

BIG IDEAS

Design for the life cycle includes consideration of social and **environmental impacts**.

Personal design interests require the evaluation and refinement of skills.

Tools and technologies can be adapted for specific purposes.

Learning Standards

Curricular Competencies	Content
<p><i>Students are expected to be able to do the following:</i></p> <p>Applied Design</p> <p><i>Understanding context</i></p> <ul style="list-style-type: none"> Engage in a period of user-centred research and empathetic observation to understand design opportunities <p><i>Defining</i></p> <ul style="list-style-type: none"> Establish a point of view for a chosen design opportunity Identify potential users, intended impact, and possible unintended negative consequences Make decisions about premises and constraints that define the design space, and develop criteria for success Determine whether activity is collaborative or self-directed <p><i>Ideating</i></p> <ul style="list-style-type: none"> Critically analyze how competing social, ethical, and sustainability considerations impact design Generate ideas and add to others' ideas to create possibilities, and prioritize them for prototyping Evaluate suitability of possibilities according to success criteria and constraints Work with users throughout the design process <p><i>Prototyping</i></p> <ul style="list-style-type: none"> Identify, critique, and use a variety of sources of inspiration Choose an appropriate form, scale, and level of detail for prototyping, and plan procedures 	<p><i>Students are expected to know the following:</i></p> <ul style="list-style-type: none"> complex woodworking and design creation and use of working pictorial and written plans wood-related materials selection of wood based on its characteristics and properties layout and use of materials to minimize waste and conserve material operation, maintenance, and adjustment of stationary power equipment types and purposes of joinery analysis and identification of defects in wood methods for preparing wood surfaces for application of finish identification and analysis of building codes for applicable projects sequence of steps when working with power equipment sharpening procedures types, purposes, and application of finishes design for the life cycle ethics of cultural appropriation in design process future career options and opportunities in woodworking contexts interpersonal and consultation skills to interact with clients

Learning Standards (continued)

Curricular Competencies	Content
<ul style="list-style-type: none"> • Analyze the design for the life cycle and evaluate its impacts • Visualize and construct prototypes, making changes to tools, materials, and procedures as needed • Record iterations of prototyping <p>Testing</p> <ul style="list-style-type: none"> • Identify and communicate with sources of feedback • Develop an appropriate test of the prototype, conduct the test, and collect and compile data • Evaluate design according to critiques, testing results, and success criteria to make changes <p>Making</p> <ul style="list-style-type: none"> • Identify appropriate tools, technologies, materials, processes, cost implications, and time needed • Create design, incorporating feedback from self, others, and testing prototypes • Use materials in ways that minimize waste <p>Sharing</p> <ul style="list-style-type: none"> • Decide how and with whom to share or promote design, creativity, and processes • Share the product with users and critically evaluate its success • Critically reflect on their design thinking and processes, and identify new design goals • Identify and analyze new design possibilities, including how they or others might build on their concept <p>Applied Skills</p> <ul style="list-style-type: none"> • Apply safety procedures for themselves, co-workers, and users in both physical and digital environments • Identify and assess skills needed for design interests, and develop specific plans to learn or refine them over time • Demonstrate competency and proficiency in skills at various levels involving manual dexterity and complex woodworking techniques <p>Applied Technologies</p> <ul style="list-style-type: none"> • Explore existing, new, and emerging tools, technologies, and systems to evaluate suitability for their design interests • Evaluate impacts, including unintended negative consequences, of choices made about technology use • Examine and analyze the role that changing technologies play in woodworking contexts 	