

# MISSION TRAILS REGIONAL OCCUPATIONAL PROGRAM

1. COURSE TITLE: Ornamental Horticulture
2. CBEDS TITLE: Horticulture & The Environment
3. CBEDS NUMBER: 4050
4. JOB TITLES:

Garden Worker	406-684-018
Farm Worker, Diversified Crops I	407.663.010
Farm Worker, Diversified Crops II	407.687.010
Landscape Gardener	408.161.010
Plant Care Worker	408.364.010
Weed Inspector	408.381.014
Lawn Service Worker	408.684.010
Plant Farming	409.131.010
Irrigator, Sprinkler System	409.685.014
Inspector-Grader	409.687.010
Weed Thinner	409.687.018
General Farmer	421.161.010
General Farm Worker I	421.683.010
General Farm Worker II	421.687.010
Forest Nursery Supervisor	451.137.010
Christmas Tree Farm Worker	451.687.010
Seedling Puller (Forestry)	451.687.018
Seedling Sorter (Forestry)	451.687.022
Agricultural Inspector	624.361.010
Nursery Manager/Ecologist	
Native Plant Propagator	

5. COURSE DESCRIPTION:

Ornamental Horticulture is a life science course for the college-bound student to develop the skills necessary to obtain employment in the agriculture industry after graduation from high school. The course emphasizes detailed knowledge of the central concepts, principles, and basic factual materials of the following topics: record keeping, interpersonal leadership skills, careers in agriculture, soil science, plant physiology and function, and pest management.

6. HOURS: 180

7. PREREQUISITES: "C" or better in Biology & Algebra 1

8. REVISION DATE: 4/15/05

9. CDE RECERTIFICATION:

## 9 COURSE OUTLINE:

### a) CONTENT AREA SKILLS

i) EXPECTED STUDENT OUTCOMES

ii) HOURS OF INSTRUCTION

## COURSE OUTLINE

CONTENT AREA SKILLS	EXPECTED STUDENT OUTCOMES	HOURS CL = Classroom CC = Comm. Class. CP = Co-op Ed.		
Instruction will include:	Student will be able to:	CL	CC	C P
1. General Work Place Skills	1. Understand the ROP philosophy and operation <ul style="list-style-type: none"> <li>a. programs available</li> <li>b. class description and goal</li> <li>c. instructional methods</li> </ul> 2. Complete enrollment forms and necessary paperwork.           3. Demonstrate an understanding of classroom policies, procedures, and expectations. <ul style="list-style-type: none"> <li>a. attendance/tardies</li> <li>b. acceptable behavior</li> <li>c. course requirement</li> <li>d. class rules</li> <li>e. grading policy</li> <li>f. safety rules</li> </ul> 4. Discuss the importance of the following skills in the business environment. <ul style="list-style-type: none"> <li>a. positive attitude</li> <li>b. self confidence</li> <li>c. honesty</li> <li>d. perseverance</li> <li>e. self management/work ethic</li> <li>f. pride in product/work</li> <li>g. dependability</li> </ul> 5. Understand how personal skill development affects employability. <ul style="list-style-type: none"> <li>a. establish goals for self-improvement and further education/training</li> <li>b. prioritize tasks and meet deadlines</li> <li>c. understand the importance of initiative and leadership</li> <li>d. understand the importance of lifelong learning</li> </ul>	7		

	<p>6. Understand principles of effective interpersonal skills, including group dynamics, conflict resolution and negotiation.</p> <ol style="list-style-type: none"> <li>a. identify and discuss behaviors of an effective team</li> <li>b. explain the central importance of mutual respect in workplace relations</li> <li>c. discuss and demonstrate strategies for conflict resolution and negotiation, and explain their importance within the business environment</li> <li>d. understand that laws that apply to sexual harassment in the workplace, and identify tactics for handling harassment situations.</li> <li>e. work cooperatively, share responsibilities, accept supervision and assume leadership roles</li> <li>f. demonstrate cooperative working relationships and proper etiquette across gender and cultural groups</li> </ol> <p>7. Understand the importance of good academic skills critical thinking, and problem solving skills in the work place</p> <ol style="list-style-type: none"> <li>a. recognize the importance of good academic skills in production agriculture</li> <li>b. use mathematical concepts in application of skills, techniques, and operations <ul style="list-style-type: none"> <li>- mathematical concepts</li> <li>- algebra concepts</li> <li>- additional higher level math concepts as applicable</li> </ul> </li> <li>c. use scientific concepts in application of skills techniques, and operations <ul style="list-style-type: none"> <li>- general science concepts</li> <li>- biological science concepts</li> <li>- additional science concepts</li> </ul> </li> <li>d. read, write, and give directions</li> <li>e. demonstrate skills in technical reading/writing</li> <li>f. locate information from written and electronic sources and identify strategies for evaluating their reliability and validity</li> <li>g. exhibit critical and creative thinking skills and local reasoning skills, and employ these skills for problem solving <ul style="list-style-type: none"> <li>- work as a team member in solving problems</li> <li>- diagnose a problem and its cause</li> <li>- explore possible solutions</li> <li>- determine appropriate action</li> <li>- implement action</li> <li>- evaluate results of action taken</li> </ul> </li> </ol>			
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	<p>h. understand principles of effective communication</p> <ul style="list-style-type: none"> <li>- use communication concepts in application of skills, techniques, and operations 1) prepare written material 2) analyze written material</li> <li>- understand and implement written instruction</li> <li>- present a positive image through verbal and nonverbal communication, and understand the power of body language in communication</li> <li>- demonstrate active listening through oral and written feedback</li> <li>- give and receive feedback</li> <li>- demonstrate assertive communication (both oral and written)</li> <li>- demonstrate proper etiquette in business communications</li> <li>- demonstrate writing/editing skills as follows: 1) write, proofread, and edit business correspondence 2) use correct grammar, punctuation, capitalization, vocabulary and spelling 3) select and use appropriate form of technology for communication</li> </ul>			
2. Horticulture: An introduction	<ol style="list-style-type: none"> <li>1. Careers in Horticulture</li> <li>2. Taxonomy (classification)</li> </ol>	6		
3. Plant Science	<ol style="list-style-type: none"> <li>1. Parts of the plant</li> <li>2. Environmental requirements</li> <li>3. Growth stimulants, retardants, and rooting hormones</li> </ol>	10		
4. Plant Propagation	<ol style="list-style-type: none"> <li>1. Seeds</li> <li>2. Softwood cuttings</li> <li>3. Separation and Division</li> <li>4. Grafting</li> <li>5. Budding</li> <li>6. Layering</li> <li>7. Gardening Restoration</li> <li>8. Community Project</li> </ol>	30		
5. Integrated Pest Management	<ol style="list-style-type: none"> <li>1. Integrated pest management and biological control</li> <li>2. Safe use of pesticides</li> <li>3. Insecticides</li> <li>4. Fungicides</li> <li>5. Herbicides</li> </ol>	15		
6. Container-Grown Plants	<ol style="list-style-type: none"> <li>1. Bedding plants</li> <li>2. Bulbs</li> <li>3. Cut flowers</li> <li>4. Native plants</li> </ol>	15		
7. Using Plants in the Landscape	<ol style="list-style-type: none"> <li>1. Bedding plants</li> <li>2. Perennials</li> <li>3. Evergreens</li> </ol>	45		

	<ul style="list-style-type: none"> <li>4. Trees</li> <li>5. Shrubs</li> <li>6. Groundcover</li> <li>7. Bulbs</li> <li>8. Hardscape</li> <li>9. Xeriscaping</li> <li>10. Maintenance</li> <li>11. Gardening/Restoration</li> <li>12. Community Project</li> </ul>			
8. Lawn and Turfgrass	<ul style="list-style-type: none"> <li>1. Establishing the lawn</li> <li>2. Maintaining the lawn</li> <li>3. Renovating the lawn</li> </ul>	9		
9. Vegetable Gardens	<ul style="list-style-type: none"> <li>1. Planning and preparing the site</li> <li>2. Planting the vegetable garden</li> <li>3. Caring for vegetable garden</li> </ul>	36		
10. Small Fruit Gardens	<ul style="list-style-type: none"> <li>1. Strawberries</li> <li>2. Grapes</li> <li>3. Bramble fruits</li> </ul>	7		
		180		

## 9 COURSE OUTLINE:

### b) CAREER PERFORMANCE STANDARDS

#### i) EXPECTED STUDENT OUTCOMES

#### ii) HOURS OF INSTRUCTION

## COURSE OUTLINE

CAREER PERFORMANCE STANDARDS	EXPECTED STUDENT OUTCOMES	HOURS
<b>Instruction will include:</b>	<b>Student will be able to:</b>	
<p><b>1. Personal Skills</b></p> <ul style="list-style-type: none"> <li>▪ Classroom policies &amp; procedures</li> <li>▪ Ethics               <ul style="list-style-type: none"> <li>→ Work</li> <li>→ Business</li> </ul> </li> <li>▪ Sexual harassment laws</li> <li>▪ Personal skills, including positive attitude, self-confident, honesty, perseverance &amp; self-discipline</li> <li>▪ Professional appearance</li> <li>▪ Time management</li> <li>▪ Lifelong learning</li> </ul>	<p><b>1. Understand how personal skill development, including positive attitude, honesty, self-confidence, time management, &amp; other positive traits affect employability.</b></p> <ul style="list-style-type: none"> <li>▪ Demonstrate and understand classroom policies &amp; procedures</li> <li>▪ Define work and business ethics &amp; demonstrate the importance of ethical standards &amp; social responsibilities in the business environment.</li> <li>▪ Discuss the laws applicable to sexual harassment &amp; discuss tactics for handling harassment situations.</li> <li>▪ Demonstrate personal skills in class and/or business environment:               <ul style="list-style-type: none"> <li>→ Positive attitude</li> <li>→ Self-confidence</li> <li>→ Honesty</li> <li>→ Perseverance</li> <li>→ Self-discipline</li> </ul> </li> <li>▪ Demonstrate and model personal hygiene and acceptable professional attire</li> <li>▪ Prioritize tasks and meet deadlines</li> <li>▪ Explain the importance of lifelong learning</li> </ul>	<p><b>Integrated in content area skills</b></p>

CAREER PERFORMANCE STANDARDS	EXPECTED STUDENT OUTCOMES	HOURS
<b>Instruction will include:</b>	<b>Student will be able to:</b>	
<p><b>2. Interpersonal Skills</b></p> <ul style="list-style-type: none"> <li>▪ Group dynamics</li> <li>▪ Conflict resolution and negotiation</li> <li>▪ Team work</li> <li>▪ Etiquette across gender and cultural groups</li> </ul>	<p><b>2. Understand principles of effective interpersonal skills, including group dynamics, conflict resolution, and negotiation.</b></p> <ul style="list-style-type: none"> <li>▪ Identify and explain the key concepts of group dynamics</li> <li>▪ Discuss and demonstrate the dynamics of conflict resolution and negotiation, and their importance within the business environment</li> <li>▪ Demonstrate effective teamwork, share responsibilities, accept supervision and assume leadership roles</li> <li>▪ Demonstrate cooperative working relationships and proper etiquette across gender and cultural groups</li> </ul>	<p><b>Integrated in content area skills</b></p>
<p><b>3. Thinking and Problem-Solving Skills</b></p> <ul style="list-style-type: none"> <li>▪ Critical and creative thinking skills</li> <li>▪ Logical reasoning and problem-solving skills</li> <li>▪ Numerical estimation, measurement, and calculation</li> <li>▪ Identify, locate, and organize needed information and propose, evaluate, and select alternative solutions</li> </ul>	<p><b>3. Understand the importance of critical thinking and problem-solving skills in the workplace.</b></p> <ul style="list-style-type: none"> <li>▪ Apply critical and creative thinking skills in a work environment and implement a plan of improvement as needed</li> <li>▪ Demonstrate logical reasoning and problem solving skills in a work environment</li> <li>▪ Apply numerical estimation, measurement and calculation skills to business applications including the following: <ul style="list-style-type: none"> <li>→ Whole number math</li> <li>→ Decimals &amp; fractions</li> <li>→ Counting &amp; monetary functions</li> <li>→ Use of tables &amp; graphs</li> </ul> </li> <li>▪ Recognize problem situations; identify, locate and organize needed information, and propose, evaluate and select from alternate solutions</li> </ul>	<p><b>Integrated in content area skills</b></p>



CAREER PERFORMANCE STANDARDS	EXPECTED STUDENT OUTCOMES	HOURS
<b>Instruction will include:</b>	<b>Student will be able to:</b>	
<p><b>4. Communication Skills</b></p> <ul style="list-style-type: none"> <li>▪ Written communications</li> <li>▪ Verbal and Nonverbal communications</li> <li>▪ Active and effective listening</li> <li>▪ Proper etiquette in business communications</li> <li>▪ Writing and editing skills</li> <li>▪ Use of reference material and handbooks</li> <li>▪ Oral presentations</li> </ul>	<p><b>4. Understand principles of effective communication.</b></p> <ul style="list-style-type: none"> <li>▪ Read and implement written instructions, technical manuals, written communication, and reference books</li> <li>▪ Present a positive image of verbal and nonverbal communication through use of appropriate methods</li> <li>▪ Demonstrate active and effective listening skills through verbal, nonverbal and written feedback</li> <li>▪ Demonstrate proper etiquette in business communications, including an awareness of requisite for international communications (languages, customs, and time zones)</li> <li>▪ Demonstrate the following writing and editing skills: <ul style="list-style-type: none"> <li>→ Use correct grammar, punctuation, capitalization, vocabulary and spelling</li> <li>→ Write, proofread and edit</li> <li>→ Select and use appropriate forms of communication</li> </ul> </li> <li>▪ Exhibit a proficiency in the use of reference materials such as dictionary, thesaurus, telephone directory, almanac, zip code directory, and office handbooks</li> </ul>	<p><b>Integrated in content area skills</b></p>
<p><b>5. Occupational Safety</b></p> <ul style="list-style-type: none"> <li>▪ Good safety practices</li> </ul>	<p><b>5. Understand occupational safety issues, including avoidance of physical hazards</b></p> <ul style="list-style-type: none"> <li>▪ Model and implement good safety practices including: <ul style="list-style-type: none"> <li>→ Avoidance and reporting of physical hazards in the work environment</li> <li>→ Safe operation of equipment</li> <li>→ Proper handling of hazardous materials</li> </ul> </li> </ul>	<p><b>Integrated in content area skills</b></p>

CAREER PERFORMANCE STANDARDS	EXPECTED STUDENT OUTCOMES	HOURS
<b>Instruction will include:</b>	<b>Student will be able to:</b>	
<p><b>6. Employment Literacy</b></p> <ul style="list-style-type: none"> <li>▪ Expand awareness of career opportunities</li> <li>▪ Set employment goals and objectives</li> <li>▪ Aptitudes, personal characteristics and interests</li> <li>▪ Develop portfolio to C-TAP standards</li> <li>▪ Develop interviewing techniques</li> </ul>	<p><b>6. Understand career paths and strategies for obtaining employment.</b></p> <ul style="list-style-type: none"> <li>▪ Explore career opportunities and develop a career plan</li> <li>▪ Identify steps for setting goals and writing personal goals and objectives</li> <li>▪ Examine aptitudes related to career options; relate personal characteristics and interests to educational and occupational opportunities</li> <li>▪ Develop a portfolio to include the following: <ul style="list-style-type: none"> <li>→ Letter of Introduction</li> <li>→ Cover letter</li> <li>→ Resume</li> <li>→ Thank you letter</li> <li>→ Job application</li> <li>→ Licenses, Certificates and Awards</li> <li>→ Transcripts</li> <li>→ Letters of Recommendation</li> <li>→ Work Samples</li> </ul> </li> </ul>	<p><b>Integrated in content area skills</b></p>
<p><b>7. Technology Literacy</b></p> <ul style="list-style-type: none"> <li>▪ Apply Industry specific technology</li> <li>▪ Use Industry specific software</li> <li>▪ Demonstrate Keyboarding</li> <li>▪ Accessing information</li> <li>▪ Lifelong enhancement of technology skills</li> </ul>	<p><b>7. Understand and adapt to changing technology.</b></p> <ul style="list-style-type: none"> <li>▪ Identify and demonstrate use of appropriate technology</li> <li>▪ Identify and use industry specific software</li> <li>▪ Demonstrate proficiency in alphanumeric keyboarding</li> <li>▪ Input and retrieve information</li> <li>▪ Understand the importance of lifelong learning in adapting to changing technology</li> </ul>	<p><b>Integrated in content area skills</b></p>

## **10. ADDITIONAL RECOMMENDED /OPTIONAL ITEMS**

- a. ARTICULATION:**
  
- b. VOCATIONAL CREDIT:**
  
- c. ACADEMIC CREDIT: 10 high school credits per year.**
  
- d. INSTRUCTIONAL STRATEGIES: Demonstrations, Lab, Written assignments, Written tests and quizzes.**
  
- e. INSTRUCTIONAL MATERIALS: Student textbook:**
  
- f. CERTIFICATES: Students will receive a Mission Trails ROP course certificate listing their job skill proficiencies.**