COURSE GUIDE: POWER STANDARDS & LEARNING TARGETS

A Tradition of Pride

HORTICULTURE/LANDSCAPE MANAGEMENT (9-12)

Students will apply knowledge of plant classification, anatomy, and physiology to the production and management of plants.	Students will prepare and implement a plant management plan that addresses the influence of environmental factors, nutrients and soil on plant growth.	Students will propagate, culture and harvest plants	Students will employ elements of design to enhance an environment.

LEARNING TARGET DESCRIPTIONS

- ☐ Level 3 learning targets **demonstrate understanding of foundational and complex knowledge.**
- ☐ Level 2 learning targets **demonstrate understanding of foundational knowledge.**

POWER STANDARD:	LEARNING TARGET: STUDENTS WILL ...
Students will apply knowledge of plant classification, anatomy, and physiology to the production and management of plants.	**Level 3**
	❑ Apply knowledge of plant anatomy and the functions of plant structures to activities associated with plant systems
	❑ Apply the knowledge of seed and fruit structures to plant culture and use
	❑ Identify the plant responses to plant growth regulators and different forms of tropism
	❑ Select plant growth regulators to produce desired response from plants
	Level 2
	❑ Classify agricultural plants according to taxonomy systems
	❑ Classify agricultural plants according to the hierarchical classification system, life cycles, plant use and as monocotyledons or dicotyledons
	❑ Identify root tissues and explain the pathway of water and nutrients into and through the root tissues
	❑ Describe and apply the processes of translocation to the management of plants
	❑ Identify the different types of flowers and flower forms and apply the

	knowledge of flower structure to plant breeding, production and use
POWER STANDARD	**LEARNING TARGET: STUDENTS WILL ...**
Students will prepare and implement a plant management plan that addresses the influence of environmental factors, nutrients and soil on plant growth.	**Level 3**
	❑ Determine the influence of environmental factors on plant growth
	❑ Prepare growing media for use in plant systems
	❑ Develop and implement a fertilization plan for specific plants, field crops and or greenhouse crops
	Level 2
	❑ Describe plant responses to light color, intensity and duration
	❑ Design implement and evaluate a plant to maintain optimal conditions for plant growth
	❑ Describe the physical characteristics of growing media and explain the influence they have on plant growth
POWER STANDARD	**LEARNING TARGET: STUDENTS WILL ...**
Students will propagate, culture and harvest plants.	**Level 3**
	❑ Demonstrate plant propagation techniques
	❑ Conduct tests associated with seed germination rates, viability and vigor
	❑ Handle seed to overcome seed dormancy mechanisms and to maintain seed viability and vigor
	❑ Evaluate the performance of genetically modified crops
	❑ Inspect propagation material for evidence of pests or disease
	Level 2
	❑ Demonstrate asuexual propagation practices, based on productivity and efficiency
	❑ Define micropropagation, discuss advantages associated with the practice and outline the four main stages of the process

	❑ Describe optimal conditions for asexual propagation and demonstrate techniques used to propagate plants by cuttings, division, separation and layering
	❑ Give examples of the risks and advantages associated with genetically modified plants
	❑ Explain the reasons for controlling plant growth
POWER STANDARD:	**LEARNING TARGET: STUDENTS WILL ...**
Students will employ elements of design to enhance an environment.	**Level 3**
	❑ Discuss principles of design that form the basis of artistic impression
	❑ Create and implement designs by following established principles of art
	Level 2
	❑ Define design and identity design elements
	❑ Explain design elements of line, form, texture and color and express the visual effect each has on the viewer

Notes:

- The number(s) behind the course title indicate the grade(s) the course is offered.
- (L) = Omro Laude Course