategies for self-promotion in the hiring process, such as completing job applications, resume writing, interviewing skills, and preparing a portfolio. a. Students will write and use word processing software to create a resume, cover letters, thank you letters, and job applications. b. Students will participate in mock job interviews. 4. *Develop a career plan that is designed to reflect career interests, pathways, and postsecondary options.* *a. Students will conduct a self—assessment and explain how professional qualifications affect career choices.* *5. Understand the role and function of professional organizations, industry associations, and organized labor in a productive society.* *a. Contact two professional organization and identify the steps to become a member.* *6. Understand the past, present and future trends that affect careers, such as technological developments and societal trends, and the resulting need for lifelong learning.* *a. Students will describe careers in the business industry sector.* *b. Students will identify work-related cultural differences to prepare for a global workplace.* B. Technology. 1. Understand past, present and future technological advances as they relate to a chosen pathway and on selected segments of the economy. 2. Understand the use of technological resources to gain access to, manipulate, and produce information, products and services. 3. Use appropriate technology in the chosen career pathway. C. Problem solving and Critical Thinking. 1. Understand the systematic problem-solving models that incorporate input, process, outcome and feedback components, and apply appropriate problem-solving strategies and critical thinking to work-related issues and tasks. 2. Use and apply critical thinking and decision making skills to make informed decisions, solve problems, and achieve	10 Additional hours are integrated throughout the course.	Transportation Industry Sector, Model Curriculum Standards 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0	Language Arts (8) R 1.3, 2.6 W1.3, 2.5. LC 1.4,1.5, 1.6 LS1.2, 1.3, 1.7 (9/10) R2.1,2.3,2.6 W2.5 LC1.4 LS 1.1, 2.3 (11/12) R2.3 W2.5 LC1.2 Math (7) NS1.2, 1.3 1.7 MR 1.1,1.3,2.1 2.7,2.8, 3.1	Lang. Arts R 8.2.1 (9/10) R 2.1, 2.3 W2.5 Math (7) NS 1.2, 1.3, 1.7 MR 1.1, 2.1, 3.1

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balance in the multiple roles of personal, home, work and community life. D. Health and Safety. 1. Know policies, procedures, and regulations regarding health and safety in the workplace, including employers' and employees' responsibilities. 2. Understand critical elements of health and safety practices related to a variety of business environments. E. Responsibility & Flexibility. 1. Understand the qualities and behaviors that constitute a positive and professional work demeanor. 2. Understand the importance of accountability and responsibility in fulfilling personal, community, and work-place roles and how individual actions can affect the larger community. 3. Understand the need to adapt to varied roles and responsibilities. F. Ethics and Legal Responsibilities 1. Know the major local, district, state, and federal regulatory agencies and entities that affect the industry and how they enforce laws and regulations. 2. Understand the concept and application of ethical and legal behavior consistent with workplace standards. *a. Contact a business and obtain a copy of their rules for employment.* *b. Role play difference ethical scenarios.* 3. Understand the role of personal integrity and ethical behavior in the workplace. G. Leadership and Teamwork. 1. Understand the characteristics and benefits of teamwork, leadership, citizenship in the school, community, and workplace settings for effective performance and attainment of goals. 2. Understand the ways in which professional associations, such as Skills USA, QWEL and competitive career contribute to promote employability. 3. Know multiple approaches to personal conflict resolution and understand how to interact with others in ways that demonstrate respect for individual and cultural differences and for the attitudes and feelings of others.				

Instructional Units and Competencies	Hours	Model Curr. Standards.	CA Academic Standards	CAHSEE
1. Course Overview a. Course Handouts b. Student/Teacher Responsibilities c. Student Notebooks d. Safety Agreement e. Student/Parent/Teacher Agreement	3		S. 9-12; Chem; 6a, c, d & f. S. 9-12; Chem. 7a, b, c, & d. S. 9-12; Chem; 10a, b, c, d & e. S. 9-12; Bio; 6d. ELA 8; R; 2.1 –2.6 W; 1.1-1.3, 2.6 M. 7; MG; 3.6	**(10)WA1.1 (8)R2.1 (10)WS1.1 (7)NS1.2, .3, .7; (7)MR1.1 (7)MR2.1 (7)Mr3.3**
2. Safety in Landscape Design and Turf Management a. Safe work attitude and common sense rules b. Safe use of hand & power tools c. Maintenance and storage of equipment	7	Ag. Mech. B1.1		
3. Lawns and Turf Areas a. Uses of Lawn and Turf Areas b. Types of Grasses 1. Seasonal Grasses (Climate Zones) 2. Seed Quality 3. Seed/seeding identification c. Soil Properties 1. Soil Triangle Diagram 2. Drainage 3. Collecting Soil Samples 4. Soil Testing and Analysis d. Site Evaluation & Ground Preparation 1. Determining Grade & Level 2. Tilling & Incorporation 3. Seeding/Plugging/Sprigging 4. Sodding 5. Other Cultivation Techniques: Spiking, Coring, Thatch Removal and other techniques e. Lawn and Turf Maintenance 1. Mowing 2. De-thatching/mulching 3. Aerating 4. Edging 5. Irrigation Techniques 6. Fertilizers 7. Irrigated pest management 8. Top Dressing 9. Commercial vs. Residential lawns	20	Ag Science C10, 10.1, 10.4 Orn.Hort. F.7.0, 7.1, 7.2, 7.3 Plt. & Soil Science G7.1		
4. Irrigation a. Water needs of various landscaping b. Various systems 1. Advantages 2. Installation c. Water management	15	Ag. Science C10.3		

Instructional Units and Competencies	Hours	Model Curr. Standards.	CA Academic Standards	CAHSEE
5. Landscape Drawing and Design a. Reading Drawings & Design Plans 1. Terms & Symbols 2. Making drawings Usable 3. Utilizing tools & Equipment b. Measuring c. Scale 1. Conversion of scale drawings to site layout 2. Adjusting scale for design changes d. Types of Drawings 1. Arial View 2. Elevation Projection 3. Cross Section View 4. Isometric Drawing 5. Oblique Drawing 6. Perspective Drawing	15	Eng.Dsgn. C4.1,.2,.3	ELA 9-10; R; 2.6 M. 7; MG; 3.6 M. 8-12; Geom.; 8.0-13.0 Algebra 1; 3.0, 5.0 S. 9-12; Bio; 6f & g; 7c & d.	
6. Principles of Design a. Landscaping Design Rules b. Use and Practicality c. Needs Analysis d. Aesthetics e. Property Value Appreciation f. Design to address site deficiencies 1. Soil Concerns: Erosion, Slope & Quality 2. Drainage Issues 3. Wind Issues 4. Other Issues g. Architectural Elements in Landscape Design 1. Types of Architecture 2. Transport Structures 3. Retention Structures 4. Screening Structures 5. Recreational Structures	20	Arch. & Structural Engineering A3.2 Orn.Hort. F5.2, F10.2, F10.3		
7. Selection of Plant Materials a. Plant Growth b. Specimen Collection c. Plant Growth Disorders d. Pests & Pest Management e. Seasonal Cultural Practices	20	Ag. Science C11.2, .3 Forestry & Nat'l Res. E8.4 Orn. Hort. F2.6, 4.1, 4.3 F10.0		
8. Sustainable & Environmentally Sensitive Landscape Design a. Environmental Impact b. Drought Tolerant Plants c. Weed & Pest Control d. Erosion Control	10			

Instructional Units and Competencies	Hours	Model Curr. Standards.	CA Academic Standards	CAHSEE
e. Protect water quality with landscape design f. Design resource-efficient landscapes and gardens g. Reuse materials/use recycled-content materials for landscape areas h. Install high-efficiency irrigation systems i. Provide for on-site water catchment/retention. 9. Quality Water Efficient Landscape (QWEL). 10. Recreational Park Turf Management Techniques a. Preparing Fields for Sporting Events 1. Rolling 2. Measuring & Marking 3. Maintenance 4. Field Rotation and Management 5. Turf Protection & Preservation	15	Ag. & Nat'l Resources E7.0, 7.1	M. 7; MG; 3.6	
11. Landscape Project Proposals a. Components of a proposal b. Working with client & needs analysis c. Estimating Costs 1. Materials 2. Labor 3. Equipment rental d. Presenting the proposal to the client	10	Orn. Hort. F10.5	ELA 9-10; W; 2.4; LS 2.2	
12. Urban Planning a. Identify key issues and problems of cities today b. Analyze environmental impact of proposed plan c. Plan for pedestrian and automobile traffic d. Determine best use of each site e. Identify roles in security design & disaster preparedness	5	Architectural & Structural Engineering A3.0, A3.2	ELA. 7; LS; 1.1, 1.2, 1.3	
13. Agricultural Inter-Personal & Leadership Development a. Completion of a Supervised Agricultural Experience Program and data collection b. Development of listening, speaking, writing & reading skill activities c. Critical thinking & group team building activities d. Agriculture presentations	15	Ag. & Nat'l Resources Ind. Sector 9.0,9.3,9.6 Technical Knowledge & Skills 10.2	ELA. 7; LS; 1.1, 1.2, 1.3	
14. Design & Build Environmentally Friendly Landscape Sheds a. Identify green building methods and materials b. Recycle construction or demolition waste c. Use of FSC (Forest Stewardship Council) certified wood for framing. d. Use of sustainable materials for exterior finishes. e. Use of natural heating and cooling. f. Install alternative insulation materials if	15	Residential & Commercial Construction Pathway D7.0, D7.1, D7.3	ELA 9-10; R;2.6; W;1.7, 1.8, 2.6 WO;1.4;LS; 1.3,1.4,1.6 ,1.9,2.2 HHS12; 12.2.1, 12.2.8, 12.3.1, 12.3.2, 12.4.2,	

g. Install energy efficient windows.			12.4.4	

10. Additional recommended/optional items
    a. Articulation: None
    b. Academic credit: None
    c. Instructional strategies:
        Methods of Instruction:
        a. Lecture
        b. Audio Visual Materials
        c. Research Readings and Written Presentations
        d. Homework Assignments
        e. Group & Individual Activities
        f. Laboratory & Greenhouse Activities
        g. Quizzes, Tests & Final Exam
        h. Guest Speakers
        i. Field Trips
        j. Internet Exploration
        k. Field Work
    d. Instructional materials: Teacher Generated.
    e. Certificates: None