

Ohio Horticulture Pathway Course Suggested Reference List

Agricultural & Environmental Systems Career
Field

Course Reference Materials

Introduction

This project was born to help Ohio's Agricultural Education Instructors teaching courses out of the Horticulture Pathway. By preparing a list of common reference materials used by Ohio's Horticulture Instructors, this will close the gap between the benchmarks and indicators that students are responsible for demonstrating on end of course assessments and the materials available to teach them.

This final list of materials was compiled by Ohio Agricultural Education Instructors at the 2012 Horticulture Workshop along with the faculty at Clark State Community College. Please contact ODE Consultant Kevin Williams, kevin.williams@education.ohio.gov to make any additions or corrections to this list.

We will continue to make additions to this list as more reference materials become available.

Agricultural and Environmental Systems Career Field Pathways and Course Structure

Courses in Horticulture (A5)

PATHWAY COURSES		SUBJECT CODE
Plant and Horticultural Science		010155
Greenhouse and Nursery Management		010610
Landscape Design and Build		010630
Turf Science & Management		010635
ELECTIVES		SUBJECT CODE
Animal and Plant Biotechnology ²		012010
Communications and Leadership		010110

Plant and Horticultural Science

Subject Code: 010155

This first course in the pathway focuses on the broad knowledge and skills required to research, develop, produce and market agricultural, horticultural, and native plants and plant products. Students will apply principals and practices of plant physiology and anatomy, plant protection and health, reproductive biology in plants, influences in bioengineering, plant nutrition and disorders. Environmental aspects of irrigation, chemical application, soils, and pest management will be studied and applied. Projects and activities will enable students to develop communication, leadership, and business management skills.

Greenhouse and Nursery Management

Subject Code: 010610

The course will apply principles of science, engineering, and business to support the sustainable propagation and production of plants in a commercial nursery or greenhouse facility. Management of soil/media, water and nutrient distribution, lighting, ventilation and temperature, and pests will be learned and applied. Students will demonstrate knowledge of propagation methods, plant health, nutrition, and growth stimulation. Students will develop successful business, communication, marketing, and sales strategies for use in the greenhouse and nursery industries.

Landscape Design and Build

Subject Code: 010630

Students will develop skills in landscape planning, design, estimation and installation. Principles and elements of design and engineering will be emphasized. Students will design full-featured landscapes using computer-aided technology, construct hardscapes and install artificial lighting and water systems. Environmental effects of a landscape will be evaluated and eco-friendly techniques applied. Students will employ communication, business, and management strategies appropriate for the industry.

Turf Science and Management

Subject Code: 010635

The course will apply principles of science, engineering, and business to support the establishment and maintenance of residential, athletic and recreational turf. Instruction in establishment, care, production, and marketing of turf grass along with safe operation and maintenance of specialized equipment will be provided. Environmental awareness and conservation practices will be applied. Students will employ communication, business, and management strategies appropriate for the industry.

Animal and Plant Biotechnology

Subject Code: 012010

Learners will apply principles of chemistry, microbiology and genetics to plant and animal research and product development. They will describe the importance of biotechnology in society, and analyze the issues that have affected agricultural biotechnology. Students will apply genetic principals to determine genotypes and phenotypes. Students will describe the parts and functions of animal and plant cells and their importance in biochemistry.

Communications and Leadership

Subject Code: 010110

Students will analyze attributes and capabilities of those in leadership positions and develop their communication and leadership skills in authentic situations. The course prepares students to apply journalistic, communication and broadcasting principles to the development, production, and transmittal of agricultural and environmental systems information.

Course: Plant & Horticulture Science
Subject Code: 010155

Text

“Introduction to Horticulture” - (Interstate) - <http://www.biblio.com/books/514423207.html>

“Introductory to Horticulture” – (Delmar) -
http://www.delmarlearning.com/browse_product_detail.aspx?catid=19704&isbn=1401889522

Plant & Soil Science Textbook (recommended by CASE) - <http://case4learning.org/>

Lesson Plans

Online Lesson Plan – www.mycart.com

Industry Credentials & Certification

Ohio Certified Nursery Technician (OCNT) Manuals -
<http://www.onla.org/index.cfm/fuseaction/home.showpage/pageID/20/index.htm>

Industry Supported Businesses and Organizations

Ohio Landscape Association - <http://www.ohiolandscapers.org/>

Ohio Nursery Landscape Association - <http://www.onla.org/>

Ohio Produce Growers & Marketing Association – www.opgma.org

OFA – www.ofa.org

PLANET - <http://www.landcarenetwork.org/>

Course: Greenhouse & Nursery Management
Subject Code: 010610

Text

“The Commercial Greenhouse” – (Delmar) -

http://www.delmarlearning.com/browse_product_detail.aspx?catid=30600&isbn=1418030791

“Greenhouse Management” Textbook - Dr. Robert McMahon OSU/ATI -

<http://www.amazon.com/Introduction-Greenhouse-Production-Robert-McMahon/dp/1565020154>

Industry Credentials and Certification

Ohio Department of Agriculture (ODA) Pesticide Licensure Material -

http://www.agri.ohio.gov/apps/odaprs/pest_studyat/pest_study.aspx

Ohio Certified Nursery Technician (OCNT) Materials -

<http://www.onla.org/index.cfm/fuseaction/home.showpage/pageID/20/index.htm>

Industry Supported Businesses and Organizations

Ohio Nursery Landscape Association - <http://www.onla.org/>

Ohio Produce Growers & Marketing Association – www.opgma.org

OFA – www.ofa.org

Course: Landscape Design & Build
Subject Code: 010630

Text

Horticopia Tree & Plant Software - <http://www.horticopia.com/>

“Landscape Construction” – Delmar -

http://www.delmarlearning.com/browse_product_detail.aspx?catID=12559&ISBN=140184281X

Landscape Lighting – Davey Tree Lesson Plans - <http://www.davey.com/>

“Landscaping Principles and Practices Manual” -

http://www.delmarlearning.com/browse_product_detail.aspx?catid=11639

LS Training - <http://www.lstraining.com/>

Ohio Career Development Event (CDE) Plant ID List -

http://ohioffa.org/cms/index.php?option=com_content&view=category&layout=blog&id=91&Itemid=100

OSU Extension - Ohio Line - <http://ohioline.osu.edu/>

“Segmental paver Installation” – Pave Tech - <http://www.pavetech.com/>

Technology Education - www.teched101.com

Industry Credentials and Certification

Bobcat Safety - <http://www.bobcat.com/trainings/>

“Design & Estimate” – PLANET – www.landcarenetwork.org

“Landscape Construction” – Unit 7 OCNT Manual – Landscape Technician, Math for Horticulture -

<http://www.onla.org/index.cfm/fuseaction/home.showpage/pageID/20/index.htm>

“Survey” – PLANET – Training Manual for Installation Technicians –

www.landcarenetwork.org

Industry Supported Businesses and Organizations

Columbus Landscape Association - <http://columbuslandscape.org/>

Irrigation Foundation - <http://www.irrigation.org/irrigationfoundation/>

OFA – www.ofa.org

Ohio Landscape Association - <http://www.ohiolandscapers.org/>

Ohio Nursery Landscape Association – www.onla.org

PLANET - <http://www.landcarenetwork.org/>

Wolf Creek Company - <http://www.wolfcreekcompany.com/>

Course: Turf Science & Management
Subject Code: 010635

Text

North Carolina State University Turfgrass Pest Management
www.turffiles.ncsu.edu/PDFFiles/004041/ag348.pdf

Occupational Safety & Health Administration (OSHA) - <http://www.osha.gov/>

Turf Fertility – Math for Horticulture Book - <http://estore.osu-extension.org/productdetails.cfm?sku=E025LM>

Turfgrass Lessons: <http://Turfgrass.cas.psu.edu/>

Industry Credentials and Certification

Equipment Safety Maintenance Textbook (OCNT) -
<http://www.onla.org/index.cfm/fuseaction/home.showpage/pageID/23/index.htm>

National Turfgrass Evaluation Program: www.ntep.org

Pest Management – Ohio Pesticide Core Test Review – AgriOhio.gov
www.agri.ohio.gov/apps/odaprs/pest_study/mat/pest_study.aspx

Pest Management – Scott’s Training Institute (FREE) - <http://www.scottssti.com/>

PLANET - Safety Training Manual
<http://www.landcarenetwork.org/riskmgmt/training.cfm>

University of Georgia - Turf Grass Certification -
<http://www.georgiacenter.uga.edu/ppd/courses/turfgrass-management/principles-turfgrass-management>

Industry Supported Businesses and Organizations

Golf Course Superintendent's Association of America: www.gcsaa.org

Green Velvet Sod Farm: www.greenvelvet.com

Irrigation – Hunter Irrigation Manuals – www.hunterindustries.com

OFA – www.ofa.org

Ohio Nursery Landscape Association – www.onla.org

Ohio Sports Turf Managers Association: www.ostma.org

Ohio Turfgrass Foundation: www.ohioturfgrass.org

Professional Grounds Management Society - <http://www.pgms.org/>

Turf Magazine: www.turfmagazine.com