

## Technical Skills Assessment

### Industry Area: Horticulture/ Sustainable Agriculture

**Objective:** By completing the Technical Skills Assessment, students will demonstrate technical, scientific and practical knowledge and skills that align with horticulture and sustainable agriculture industry standards.

**Instructions:** Throughout the Sustainable Agriculture Program of Study at MHS (Intro to Sustainable Agriculture and Urban Farming), you will collect a number of assignments, projects, and portfolios of the work you have completed. This work will be put into a large portfolio called the Technical Skills Assessment (TSA). The TSA is a requirement to program completion. Below is the scoring guide and expectations for what should be included in the TSA. Locate the section, "... might look like/ sound like." You must find an example of your work that matches each bullet point for this section. Each example provided in your TSA portfolio will be rated based on the scale described below, "exceeds, meets, or not yet." The TSA portfolio will provide you feedback on and reinforcement of the skills you have learned. You will be able to use this portfolio to prove a skill set during job interviews, which helps make you stand out among thousands of other applicants. This will also count as a portion of your Capstone Project grade.

**Use this guide when determining the rating for each of the skills**

<p><b>EXCEEDS = Deep understanding of skill or content. Students can demonstrate...</b></p> <ul style="list-style-type: none"> <li>- One solid, high-level example (can explain the <b>what</b> and the <b>why</b>)</li> <li>- OR, an example of the same skill applied in multiple contexts</li> </ul> <p><b>MEETS = Basic understanding of skill or content. Students can demonstrate...</b></p> <ul style="list-style-type: none"> <li>- One example of the skill at a basic level (can explain the <b>what</b> – but maybe not the <b>why</b>)</li> </ul> <p><b>NOT YET = Understanding of content or skill not yet evident</b></p> <ul style="list-style-type: none"> <li>- No examples, unable to address skill</li> </ul>
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RATING	KNOWLEDGE/ SKILLS	...MIGHT LOOK LIKE/ SOUND LIKE	NOTES
<input type="checkbox"/> Exceeds <input type="checkbox"/> Meets <input type="checkbox"/> Not Yet	<p><b>Plant 01.</b> Apply knowledge of plant classification, plant anatomy and plant physiology to the production and management of plants</p>	<ul style="list-style-type: none"> <li>▪ Complete student portfolio of classification of agricultural plants according to taxonomy systems (i.e. family, genus, and species of vegetables, fruits, and berries)</li> <li>▪ Visually identify agriculturally important plants by common names with 70% accuracy</li> <li>▪ Visually identify components, types and functions of plant roots and stems with 70% accuracy</li> <li>▪ Complete leaf collection and notebook of leaf morphology and the functions of leaves</li> <li>▪ Explain the process of translocation and photosynthesis</li> </ul>	
<input type="checkbox"/> Exceeds <input type="checkbox"/> Meets <input type="checkbox"/> Not Yet	<p><b>Plant 02.</b> Prepare a plant management plan that addresses the</p>	<ul style="list-style-type: none"> <li>▪ Determine and describe optimal air temperature and water conditions for plant metabolism and growth</li> </ul>	

	influence of environmental factors, nutrients and soil on plant growth	<ul style="list-style-type: none"> <li>▪ Identify soil types and textures by accurately performing a ribbon test and a “shake test”</li> <li>▪ Accurately prepare growing media for specific plants or crops</li> <li>▪ Complete soil nutrient test, analysis and recommendations that address optimal NPK and pH</li> <li>▪ Determine the effect of cover crop, nutrient and pH levels, crop rotation, companion planting on soil and plant health</li> <li>▪ Complete crop planning portfolio with planting calendar, plant varieties, and a scaled map</li> <li>▪ Implement plant management plan and complete a reflection of the plan</li> </ul>	
<input type="checkbox"/> Exceeds <input type="checkbox"/> Meets <input type="checkbox"/> Not Yet	<b>Plant 03.</b> Propagate, culture and harvest plants	<ul style="list-style-type: none"> <li>▪ Demonstrate sexual and asexual plant propagation techniques in class – culture plants through cuttings, division, separation, layering, grafting and seed germination</li> <li>▪ Demonstrate proper planting procedures and post-planting care</li> <li>▪ Complete an experiment on the impact of environmental conditions on seed germination using the scientific method</li> <li>▪ Demonstrate seed saving and complete seed collection notebook that describes sexual reproduction of plants</li> <li>▪ Maintain plant propagation crop records</li> </ul>	
<input type="checkbox"/> Exceeds <input type="checkbox"/> Meets <input type="checkbox"/> Not Yet	<b>Plant 06.02.01</b> Care and maintain nursery stock/horticulture crops to the point of sale	<ul style="list-style-type: none"> <li>▪ Student plant collection meets sale quality that is free of pest and disease or any other environmental damage. Student plant collection meets quality standard of being planted in the center of the container, includes plant identification tag and has soil line no less than ½ inch from the top of the container.</li> <li>▪ Develop a basic business plan including planning, marketing, budgeting/finance and management.</li> <li>▪ Develop an effective retail display to include; visual balance and appealing color, compatible plantings, calculation and display of retail cost, and plant identification tags</li> </ul>	
<input type="checkbox"/> Exceeds <input type="checkbox"/> Meets <input type="checkbox"/> Not Yet	<b>Plant 06.03.</b> Identify basic principles of pest management and control	<ul style="list-style-type: none"> <li>▪ Visual identification of horticulture pests with 70% accuracy</li> <li>▪ Accurately diagnose pest disorder and recommend control with 70% accuracy</li> </ul>	
<input type="checkbox"/> Exceeds <input type="checkbox"/> Meets <input type="checkbox"/> Not Yet	<b>Plant 06.07.06</b> In class safely operate, repair, and maintain tools, equipment, and	<ul style="list-style-type: none"> <li>▪ Demonstrate safe operation, maintenance and repair of tools and equipment through visual observation</li> </ul>	

	facilities found in the horticulture industry		
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