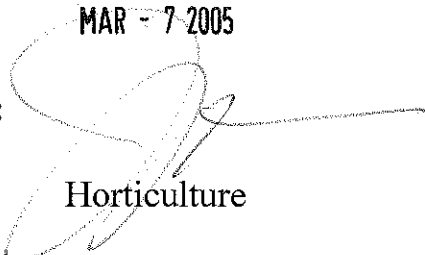


BAA Framework - Horticulture 11

District Name: Abbotsford
District Number: 034
Developed by: S.L. Colby
Date Developed: January 13, 2005
School Name: Yale Secondary
Principle's Name: Glen Roger
Board/ Authority Approval Date: MAR - 7 2005
Board/ Authority Approval Signature: 
Course Name: Horticulture
Grade Level of Course: 11
Number of Course Credits: 4
Number of Hours of Instruction: 120
Prerequisite(s): Science 10

Special Training, Facilities or Equipment Required: Garden/ Landscape Experience, Greenhouse facility

Course fee: \$15.00

Course Synopsis:

Horticulture 11 provides hands on learning experience for students interested in developing job-related skills in the agricultural and horticultural sector. Students will gain knowledge and skills in greenhouse operation, landscaping, garden development and garden maintenance. Students will also learn theory relating to many aspects of horticulture, such as: soil composition and fertility, importance of plants to humans, plant hardiness, botany (plant development, parts and classifications) and plant propagation.

Practical and project work are major components of this course. Students will complete 3 projects relating to topics covered and will participate daily in development and nurturing of nursery stock in preparation for a culminating plant marketing activity. This activity provides an opportunity for students to develop skill in working with the public while sharing their recently acquired knowledge with community members.

Rationale:

The Agriculture/ Horticulture sector is a major part of the local economy and many students are connected to, or are interested in pursuing employment in this area. The University College of the Fraser Valley and Kwantlen College have Horticulture/Agriculture programs which draw students from our area as well. This course teaches fundamental skills and knowledge which would be beneficial to students pursuing this field. The facility required to teach this class was built in 1996 by our school's Construction 12 class and has been in use for most of that time. It should be noted that this class is of added value to the special education students, as learning about horticulture occurs on many levels, according to the abilities of the individual. Students participating in this class will gain appreciation for the benefits of working outdoors, developing and maintaining green areas on the school grounds, and the value of natural environment to wild life and to humans.

Horticulture 11

Unit	Unit Title	Number of Hours
Unit 1	Introduction to Horticulture	10
Unit 2	The Practice of Growing	15
Unit 3	About Plants	10
Unit 4	Growing Plants Indoors	10
Unit 5	Topics in Horticulture	15
	Practical & Project Work	60
Total Hours of Instruction		120

Assessment:

Tests & quizzes	30%
Projects, reports & presentations	30%
Practical work	40%

Unit 1 Introduction to Horticulture

Theory 10 hours

Practical 5 hours

Learning Outcomes:

It is expected that students will:

- identify 7 divisions of horticulture (5 professional, 2 recreational)
- identify important factors of the value of horticultural activities to society
- list key elements regarding the importance of plants to humans
- know the significance of plant hardiness zones and their effect on horticultural activity
- identify 5 elements of climate
- explain natural factors which modify climate
- explain the effects on climate caused by humans
- demonstrate knowledge of microclimates and their effect on plant growth
- identify and demonstrate safe use of various tools and greenhouse equipment
- demonstrate ability to work cooperatively in small and large groups

Instructional Component:

Notes, Lectures, Library Research, Teacher Demonstrations

Practical Work:

Students will demonstrate appropriate skills and attitudes while participating in organizing and preparing greenhouse equipment for use.

Assessment:

Horticulture & Climate Quiz, Research Project, Gardening article review and presentation.

Daily Work Marks

- work ethic
- skills and knowledge
- group skills

Unit exam

Unit 2 The Practice of Growing

Theory 15 hours

Practical 15 hours

Learning Outcomes:

It is expected that students will:

- develop knowledge relating to soil and growing medium
- demonstrate knowledge of key aspects of soil composition
- demonstrate knowledge of nutrients and how they are used by plants
- demonstrate knowledge of various soil amendments and techniques for application
- develop and demonstrate skill in asexual propagation and techniques; cuttings, division, layering and grafting
- demonstrate knowledge of important aspects of asexual propagation; advantages & disadvantages
- demonstrate knowledge of key aspects of sexual propagation: seed formation, germination, seed variability and seed production

Instructional Component:

Notes, Lectures, Teacher Demonstrations

Practical Work:

Students will develop knowledge and skills by participating in nursery stock propagation activities developing new plants by asexual and sexual techniques.

Assessment:

Soil Quiz, Propagation Quiz. Gardening article review

Daily work marks

- work ethic
- effective application of propagation techniques
- group skill development

Unit 3 About Plants

Theory 10 hours

Practical 10 hours

Learning Objectives:

It is expected that students will:

- list key aspects of plant classification by stems, leaves, flowers, life cycles and uses
- list 5 categories Horticulturalists use to classify plants by use
- demonstrate knowledge of growth and development of various plant parts; leaves, stems, buds and roots
- demonstrate knowledge of flower types and structures
- identify and explain various physiological processes in plants: photosynthesis, respiration, translocation, absorption and transpiration
- demonstrate knowledge of planting techniques and practices for a variety of plants: vegetables, bulbs, annuals and perennials

Instructional Component:

Notes, Video, Lectures

Practical Work:

Students will continue to be involved in plant propagation and nurturing, garden maintenance and preparation for planting.

Assessment:

Classification Quiz, Plant Anatomy poster and presentation, Plant Physiology Quiz, Gardening article review and presentation

Daily Work Marks

- work ethic
- effective application of learned planting techniques
- improvement in group skills

Unit exam

Unit 4 Growing Plants Indoors

Theory 10 hours

Practical 15 hours

Learning Outcomes:

It is expected that students will:

- identify various types of greenhouse
- demonstrate knowledge of materials used in greenhouse construction
- identify and construct a small cold frame and discuss the advantages of its use
- demonstrate knowledge of factors affecting greenhouse location
- demonstrate knowledge of internal environmental factors to be controlled in a greenhouse: humidity, temperature, light, water, fertilizer, CO₂
- demonstrate knowledge of various greenhouse layouts
- demonstrate knowledge of common house plant species and the environmental requirements of each
- list common household pests and the related treatments
- demonstrate skills required to maintain nursery stock in greenhouse areas

Instructional Component:

Notes, Library Research, Teacher Demonstrations

Practical Work:

Students will continue to develop nursery stock in preparation for a plant sale. Students will participate in the construction of a small microclimate (cold frame) and will maintain and develop existing gardens.

Assessment:

Gardening article review and presentation, Microclimate Project, Hanging Basket Project, Greenhouse environment and pests quiz
Daily work marks

- work ethic
- safe use of common tools in the construction of micro-climate project.

Unit exam

Unit 5 Topics in Horticulture

Theory 15 hours

Practical 15 hours

Learning Outcomes:

It is expected that students will:

- demonstrate knowledge of landscape principles, needs analysis, site analysis, preliminary drawings, public area design, private area design and hardscaping
- demonstrate knowledge of common herb gardening techniques
- demonstrate knowledge of pruning practices in common garden plants and trees
- list key factors of organic horticulture
- demonstrate the ability to create a terrarium garden using a large glass bottle and suitable plant material
- demonstrate knowledge of native plant species and their uses in a garden
- demonstrate cooperative effort in plant marketing activities

Instructional Component:

Notes, Lectures, Teacher Demonstrations, Guest Speaker-native plants

Practical Work:

Students will participate in the marketing of plants propagated during the class (preparation for sale, promotion and sale of the plants and post sale activities) They will continue to maintain and develop gardens and landscapes in order to foster a healthy and diverse ecosystem in the greenhouse area and around the school yard.

Assessment:

Gardening article review and presentation, Terrarium Project, Landscape Quiz, Native Plant.

Quiz

Daily work marks

Unit exam

Learning Resources:

Aquaah, G. (1999). *Horticulture; Principles and practice*. NJ. Prentice-Hall Inc.

Beck, A., Binetti, M. (2000). *Perennials for british columbia*. Vancouver: BC. Lone Pin Publishing.

Evergreen. (2002). *Learning grounds; Resource guide 2002*.

Ministry of Skills & Training. (1997). *Agriculture 11; Hortuculture unit*.

Rice L.W., Rice Robert, P. (1997). *Practical horticulture*. NJ. Prentice Hall, Inc.