

RENTON SCHOOL DISTRICT #403

CAREER AND LIFE SKILLS EDUCATION

ENVIRONMENTAL HORTICULTURE

Curriculum Guide

Approved by Board of Directors: March 27, 2002

If you have special needs which require this document to be provided in an alternative format, please contact the school principal (or program director) or Kay Hermann, ADA/509 Compliance Coordinator, 425-204-2421, 300 S.W. 7th St., Renton, WA 98055-2307

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ACKNOWLEDGMENTS

Board of Directors

Joy Poff, President
Albert Talley, Sr., Vice-President
Lynn Desmarais
Marcie Maxwell
David Merrill

Superintendent

Dr. Dolores J. Gibbons

Department of Instruction and Technology

Dr. Kathryn Fantasia, Assistant Superintendent of Instruction and Technology
Jay A. Leviton, Director, Career and Life Skills Education

Horticulture, Custodial and Community Classroom Advisory Committee

Sue Berg Valley Medical Center Community Classroom Instructor	Terry Pile Valley Medical Center
Chuck Charbonneau Renton Technical College	Bob Rothenberger Building Maintenance Instructor
Paul McTiernan Coastwide Laboratories	Al Talley Al Can Building Maintenance
Kevin Lemke Evergreen Foliage Moss	Margie Watson School To Work Coordinator
Lori Lyon Program Specialist Renton School District	

Curriculum Development Committee

Jay Leviton
Director, Career & Life Skills Education

Carol Dealey
Environmental Horticulture Instructor

A PHILOSOPHY OF EDUCATION FOR THE RENTON PUBLIC SCHOOLS

A basic function and duty of a free society is the education of its children, youth and adults.

It is the responsibility of the schools to provide each student with the opportunities necessary to develop the scholarship, skills and attitudes which will enable the student to achieve mental, physical, emotional and social maturity.

Further, each student should, as a result of the school experience, be able to make decisions and to accept responsibility for those decisions.

POLICY: 6001

ADOPTED: February 3, 1977

Renton School District No. 403

Renton, Washington

Renton School District #403 recognizes the need for every graduate to have acquired job entry skills or at least to possess a level of knowledge and skills permitting continued training after high school.

RENTON SCHOOL DISTRICT NO. 403
GENERAL INSTRUCTIONAL GOALS
Policy 6010

The Renton School District fosters an educational process which helps all students achieve at their highest potential.

The Renton School District:

LEARNING

- Offers a curriculum which prepares our students for the future.
- Emphasizes that diversity contributes positively to the individual and to the community.
- Provides learning experiences matched to the needs, interests, and abilities of our diverse student population.
- Extends learning opportunities beyond the school.

INSTRUCTION

- Offers a variety of high quality instructional resources and services to students, staff, and community.
- Supports multiple instructional strategies.
- Provides resources and opportunities for continuing professional development of our staff.
- Conducts ongoing evaluations of our instructional programs.
- Maintains safe and inviting facilities that are conducive to learning.

COMMUNITY

- Creates partnerships which involve students, parents, staff and other community members and organizations.
- Promotes effective communication.
- Values and encourages development of a spirit of community service.
- Respects the rights and responsibilities of all.

As a result of the educational process in Renton, students will understand and apply:

Language skills including reading, writing and communication, with opportunities to learn world languages.

Mathematics skills including concepts, procedures, problem solving, reasoning, and mathematical language.

Science Skills including concepts, principles, and the scientific process.

Social studies skills, concepts, and processes - emphasizing history, geography, economics, international perspectives, multiculturalism, and participatory democracy.

Arts and humanities skills, concepts, and processes to create, perform, and solve problems and respond effectively.

Health and physical education skills, concepts, and processes to promote lifelong physical, mental and social well being.

In order to strengthen the above curricular areas, Renton students will understand and apply:

Thinking skills including the ability to - gather and analyze information, think logically, critically and creatively, integrate experience and knowledge in making reasoned judgments, and solve problems.

Career and life skills necessary for successful and responsible participation in family, work and community.

Technological skills to support learning, problem solving, and communication.

Skills necessary to be a lifelong learner and a contributor to the general welfare and the quality of life for all.

EVALUATION: The Renton School District regularly reviews, evaluates and modifies these General Instructional Goals to meet the changing needs of students, staff and community.

RENTON SCHOOL DISTRICT #403

CAREER AND LIFE SKILLS EDUCATION GOALS

GOAL 1: PROVIDE HIGH QUALITY VOCATIONAL-TECHNICAL EDUCATION PROGRAMS AND SERVICE

Objectives:

- A. Assure that students completing Vocational-Technical Education programs have technical and behavioral competencies and basic skills sufficient to succeed in the workplace or higher education.
- B. Establish course and/or program transferability and articulation processes among K-12, community and technical colleges, private schools, colleges and universities, industry, apprentice-related training, and military training.
- C. Establish and regularly review standards for all Vocational-Technical Education programs.
- D. Evaluate Vocational-Technical programs based on standards, objectives, placements, job performance, costs, and community/industry acceptance.
- E. Utilize global, national, state, regional, and local data and advisory committee recommendations to identify appropriate curriculum and course offerings, program standards which meet the need of families, communities, business and industry.
- F. Provide facilities, equipment and instructional programs which meet the needs of a changing workplace.
- G. Revise or discontinue these programs that no longer meet the needs of students, business, labor, industry, and/or the community.
- H. Provide qualified instructors and administrators for Vocational-Technical Education based on relevant certification standards.
- I.** Develop and utilize competency-based curricula for Vocational-Technical Education programs.

GOAL 2: CONTRIBUTE TO THE ECONOMIC DEVELOPMENT OF THE STATE

Objectives:

- A. Facilitate cooperation between public and private sector entities.
- B. Establish new Vocational-Technical programs based on existing and projected employment needs/demands and entrepreneurial opportunities.
- C. Work cooperatively with the public and private sectors, economic development organizations, labor, and educational institutions to provide creative, targeted programs that meet the needs of youth in economically depressed areas.
- D. Provide family life education programs which serve to strengthen families and contribute to the effectiveness of workers in managing their consumer and family roles and in their careers.
- E. Strengthen management skills for those seeking employment in worker owned and managed businesses.
- F. Create a stronger working partnership with Team Washington and other economic agencies and the associate development organizations.

GOAL 3: ASSURE ALL INDIVIDUALS EQUAL ACCESS TO VOCATIONAL-TECHNICAL EDUCATION PROGRAMS, SERVICES, AND ACTIVITIES

Objectives:

- A. Provide Vocational-Technical programs, services, and activities that are free from racial, socio-economic, age, ethnic or sex bias, discrimination or stereotyping.
- B. Provide access to barrier-free Vocational-Technical Education programs.
- C. Actively recruit under-represented groups to all aspects of Vocational-Technical Education.
- D. Provide supportive services which promote entrance and success in Vocational-Technical programs.

GOAL 4: PROVIDE/UTILIZE AN INTEGRATED STATE PLANNING PROCESS

Objectives:

- A. Involve business, industry, agriculture, labor and other governmental and educational agencies in the planning processes at the state and local levels to ensure that establishment of delivery objectives and budget priorities.
- B. Identify instructional area/programs based on demand, placements, training needs, program costs, and follow-up.
- C. Utilize local, regional, state, national and global employment data, trends and advisory committees/organizations in identifying program offerings.

GOAL 5: PROVIDE AND MARKET VOCATIONAL-TECHNICAL EDUCATION

Objectives:

- A. Increase public awareness, understanding, and acceptance of Vocational-Technical Education.
- B. Actively involve students, parents, community leaders, legislators, labor representatives, business organizations, industry, representatives, and other decision-makers from state and local arenas in Vocational-Technical Education program events and issues.

GOAL 6: PROVIDE INDIVIDUALS WITH CAREER DEVELOPMENT PROGRAMS AND EXPERIENCES

Objectives:

- A. Provide career orientation, exploration, occupational information, self-appraisal, and educational planning.
- B. Provide instruction in job search, job retention and job change skills and further education pursuits.
- C. Assure that Vocational-Technical Education programs encompass demands of today's workplace and include attitudinal, employability, leadership, basic interpersonal, and job specific skills.

GOAL 7: ASSURE A QUALITY STAFF DEVELOPMENT PROGRAM

Objectives:

- A. Provide appropriate channels for advisory committee recommendations in the program and policy-making process.
- B. Provide in-service training opportunities for local advisory committee members.
- C. Provide in-service training for administrators and Vocational-Technical instructors regarding the effective use of advisory committees.

RENTON SCHOOL DISTRICT NO.403
Renton, Washington
CAREER AND LIFE SKILLS EDUCATION

Renton School District #403 operates a comprehensive Career and Life Skills Education Program through its four comprehensive high schools and two alternative programs. The district also participates in two countywide Tech Prep consortia with local community and technical colleges. This partnership allows students to earn college credit while still enrolled in high school programs. Secondary and post-secondary curricula are coordinated and students master and achieve skills, concepts, and technical competencies in high school that articulate with college programs. Students earn credit towards high school graduation and college technical programs at their home high schools.

The focus has changed in recent years from an emphasis on only job preparation to one of career exploration and exposure. While skill development and employment readiness is still a primary goal, emphasis has been placed on career exploration, career pathway preparation, and post-secondary articulation.

The **Family and Consumer Science Education Program** is offered at Hazen, Lindbergh, Renton, and Black River High Schools. The program is comprised of the following: Careers in Education; Careers with Children; Children & Parenting; Design; Eating Well/Creative Foods; Exploring Early Childhood and Exploring Early Childhood/Work Experience; Family Health; Health Club; Independent Living; Personal Choices; Teen Parenting/GRADS; and American Sign Language. School district and community sites provide applied workbased learning opportunities for program students.

The **Business Education Program** is offered in the District's three comprehensive high schools and at the Sartori Learning Center. The program consists of technical business related classes sequentially arranged into a course of instruction leading to a Certificate of Proficiency or Mastery to facilitate job placement or post secondary articulation. These courses are as follows: Business Communications; Business Connections 1-2; Business Connections Work Experience 1-2; Business law; Business Management; Computer Applications; Electronic Math Applications; Information Processing; Machine Transcription; Principles of Business; Recordkeeping; Word Processing 1-2; and Advance Word Processing. The Business Connections Workbased Learning component provides actual related job experience through workstations in the community. Business programs are often arranged and blocked with language arts programs to support program integration and technology use in the writing process.

A comprehensive **Workbased Learning Program** is offered in all of the facilities in the Renton School District. This program couples on-the-job experience and related classroom training to prepare students for employment during and beyond high school. The **Marketing Education** and **Diversified Occupations Programs** provide students the opportunity to combine related classroom instruction and paid work experience to earn high school credit. These programs assist and support students as they make the transition from

school to work. **Volunteer experiences, Internships, Job Shadows, and Service Learning** are also strong components of this community based applied experiences.

The community also plays a vital role in other programs offered through the Renton School District. The **Health Careers/ Sciences Program** is reliant on clinical training stations and coordinated work experiences for students through local convalescent centers, nursing facilities, and community hospitals. This program is offered to all students in the Renton School District but operates only at Hazen High School.

Technology Education Programs are offered at all three comprehensive high school facilities, and the Sartori Education Center. These programs are often integrated with the Science and Math departments to support applied learning and the development of technical skills and competencies for all students. Courses in this department are: Automotive Service Technician 1-2; CAD & Computer Graphics 1-2; Computer Graphics and Communications Related Careers 1-2; Electronics and Related Careers 1-2; Engineering Drafting and Related 1-2; Fundamentals of Networking Technology 1-2; Light Duty Mechanics and related Careers 1-2; Materials Science and Technology 1-2; Metalworking, Construction, Maintenance and Related Careers 1-2; Power and Energy 1-2; Principles of Technology 1-2; Video Production 1-2; Woodworking, and Construction, Maintenance and Related Careers.

Integrated instruction has been the focus of the Career and Life Skills instructional team for the past several years and the results can be seen throughout the program in each of the secondary schools. Several programs have been launched and are operating very successfully in all of the secondary sites. While these programs qualify for vocational funding, the district has made the commitment to operate them in collaboratively with a related academic instructor. These **Applied Vocationally Approved Programs** are titled: Applied Communications; Applied Mathematics; Material Science Technology; and Principles of Technology.

Renton School District has made a commitment to provide vocational training and job preparation opportunities for Special Needs students in addition to mainstreaming them, when appropriate. In order to have enough students to allow several offerings, the district has entered into interdistrict cooperative agreements with surrounding districts to accept students on a space available basis. There are four such **special programs**: **Building Maintenance** operates at the Sartori Learning Center and the **Career Ladders/Community Classroom** is offered at Valley Medical Center. The **Horticulture/Landscape Design 1-2 Program** is operated at Black River High School and **Health Careers** section is located at Hazen High School.

The district is also a partner in the Vocational/Special Education consortium of King County School Districts. The primary purpose of this participation is to make Vocational-Technical Education more accessible to persons with disabilities, provide additional inservice opportunities to all instructors and support to vocational instructors as they provide applied learning opportunities to special needs students.

**RENTON SCHOOL DISTRICT NO. 403
CAREER AND LIFE SKILLS EDUCATION**

MISSION STATEMENT

The mission of career and life skills education in the Renton School District #403 is to prepare all learners for successful roles in families, careers and communities.

THREE BELIEFS

A. Beliefs about individual needs

1. All learners have unique gifts and talents and can be successful.
2. All learners must develop self-esteem and personal confidence for productive roles in society.
3. All learners need to have and attain personal and career goals, arising from a lifespan approach to personal growth and career development.

B. Beliefs about society's expectations

1. All learners must be prepared to become ethical, responsible and contributing world citizens.
2. All learners must adapt to change and participate in lifelong learning.
3. All learners must prepare for family roles and to balance work and family responsibilities.
4. All learners must develop essential creative/critical thinking, problem solving and communication skills.
5. All learners must value and have an appreciation for diversity in their schools, communities and workplaces.
6. All learners must recognize the impact of productive work on our economy.

C. Beliefs about systems that care for and support learners

1. All learners must have equitable access to a quality education.
2. All learners deserve to participate in learning systems where programs are mutually reinforcing and interdependent and where learning is related to life applications.
3. All learners must discover that school is part of a broader set of community resources they must access for learning and for achieving success in life.
4. All school programs must be developed in cooperative with family, business, labor and community representatives.
5. All staff must be accountable to ensure that all learners have the opportunity to establish and reach their goals.

ENVIRONMENTAL HORTICULTURE
Washington State Essential Academic Learning Requirements

ENVIRONMENTAL HORTICULTURE						
<p>This Career and Life Skills Class supports the Washington State Essential Academic Learning Requirements.</p> <p>COURSE OBJECTIVES:</p>	ART	COMMUNICATIONS	MATHEMATICS	SCIENCE	WRITING	READING
Unit 1: Introduction	*	*	*	*	*	*
Unit 2: Horticulture Science	*	*	*	*	*	*
Unit 3: Plant Taxonomy	*	*	*	*	*	*
Unit 4: Parts of the Plant and Their Functions		*	*	*	*	*
Unit 5: Environmental Requirements/Soil Science	*	*	*	*	*	*
Unit 6: Growth Stimulants, Retardants, and Rooting Hormones		*	*	*	*	*
Unit 7: Plant Propagations		*	*	*	*	*
Unit 8: Greenhouse Operation and Management	*	*	*	*	*	*
Unit 9: Integrated Pest Management	*	*	*	*	*	*
Unit 10: Safe Use of Pesticides		*	*	*	*	*
Unit 11: Nursery Management		*	*	*	*	*
Unit 12: Landscaping	*	*	*	*	*	*
Unit 13: Floriculture	*	*	*	*	*	*
Unit 14: Leadership	*	*	*	*	*	*
Unit 15: Gardening for Food	*	*	*	*	*	*

ENVIRONMENTAL HORTICULTURE

Historical Summary

The Renton Career and Life Skills Environmental Horticulture program is a 2 semester, 3 credit course of instruction, designed to provide high school students with a planned program of classroom instruction and practical hands - on experience that will prepare them for a variety of positions in the Horticulture, Floriculture, and related occupations.

Skill training is provided in six major areas:

- I. Nursery management and maintenance.
- II. Landscape design, maintenance and management
- III. Floriculture - floral design, and conditioning
- IV. Seed and plant production
- V. Greenhouse management and maintenance
- VI. Student leadership, customer relations and sales

One of the most rapid growth areas in the field of agriculture is that of horticulture. This new - found interest is due in large part to an increasing awareness by the general public, as people look inwardly at a need to be closer to nature and outwardly at a world in which efficient methods of food production and conservation of land are increasingly important.

Young women and men with knowledge, special training and skills in landscaping, construction and maintenance, nursery and greenhouse work and many related areas are in ever increasing demand.

Skills and safety training are taught in the use and care of hand tools, power tools and large equipment used in various aspects of the industry. Special emphasis, as well as an extensive safety course is taught to develop a safe working environment, as well as safe work habits throughout the course of instruction.

Student leadership is stressed throughout the class. The students meet on a bi-weekly schedule. Efforts are made to have each student involved in youth activities through participation in FFA. Development of student leadership is further enhanced by assignment of students as supervisor, student aid, etc. The primary goal of the leadership activities is to assist the students in developing the personal characteristics, attitudes and skills necessary for successful job employment, retention and advancement.

The Environmental Horticulture program was implemented in September, 1978, and operated on the basis of two 3 - hour sections of 12 students each per day. September, 1980, the program was operated on the basis of two 2 1/2 hour sections per day with 18 students in each section. Since September of 1998, the program still operates on the basis of two 2 1/2 hour sections per day with 19.5 students in each section. The classes are conducted from 7:30 a.m. to 9:55 a.m. and 11:15 a.m. to 1:45 p.m.

In June of 1996, the Environmental Horticulture program articulated with the Puget Sound consortium at South Seattle Community College to enable students from the

program to receive college credits while attending a second year in the Environmental Horticulture class.

The Environmental Horticulture course is open to General education as well as Special education students.

ENVIRONMENTAL HORTICULTURE

Program Goals

The Renton Career and Life Skills Education Horticulture Program will:

1. Provide students with the opportunities to master, maintain and apply the basic facts, concepts, skills and processes associated with science and the horticulture industry.
2. Develop positive attitudes in students towards themselves through their relationships with the Horticulture industry.
3. Establish and maintain a safe learning environment and develop student safety awareness.
4. Develop communication, initiative, creativity, objectivity and computation skills.
5. Encourage student understanding and respect for the environment and how to manage the environment for quality of life.
6. Develop appropriate attitudes and practices necessary for successful human relationships in society at large and in the work place.
7. Develop leadership skills through a student run organization, to learn parliamentary procedure, communication, and assist the students in developing the personal characteristics, attitudes and skills necessary for successful job entry, retention and advancement.
8. Provide opportunities for the student to acquire an understanding of the relationship of Horticulture to everyday living and various occupations.
9. Increase student awareness of historical developments in the horticulture field. How plant life effects everyone, through oxygen to medicines.
10. To develop math skills to learn basic equations for computing volume and scale.
11. Provide for the development of reading skills required for decoding and comprehending printed materials.
12. An understanding and appreciation for the environment and how to manage the environment for quality of life.
13. Build student's self-confidence and a positive attitude through successful and challenging experiences.
14. To nurture and develop an appreciation of growing plants for food and beauty.

15. Develop fundamental skills in manipulating greenhouse and nursery materials and equipment, and gathering, organizing and communicating scientific information.
16. Provide curriculum opportunities for both college and vocationally oriented students.
17. Provide updated materials and technology recommended by the growing horticulture industry.
18. Develop lesson plans that include hands on learning.

ENVIRONMENTAL HORTICULTURE

Scope & Sequence

Unit 1: Introduction

- A. Define the scope, size and the economic importance of the horticulture industry in the United States.
- B. Careers in the horticulture industry, including working conditions, educational and personal requirements.
- C. Survey the local job market and select employment compatible with your interests.
- D. Characteristics necessary for success.

Unit 2 : Horticulture Science

- A. Plant structures, life processes and growth
- B. Plant reproduction
- C. The environment, natural and artificial, with introduction to means of modifying environment.

Unit 3: Plant Taxonomy

Students are given 5 plants bi weekly for sight memorization. Plant identification sheets concerning each plant studied will be completed as an aid in retaining, learning and to provide useful notebook the student will keep for use after leaving the course.

- A. Basic horticultural methods of plant classification.
- B. Binomial method of scientific classification
- C. Differences between genus, species and variety
- D. Explanation why scientific plant names are used.
- F. Basic parts of a flower.

Unit 4: Parts of the Plant and Their Functions

- A. Contributions of plants to the life cycles on earth.
- B. Four main parts of a plant
- C. Differences between dicot and monocot stems
- D. The process of pollination

Unit 5: Environmental Requirements/ Soil Science

- A. Soil defined
- B. Identify the differences between soils
- C. Soil structure
- D. The role of water

- F. Improvement of soils
- G. Soil drainage and moisture retention
- H. Plant nutrients listed and explained
- I. Commercial and natural fertilizers
- J. The role on composting
- K. PH of soil/ testing
- L. Hands on practice in methods of cultivation with machines and equipment used in industry

Unit 6: Growth Stimulants, Retardants, and Rooting Hormones

- A. Use of stimulants
- B. Use of retardants
- C. Use of rooting hormones, hands on application.
- D. Proper mixtures to be used for different plants

Unit 7 : Plant Propagation

- A. Identify the parts of a seed and the functions of each
- B. Differentiate between indirect and direct seeding methods.
- C. Proper conditions for germination of seed.
- D. Hardwood and softwood cuttings.
- E. Transplanting methods
- F. Air layering/ ground layering
- G. Division

Unit 8: Greenhouse Operation and Management

- A. Greenhouse plant production industry
- B. Greenhouse crops
- C. Careers possible with the greenhouse
- D. Growing structures and artificial climates
- E. Soil management for container plants
- F. Equipment and tools, their use and care
- G. Plant identification specific to greenhouse industry
- H. Pest management and identification
- I. Customer service/sales
- J. Marketing/physical practices

Unit 9: Integrated Pest Management

- A. Chemical control of pests
- B. Biological control of pests
- C. Identification of pests / short entomology course
- D. Plant diseases/ identification
- E. Control of diseases

- F. Environmental factors contributing to plant diseases
- G. Hardy plants not effected by certain diseases.
- H. What biological control means
- I. When chemicals are necessary.

Unit 10: Safe Use of Pesticides

- A. Three routes pesticides enter the body.
- B. Examine pesticide labels
- C. Degree of toxicity of each pesticide
- D. Safety requirements when handling pesticides
- E. First Aid steps in case of exposure

Unit 11: Nursery Management

- A. Nursery industry defines and various enterprises within studied
- B. Careers possible within nursery industry
- C. Structures used; purpose of each
- D. Tools and equipment used in nursery management
- E. Pest management
- F. Pruning and trimming
- G. Marketing, physical practices
- H. Customer service/sales

Unit 12: Landscaping

- A. Principles of landscaping, maintenance and design.
- B. The landscape industry defined and the several different areas explained.
- C. Plot layout and measurement, drawn to scale
- D. Landscape construction
- E. Landscape maintenance
 - I. Weed control, mechanical and chemical
 - II. Maintenance of lawns
 - III. Borders and planting beds
 - IV. Pruning and shaping ornamentals
- F. Machines and tools
 - I. Safety procedures and practices
 - II. Proper operation and use
 - III. Proper maintenance of machines
 - IV. Proper maintenance of tools
 - V. Tool identification

Unit 13: Floriculture

- A. Floriculture industry defined and explained
- B. Careers possible within the floriculture industry
- C. Basics of floral design
- D. Materials: fresh, dried and artificial
- E. Equipment and tools and their use
- F. Construction of arrangements specific to season and time of year
- G. Marketing / inventory of floral products.

Unit 14: Leadership

- A. Membership in a Horticulture Club
- B. Orientation of Future Farmers of America
- C. How organizations operate
- D. Parliamentary Law
- E. Officer elections and leadership training of officers
- F. Recreation for members
- G. Educational field trips that members vote on
- H. Resume writing
- I. Organizing fundraisers

Unit 15: Gardening for Food

- A. Economics of producing food for the home
- B. Vegetable crops and how to grow them
- C. Seasons for crops
- D. Cultivation and weed control
- E. Soil preparation
- F. Soil fertility in the garden
- G. Composting
- H. Annual and perennial flowers for the home

ENVIRONMENTAL HORTICULTURE

Evaluation

Students will be evaluated on attainment of the program objectives.

Criteria for this evaluation consists of:

1. Written tests given periodically during each semester.
2. Written assignments to be kept in a student notebook including class notes and various records.
3. Daily grades are given assessing cooperation and performance on daily tasks.
4. Classroom/ laboratory work and study habits.
5. Performance on various work / Job assignments
6. Completion of specified tasks.
7. Attendance, punctuality and attention to assigned tasks.
8. Progress and improvement in each of the above. Progress and improvement are the key elements in evaluating students in horticulture activities.

ENVIRONMENTAL HORTICULTURE

Instructional Materials

Basic Texts:

Introductory Horticulture, H. Edward Reiley and Carroll L. Shry, Jr., Delmar Publishing
Sunset Western Garden Book, Sunset Publishing Corp.

Supplementary Materials:

Sunset Western Garden Problem Solver, Sunset Books Inc.
Sunset Western Landscaping, Kathleen Norris Brenzel, Sunset Books Inc.

Complementary Materials in Current Inventory:

1000 Beautiful House Plants and How to Grow Them, Jack Krammer, William Morrow Co., Inc.
2nd Webster's New World Dictionary College Edition, Simon and Schuster
500 More Fuchsias, Miep Nijhuis, B.T. Batsford Ltd.
A Complete Guide To Pond Management, Purina Mills, Inc.
A Guide to Career-Occupations in Wa. State, Workforce Training and Education Coordinating Board
A Handbook of Annuals and Bedding Plants, Graham Rice, Timber Press
African Violets and Related Plants From Mother Nature, Future Crafts Today
African Violets for Modern Living, Merchants Publishing Co.
Agriscience and Technology, L. DeVere Burton, Delmar Publishers Inc.
Agriscience -Fundamentals and Application 2nd Edition, Delmar Publishers, Inc
Agriscience- Fundamentals and Applications, Elmer L. Cooper, Delmar Publishers, Inc.
American Redcross, Standard First Aid
Arranging Flowers, Washington State University Bulletin, Pacific N. W. Cooperative Extension
Ball Red Book 13th Edition, Geo.J. Ball, Inc.
Basic Floral Design, The John Henry Co.
Better Homes and Gardens- Four Seasons Gardening, Ann Reiley Dines, Michael Friedman Publishing Group, Inc.
Better Homes and Garden New Garden Book, Meredith Publishing Co.
Black and Decker Home Improvement Library, - Home Masonry Repairs and Projects, Creative Publishing
Black and Decker Landscape Design and Construction. Creative Publishing
Black and Decker Outdoor Home- Building Garden Ornaments, Creative Publishing
Black and Decker Outdoor Home, Building Garden Ornaments, Creative Publishing
Bromeliads for Modern Living, Merchants Publishing Co.
Bromeliads, Bill Seaborn, Future Crafts Today
Cacti and Succulents for Modern Living, Merchants Publishing Co.
Cactus and Succulents From Mother Nature, Future Crafts Today
Common Poisonous Plants and Mushrooms of N. America, Nancy J. Turner and Adam F. Szczawinski, Timber Press
Complete Indoor Gardener, Random House

Countryside Book - Home Landscaping, A. B. Morse Co.
 Countryside Book- Bonsai and the Japanese Garden, Kaneji Domoto and George Kay, A. B. Morse Co.
 Designing With Natural Materials, Bebe Miles, Van Nostrand Reinhold Co.
 Dictionary of Science, Robert L. Barnhart, Houghton Mifflin Co.
 Diseases and Pests Of Ornamental Plants 5th Edition, Pascal P. Pirone, John Wiley and Sons
 Easy Plants for Difficult Places, Jack Kramer, Walker and Co.
 Evergreen Flowering Shrubs, Ed Hume Enterprises, Inc.
 Exotic House Plants 10th Edition, A. B. Graf, Roehrs Co.
 Experiments In Soil Science, Dr. Logan S. Carter, Vocational Education Publications
 Eyewitness Garden Handbooks- Shrubs and Climbers, D. K. Publishing
 Ferns for Modern Living, Merchants Publishing Co.
 Ferry- Morse Home Garden Guide, Ferry-Morse Seed Co.
 Floral Design and Arrangement, Gary L. McDaniel, Reston Publishing Co., Inc.
 Floral Design Techniques, The John Henry Co.
 Flower and Baskets-Creating With Silk and Dried Flowers, Glick Publishing,
 Flower Arranging-A Fascinating Hobby, Laura lee Burroughs, Coka-Cola Co.
 Flowering Plants for Modern Living, Merchants Publishing Co.
 Flowers for Special Occasions, Pulbrook and Gould's, B. T. Batsford Ltd.
 Flowers for Wedding Bouquets, The John Henry Co.
 Foliage Plants for Modern Living, Merchants Publishing Co.
 For Your Garden: Ornamental Grasses, Rick Darke, Friedmann- Fairfax Publishers
 For Your Garden: Water Garden, Carol Spier, Little Brown and Co.
 For Your Garden: Window Boxes, Carol Spier, Friedman -Fairfax Publishers
 For Your Garden: Water Gardens, Carol Spier, Little Brown and Comp
 Fuchsias the Complete Guide, Edwin Goulding, Timber Press
 Fundamentals of Horticulture, Edmond, Senn, Andrews, Halfacre, McGraw-Hill Book Co.
 Gardening Fundamentals, Program Guide Prentice-Hall Media
 Gardening In Living Color, Sweeney, Krist and Dimm
 Gardening Made Easy, International Masters Publishers
 Gazebos and Other outdoor Structures, Creative Homeowners Press
 Geckos, Bartlett and Bartlett, Barron's
 General Safety and Industrial Hygiene, S. O. S. P. E.
 Getting the Most From Your Garden, Rodale Press
 Good Housekeeping Illustrated Encyclopedia of Gardening, Hearst Magazines
 Green Plants - Life Science in Action, Mary K. Friedland, Janis Book Publishers
 Greenhouse Crop Production, Pennsylvania State University College of Agriculture
 Greenhouse Growhow, John H. Pierce, Plants Alive
 Greer's Guidebook to Available Rhododendrons Species and Hybrids, Harold E. Greer, Offshoot Publications
 Ground Covers for Easier Gardening, Daniel Foley, Chilton Co.
 Grower Talks- Vic Ball's Green Book, Grower Talk
 Hanging Plants for Modern Living, Merchants Publishing Co.
 Herbaceous Perennials, F. A. Giles, Rebecca McIntosh Kieth, Donald C. Saupe, Reston

Publishing Co.
 Holland Bulb Forcers Guide, Aidhensche Handel S. Drukker
 Horticulture Gardener's Desk Reference, Anne Halpin, Macmillian
 House Plants Herbs and Planters, Hazel Pearson Handicrafts
 How To Control Plant Diseases, Malcom C. Shurtleff, The Iowa State University Press.
 How To Do Wreaths If You Think You Can't, Leisure Arts
 How to Plant a Bunch of Stuff, Ed Hume, Steven Cosgrove,, The Weedle, Serendipity
 Communications, Ltd.
 Inc.
 Interior Landscaping, Tok Furuta, Reston Publishing Co., Inc.
 Interior Plantscapes Installation, Maintenance, and Management, George H. Manaker,
 Prentice-Hall, Inc.
 International Bonsai #1, William N. Valavanis
 International Bonsai #4, Rosade and Young
 Introductory Horticulture 2nd Edition, Reiley and Shry, Delmar Publishers Inc.
 Introductory Horticulture, H. Edward Reiley and Carroll L. Shry, Jr., Delmar Publishers,
 Inc.
 Invite Birds To Your Home, U. S. Dept. of Agriculture
 Job Interviews, McVey and Associates, Inc.
 Landscaping 2nd Edition, Jack E. Ingels, Delmar Publishing Inc.
 Landscape Operations- Management, Methods and Materials, Leroy G. Hannebaum,
 Reston Publishing Co. Inc.
 Manual for the John Henry Retailer's Guide to Foliage Plants, The John Henry Co.
 Minature Gardens, Elvin McDonald, Grosset and Dunlap
 Mother Nature's Secrets for Thriving Indoor Plants, Future Crafts Today
 New Illustrated Encyclopedia of Gardening Vol. 1, Greystone Press
 New Pronouncing Dictionary of Plant names, Florists Publishing Co.
 New Ways With Fresh Flowers, Fiona Barnett, Anness Publishing Ltd.
 Nosh Pocket Guide to Chemical Hazards, U. S. Dept. of Health and Human Service
 Ornamental Horticulture, Gary L. McDaniel, Reston Publishing Co.
 Ornamental Shrubs, Climbers, and Bamboo, Graham Stuart Thomas, Timber Press
 Ortho Books- Garden Construction, Robrert L. Iacopa
 Ortho Book- The American Horticulture Society Houseplants, Robert L. Iacopi
 Ortho Books- Affordable Landscaping, Robert L. Loperena
 Ortho Books- All About Roses, Robert L. Iacopa
 Ortho Books- All About Evergreens, Robert L. Iacopa
 Ortho Books- All About Growing Orchids, Robert L. Iacopa
 Ortho Books- All About Vegetables, Robert L. Iacopa
 Ortho Books- Basic Wiring Techniques, Robert L. Iacopa
 Ortho Books- Building Birdhouses and Feeders, Edward A. Evans
 Ortho Books- Creating Japanese Gardens
 Ortho Books- Creative Home Landscaping, Robert J. Doezal
 Ortho Books- Easy Maintenance Gardening, Robert L. Iacopa
 Ortho Books- Garden Construction, Robert L. Iacopa
 Ortho Books- Gardening in Containers, Robert L. Iacopa
 Ortho Books- Outdoor Shelter Plans: Gazebos, Overheads and Sheds, Richard E. Pile, Jr.

Ortho Books- Home Gardener's Problem Solver, Robert B. Loperena
 Ortho Books- How To Design and Build Decks and Patios, Robert L. Iacopa
 Ortho Books- How to Design and Build Storage Projects, Robert L. Iacopa
 Ortho Books- How to Select and Maintain Garden Equipment, Robert L. Iacopa
 Ortho Books- Landscape Plans, Meredith Books
 Ortho Books- The Garden That Cares For Itself, Edward A. Evans
 Ortho Books-All About Landscaping, Robert L. Iacopa
 Ortho Book- All About Trees,
 Ortho Book- Wood Projects for the Garden
 Ortho Garden Guide Growing Vegetables,
 Ortho Lawn and Garden Book, Chevron
 Park's Success With Bulbs, Geo. W. Park Seed Co., Inc.
 Parks Success With Herbs, Gertrude B. Foster and Rosemary F. Loudon, Geo. W. Park Seed Co., Inc.
 Parks Success With Seeds, Ann Reilly, Geo. W. Park Seed Co., Inc.
 Planting Design 2nd Edition, Theodore D. Walker, Van Nostrand Reinhold
 Plant Portraits, Green Goes With Everything
 Plant Propagation- Principles and Practice 5th Edition, Hartmann, Kester, Davies, Prentice Hall
 Plants for Interior Landscapes, Merchants Publishing Co.
 Plants for the Home Vol. #1, John J. Bagnasco, McGill/Jensen , Inc.
 Ponds and Fountains-Quick Guide, Creative Homeowner Press
 Popular Foliage Plants, Florists' Review
 Practical Fuchsia Growing, Alan Toogood, Crowood Press
 Professional Floral Designer Principles and Elements, Professional Floral Designer
 Profitable Garden Center Management, Louis Beringer, Reston Publishing Co., Inc.
 Reader's Digest Practical Guide to Home Landscaping, Readers Digest Assoc.
 Reader's Digest Illustrated Guide to Gardening, Reader's Digest Assoc., Inc.
 Red-Eared Sliders, Philippe De Vosjolil, Advanced Vivarium Systems, Inc.
 Remembrance, The John Henry Co.
 Retail Floriculture Book II, Ohio Agriculture Education Curriculum Materials Service
 Retailers Guide to Foliage Plants, The John Henry Co.
 Romantic Wedding Flowers, The John Henry Co.
 Safe Tractor Operation and Daily Care 4th Edition, American Association for Industrial Materials
 Safety Guide for Vocational Trade, Industrial and Technology Education, S. S. P. S.
 Secrets of the Master Gardner, Organic Gardening
 Shrubs and Vines For American Gardens, Donald Wyman, The Macmillian Co.
 Simon and Schuster's Guide to Plants and Flowers, Simon and Schuster
 Step by Step Gardening Techniques, Garden Way Publishing
 Success With Houseplants,,Ed Hume
 Sunset Book- Bonsai, Culture and Care of Minature Trees, Lane Publishing
 Sunset Book Cactus and Succulents, Lane Publishing Co.
 Sunset Book- Culture and Care of Miniature Trees, Lane Books
 Sunset Book- Introduction to Basic Gardening, Lane Publishing Co.
 Sunset Book- Landscaping and Garden Remodeling, Lane Publishing Co.

Sunset Book- Lawns and Groundcovers, Lane Publishing Co.
 Sunset Book-Planning and Landscaping Hillside Homes, Lane Publishing
 Sunset Book- Entryways and Front Gardens, Lane Publishing Co.
 Sunset Book- Garden Pools , Fountains, and Waterfalls, Sunset Publishing Corp.
 Sunset Book- How to Grow Herbs, Lane Publishing
 Sympathy, A Floral Selection Guide, The John Henry Co.
 Taming and Training Your First Budgerigar, Teitler, T. F. H. Publications
 Taylor's 50 Best Herbs and Edible Flowers, Houghton Mifflin Co.
 Taylor's 50 Best Perennials for Sun, Houghton Mifflin Co.
 Taylor's 50 Best Shrubs , Houghton Mifflin Co.
 Taylor's 50 Best Trees, Francis Tenebaum, Houghton Mifflin Co.
 Taylor's Guide to Annuals, Houghton Mifflin Co.
 Taylor's Weekend Gardening Guides- The Winter Garden, Rita Buchanan, Houghton Mifflin Co.
 Terrariums and Other Nice Things, James E. Glick
 The Agriculture Dictionary, Ray V. Herren and Roy L. Donahue, Delmar Publishers
 The American Horticulture Society Encyclopedia of Gardening, Dorling Kindersley
 The American Horticulture Society-Pests and Diseases, Pippa Greenwood, Dorling Kindersley Publishers, Inc.
 The Back Pocket Guide to Ornamental Plants. Wesley Conner, Vocational Education Productions
 The Best of Fine Gardening- Garden Design Ideas, Taunton Press
 The Best of Fine Gardening- Garden Projects, Taunton Press
 The Best of Fine Gardening-Great Gardens, Taunton Press
 The Best of Fine Gardening- Plant Care, Taunton Press
 The Buchart Gardens, Buchart Garden
 The Butterfly Garden, Matthew Tekulsky, The Harvard Common Press
 The Cispus Experience, Cispus LearningCenter
 The Collectors Garden, Ken Druse, Clarkston Pottser
 The Complete Flower Arranger's Companion, Neophytou, Bacon, Morris, Hatala, Reeves, Cantwell Books
 The Complete Guide to Flower Arranging, Jane Parker, D. K.Publishing, Inc.
 The Gardener's Bug Book 4th Edition, Cynthia Westcott, Doubleday and Co., Inc.
 The Greenhouse Worker, Ohio Agriculture Education Curriculum Materials
 The Greenhouse, Western Printing o.
 The Job Hunting Handbook 4th Edition, Dahlstrom and Co.
 The Knud Nielsen Holland Dried Collection, Neilsen Co., Inc.
 The New Youth Entrepreneur, E. D. T. E. C.
 The New Perennial Garden, Noel Kingsbury, Henry Holt and Co.
 The Retail Florist Business 5th Edition, Behe, Pfahl, Hoffman, Interstate Publishers, Inc.
 The Ultimate Garden Designer, Tim Newbury, Ward Lock
 The Water Thrifty Garden, Stan DeFreitas, Taylor Publishing Co.
 Time Life Encyclopedia of Gardening, (22Volumes), Time Life Books
 Today's Flowers For All Occasions, The John Henry Co.
 Topiary Basics, Margherita Lombardy and Christina Zanetti, Sterling Publishing, Co.
 Trees and Shrubs for Temperate Climates 3rd Revised Edition, Gordon Courtwright,

Timber Press
Trees of Washington- Bulletin # 440, Washington State University Cooperative Extension
Tropicals, Gordon Courtright, Timber Press
Turf Management Handbook 2nd Edition, Sprague, The Interstate Printers and Publishers, Inc.
Turf Management, Musser, McGraw- Hill Book Co., Inc.
Vegetable Descriptive List, Northrup Seeds
Vegetables From Mother Nature, Future Crafts Today
Washington State University Weed Control Guide and Herbicide Index, College of Agriculture, Washington State University
Water in the Garden, James Allison, Tetra Press
Webster's New World Dictionary 2nd College Edition, Simon and Schuster
Wedding Flowers Vol. 10, The John Henry Co.
Weeds of the West 5th Edition, The Western Society of Weed Science in Cooperation with the Western Land-grant Universities Cooperative Extension Services
Western Home Landscaping- H. P. Books, Ken Smith, H. P. Books
Wildflowers Of the Western Cascades, Robert A. Ross and Henrietta L. Chambers, Timber Press
Working in Plant Science, Bishop, Chapman, Carter, McGraw- Hill Book Co., Inc.
Your Calf, Heather Smith Thomas, A Storey Publishing Book

Videos

25 Ways to Save Water in the Landscape, The Idea Bank
Beautiful and Waterwise, City of Seattle, Seattle Public Utilities
Careers in the Landscape-Horticulture Industry, The Idea Bank
Choose Horticulture, V. E. P. Video
Custom Landscaping, Morris Video
Elements of Pruning, V. E. P. Video
Exclusive Lawns, Morris Video
Eyewitness: Artic and Antarctic, D. K. Vision
Eyewitness: Desert, D. R. Vision
Eyewitness: Insect, D. K. Vision
Eyewitness: Jungle, D. K. Vision
Eyewitness: Ocean, D. K. Vision
Eyewitness: Pond and River, D. K. Vision
Fast and Effective Plan View Drawing Methods Vol. 1, The Idea Bank
Fast and Effective Plan View Drawing Methods Vol. 2, The Idea Bank
Fences and Gates, Home Time
Flower Arranging Part 4, RMI Media Productions
Flower Arranging Part 6, RMI Media Productions
Garden Pruning, Morris Video
Global Markets: Big Opportunities for Small. Companies, U. S. D. A.
Grafting Apple Trees, RMI Media Productions
How to Hardscape Your Yard, Ed Hume

How to Select and Safely Use Herbicides, The Idea Bank
Intro Bonsai
Landscape Equipment Safety: Large Equipment “Your Work: Keeping it Safe”, U. C. L.
A. - Losh Program
On Target: Lets Get Started With Safety, Atkinson Construction, Provideo
Plant Hunting in a Lost World- Vol. 1, The Idea Bank
Plant Hunting in a Lost World- Vol. 2, The Idea Bank
Plant Selection, V. E. P. Video
Preserving Flowers and Foliage, RMI Productions
Principles of Wildlife Conservation, Oregon State University
Professional’s Guide to Lawnmower Safety, Siegel and Associates
Solving Landscaping Problems, Home Video Library
Spirits of the Rainforest, The Discovery Video Library
Success With Bedding Plants, O. A. S. C.
Successful Customer Relations- Vol. 1, The Idea Bank
Successful Customer Relations Vol. 2, The Idea Bank
Surfina, Jackson and Perkins
The Art of Flower Arranging Part 1: Basics of Arranging, Morris Video
The Art of Flower Arranging Part 2: Material Selection and Arrangement Styles, Morris
Video
The Art of Landscaping, Design, V. E. P. Video
The Employment Interview for High School Students, Johnson/ Rudolph Education
Resources
The Hanging Baskets of Victoria, Max Flex
The Victory Garden- Vegetable Video, Crown Vider

ENVIRONMENTAL HORTICULTURE
Leadership and Vocational Plan

LEADERSHIP AREAS	STUDENTS WILL:	VOCATIONAL ASPECTS	INTEGRATED INTO CURRICULUM
Area 1: Introduction to Leadership Students will develop an understanding and demonstrate the knowledge for the purpose of student leadership in vocational education.	*Discuss the purpose of developing personal and group leadership skills *Determine the skills that will help me function in family, community and work settings.	*Employees need leadership and teamwork skills to maintain employment and to promote within companies	*Participate in FFA and other leadership activities *Demonstrate responsibility, accountability and initiative in classroom activities
Area 2: Personal Qualities Students will demonstrate personal qualities necessary to function in a family, community and work setting.	*Determine the importance of values and goals *Identify short and long term goals	*Strategies for educational goals a successful career	*Complete plan for completion of secondary education *Personal qualities to be successful in the Horticultural or Environmental career fields
Area 3: Interpersonal Skills Students will become aware of and demonstrate interpersonal skills needed to function in a global society	*Demonstrate how to work cooperatively with others *Provide for positive role models in actions, behaviors and attitudes in stressful situations	*Recognition of the global importance of Horticultural & Environmental fields	*Research on the effects of the environment on the individual *Recognize the importance of knowledge of nature for an individual and his life
Area 4: Communication Skills Students will be able to communicate effectively.	*Students will actively “listen” and carry out signed and oral instructions *Will prepare formal and informal written materials	*Identify specific species of plant materials *Identify pests and biological controls	*Customer service skills *Complete written evaluations *Prepare inventory & keep a log *Troubleshoot problems with plant materials
Area 5: Community Students will develop an understanding and demonstrate a knowledge of how to work effectively in the community	*Recognize the values of the workplace	*Participate in a working nursery greenhouse setting *Work with community and wholesale nurseries	*Field trips to local businesses *Attend nationally recognized flower shows

<p>Area 6: Personal and Tech Resources Students will be able to utilize personal and technological resources to make decisions for the family, community and workplace</p>	<p>*Research and identify the use of technological tools</p>	<p>*Train on various equipment *Repair greenhouses & irrigation systems *Landscape design & drafting</p>	<p>*Hands on training *Work with updated equipment *Use drafting tools *Research various techniques of design & tools</p>
<p>Area 7: Group Dynamics Students will demonstrate organizational skills in large and small group situations</p>	<p>*Understand team skills *Develop group facilitation skills</p>	<p>*Student club activities *Landscape projects to be completed within a specific period of time</p>	<p>*Landscape design project and implementation in teams *Market landscape materials w/computers, newspapers & fliers</p>
<p>Area 8: Employability Skills Students will understand and demonstrate effective employability skills</p>		<p>*Importance of attendance & promptness *Importance of teamwork & effort in the workplace *Reliability in an employee</p>	<p>*Careers in the Horticulture field *Prepare resume *Prepare cover letter *Practice interviews *Press for success *Prepare thank you letter</p>