



# Advanced Horticulture

Career Cluster	Agriculture, Food and Natural Resources
Course Code	18053
Prerequisite(s)	Recommended Intro to AFNR, Fundamental Plant Science AND/OR Fundamental Horticulture
Credit	.5 or 1
Program of Study and Sequence	Fundamental Horticulture – <b>Advanced Horticulture</b> – Ag Biotechnology
Student Organization	National FFA Organization
Coordinating Work-Based Learning	Job shadowing, mentoring, internships, entrepreneurship, service learning, workplace tours, apprenticeship, school-based enterprises, Supervised Agricultural Experience (SAE)
Industry Certifications	OSHA 10 Hour Safety Certification (General Industry), National Career Readiness Certificate (NCRC), Private Pesticide Applicator Certification, Commercial Pesticide Applicator Certification
Dual Credit or Dual Enrollment	None
Teacher Certification	Agriculture, Food and Natural Resources Cluster Endorsement; Plant Systems Pathway Endorsement; *Agriculture Education
Resources	

## Course Description:

Advanced Horticulture is designed for instructors to customize the curriculum to local industry needs. Standards can be met by utilizing one or more of the following horticulture sectors: Landscape Design, Floriculture and/or Greenhouse Management. Topics include identification, use and management of equipment and materials, as well as managing plant growth and maintaining plants and equipment. Employment skills are an additional emphasis. All three of these industry sectors require skilled, educated employees. Classroom and laboratory content will be enhanced by utilizing appropriate equipment and technology. Mathematics, (geometry), science (physical science, biology, Chemistry), English and human relations skills will be reinforced in the course. Opportunities for application of clinical and leadership skills are provided by participation in FFA through activities, conference and skills competitions. Each student will be expected to maintain a Supervised Agricultural Experience (SAE) program.

## Program of Study Application

Advanced Horticulture is a second pathway course in the Agriculture, Food and Natural Resources Program of Study, Plant Systems pathway. Advanced Horticulture is preceded by a Fundamental Horticulture and would be followed by Ag Biotechnology.

**Course Standards**

**ADVH 1 Identify plants, equipment and materials utilized in the horticulture industry.**

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Two Skill/Concept	ADVH 1.1 Identify and categorize plants by their purpose.	<ul style="list-style-type: none"> <li>• floral plants</li> <li>• landscape plants</li> <li>• house plants</li> <li>• bedding plants</li> </ul>
One Recall	ADVH 1.2 Identify tools and equipment used in horticultural industries.	<ul style="list-style-type: none"> <li>• Floral tools</li> <li>• Landscaping tools and equipment</li> <li>• Greenhouse systems, benches, lights, etc.</li> </ul>
One Recall	ADVH 1.3 Identify supplies and materials used in horticulture.	<ul style="list-style-type: none"> <li>• Floriculture materials &amp; containers</li> <li>• Hardscapes</li> <li>• Growing media, containers</li> </ul>

**Notes**

**ADVH 2 Develop and implement a crop management plan.**

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Four Extended Thinking	ADVH 2.1 Apply knowledge of plant anatomy and the functions of plant structures to activities associated with plant systems.	<ul style="list-style-type: none"> <li>Identify and summarize functions of different plant parts</li> </ul>
Three Strategic Thinking	ADVH 2.2 Determine the influence of environmental factors on plants.	<ul style="list-style-type: none"> <li>Light</li> <li>Air temperature</li> <li>Water</li> </ul>
Three Strategic Thinking	ADVH 2.3 Develop and implement a plan for meeting plant nutrient needs.	<ul style="list-style-type: none"> <li>Growing media</li> <li>Fertilization</li> </ul>
Four Extended Thinking	ADVH 2.4 Apply plant management practices.	<ul style="list-style-type: none"> <li>Trimming/pruning</li> <li>IPM</li> <li>Demonstrate care and handling of cut flowers</li> </ul>
Two Skill/Concept	ADVH 2.5 Explain principles of specialized growing techniques.	<ul style="list-style-type: none"> <li>hydroponics</li> <li>aquaponics</li> <li>sustainable methods</li> <li>Genetically Modified Organisms (GMO)</li> <li>Biotechnology</li> <li>types of propagation</li> </ul>

**Notes**

**ADVH 3 Apply principles of design in plant systems to enhance an environment.**

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Three Strategic Thinking	ADVH 3.1 Select plants based on quality and function.	<ul style="list-style-type: none"> <li>Summarize the installation and maintenance of turf grass</li> </ul>
Four Extended Thinking	ADVH 3.2 Create designs using plants.	<ul style="list-style-type: none"> <li>Floral arrangements</li> <li>Landscape designs</li> </ul>
Four Extended Thinking	ADVH 3.3 Demonstrate proper use of plants in their environment	<ul style="list-style-type: none"> <li>focal and filler plants in floriculture</li> <li>heat tolerant and shade plants in landscape design</li> </ul>
Two Skill/Concept	ADVH 3.4 Evaluate a design and provide feedback and suggestions for improvement.	<ul style="list-style-type: none"> <li>Evaluate a floral arrangement</li> <li>Evaluate a landscape or landscape plan</li> </ul>

**Notes**

Career Cluster: AFNR

Course: Advanced Horticulture

**ADVH 4 Develop employability skills related to the Plant Systems Pathway.**

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Two Develop	ADVH 4.1 Develop soft skills to enhance employability.	

**Notes**