GRADES 11 AND 12 ENVIRONMENTAL DESIGN (HALF CREDIT)

Manitoba Curriculum
Framework of Outcomes

Because Grades 11 and 12 Environmental Design (Half Credit) does not cover all of the goals and outcomes covered in the full-credit course framework, its outcomes numbering system does not always appear to be sequential.

In developing learning outcomes, the assumption was made that courses are taught by experts in their field; therefore, the terminology and language used in the curriculum is specific to the area of expertise.

GRADES 11 AND 12 ENVIRONMENTAL DESIGN

The environmental design courses create awareness of the role that the built environment plays in our daily lives. The environmental design learning outcomes develop skills, knowledge, and abilities to explore relationships between people and the built environment by evaluating, designing, and creating.

Course Grade Levels and Credit Allocations

A student may earn one half credit by undertaking and successfully completing a course of study designed for a minimum of 55 hours of instruction.

0490 Environmental Design (half credit)	35S 35E 35M 45S 45E 45M

Depending on available teacher expertise and facility demands, schools will be able to offer two half-credit courses in predetermined curriculum areas within the semester (e.g., 55 hours in two areas of study within the domain of human ecology: textile arts and design, family studies, food and nutrition, and Grades 11 and 12 Environmental Design). This still provides students the opportunity to receive one full credit towards their high school graduation requirements.

Specialized (S): Educational experiences in specialized areas leading to further studies beyond the Senior Years (e.g., apprenticeship, college, and university).

EAL (E): Educational experiences designed to focus on English as an additional language (EAL) learning goals in the context of the subject, based on the student's assessed level of EAL proficiency, and to assist the student in making the transition into regular Senior Years programming in this content area. An EAL Individual Educational Plan (EAL-IEP) is required for each student.

Modified (M): Educational experiences intended for students with significant cognitive disabilities and where the provincial subject-area curriculum learning outcomes have been modified to take into account the learning requirements of a student; an Individual Education Plan (IEP) is required for each student.

Grades 11 and 12 Environmental Design Course Descriptions

The Grades 11 and 12 Environmental Design framework of outcomes provides flexibility to apply to all of the environmental design domains: architecture, landscape architecture, interior design, regional and urban planning.

The human ecology education perspective of this framework of outcomes focuses on the interrelationships among people and housing and interior design in multiple dimensions.

Each grade requires that students develop their conceptual knowledge base and skill set. Some learning outcomes will be similar in both grade levels; in other situations, each level will scaffold on previous knowledge and will progress from simple to more complex conceptual understandings. The course descriptions below identify the depth and breadth of the studies in each grade level.

Grade 11 Environmental Design focuses on the development of skills, terms, and knowledge in the field of housing and interior design. The principles and elements of design form the foundation of the course through the application of drafting and designing living spaces. Students will identify consumer decisions and housing security within the built environment, and the ability to meet the needs of individuals, families, and communities.

Grade 12 Environmental Design focuses on the development of skills, terms, and knowledge in the field of housing and interior design. The principles and elements of design form the foundation of the course through the application of digital drafting and designing living spaces. Students will investigate consumer decisions and housing security within the built environment, and the ability to meet the needs of individuals, families, and communities.

In Manitoba, the content of the Senior Years Environmental Design outcomes are arranged in a series of goals.

1. **Technical and Applied Skills:** The learning experiences in this goal will assist students as they develop the knowledge and skills they need to create built environments that support individuals, families, and communities. Students will be given the opportunity to explore their ideas through practical experiences in a safe and supportive environment.

2. **Fundamentals of the Principles and Elements of Design:** The learning experiences in this goal will assist students as they develop the knowledge and skills that are used within the domain of environmental design. Students will be given the opportunity to explore and use these skills, resources, and processes to design environments for individuals, families, and communities.

3. **Citizenship and Sustainability:** The learning experiences in this goal will assist students as they develop the knowledge and skills they need to become citizens who look critically at people's quality of life—locally, nationally, and globally—with the desire to make positive changes towards a sustainable and equitable future.

4. **Relationships and Influences:** The learning experiences in this goal will assist students as they develop the knowledge and skills they need to build and maintain positive relationships and to understand the issues and challenges that affect individuals, families, and communities.

5. **Career Development:** The learning experiences in this goal will assist students in developing the knowledge and skills necessary for effective communication, teamwork, and leadership that contribute to success in learning, life, and work.
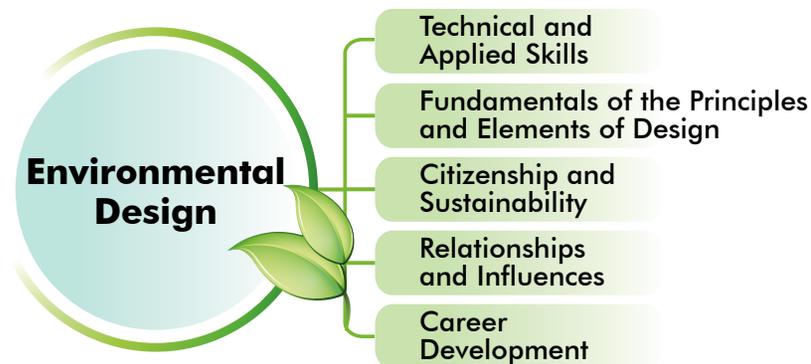
Terminology

The Truth and Reconciliation Commission of Canada (TRC): Calls to Action identified **education for reconciliation** as one of the areas to redress the legacy of residential schools and advance the process of Canadian reconciliation. All of the courses covered in *Senior Years Human Ecology: Manitoba Curriculum Framework of Outcomes* support Manitoba Education and Training's contribution to education for reconciliation. For more information on the TRC Calls to Action, see www.trc.ca/websites/trcinstitution/File/2015/Findings/Calls_to_Action_English2.pdf.

The following is an explanation of terms used in the learning outcomes that may be unfamiliar or require clarification:

- **Elder:** A spiritual leader who has cultural and traditional knowledge, who is representative of his or her community, and who First Nations, Métis, and Inuit communities look to for advice and wisdom.

- **Knowledge Keeper(s):** Knowledge Keepers have key knowledge of the past and present and are able to share teachings around both new and old knowledge.

- **Indigenous People(s):** A collective term used to describe the original habitants of the land prior to European contact. The term not only refers to the past but also to today's society, including the Métis nation whose genesis occurred after contact. In Canada, the term *Indigenous Peoples* includes First Nations, Métis, and Inuit people.

0490 Environmental Design (Half Credit)

Grade 11	Grade 12

Goal 1: Demonstrate technical and applied skills.

    GLO 1.1: Demonstrate understanding of environmental design.

Grade 11	Grade 12
11.1.1.1 Define environmental design and its various areas of study (e.g., architecture, landscape architecture, interior design, regional and urban planning).	12.1.1.1 ⟶
11.1.1.2 Apply analytical skills to the design to evaluate the built environment.	12.1.1.2 ⟶
11.1.1.3 Discuss the importance of design and its relationship to human well-being and the places we inhabit.	12.1.1.2 ⟶
11.1.1.4 Examine the aspects of creativity and innovation and their relationship to environmental design.	12.1.1.4 ⟶
11.1.1.5 Examine the design process and how it applies to environmental design.	12.1.1.5 ⟶

0490 Environmental Design (Half Credit)

Grade 11	Grade 12

Goal 1: Demonstrate technical and applied skills. *(continued)*

    GLO 1.2: Demonstrate safe practices and procedures for facilities, processes, tools, and equipment.

Grade 11	Grade 12
11.1.2.1 Identify and maintain clean work environments.	12.1.2.1 ⟶
11.1.2.2 Identify and demonstrate safe behaviour within the work area.	12.1.2.2 ⟶
11.1.2.3 Identify and demonstrate safe set-up, handling, and usage of tools, equipment, materials, and chemicals.	12.1.2.3 ⟶
11.1.2.4 Describe common unsafe conditions that cause accidents.	12.1.2.4 ⟶
11.1.2.5 Identify an appropriate response to unsafe acts and conditions.	12.1.2.5 ⟶
11.1.2.6 Demonstrate the proper use of cutting tools.	12.1.2.6 ⟶
11.1.2.7 Identify, describe, use, and care for equipment, tools, and materials.	12.1.2.7 ⟶
11.1.2.8 Demonstrate and describe safety procedures used to handle project media.	12.1.2.8 ⟶

0490 Environmental Design (Half Credit)	
Grade 11	**Grade 12**

Goal 1: Demonstrate technical and applied skills. *(continued)*

     GLO 1.3: Develop literacy and numeracy skills as they apply to environmental design.

Grade 11	Grade 12
11.1.3.1 Analyze a project to select the most appropriate equipment and tools required.	12.1.3.1 ⟶
11.1.3.2 Define basic building material terminology.	12.1.3.2 ⟶
11.1.3.3 Demonstrate the ability to read and interpret instructions.	12.1.3.3 ⟶
11.1.3.4 Identify and use metric and imperial measurement in a project.	12.1.3.4 ⟶
11.1.3.5 Demonstrate correct measuring techniques.	12.1.3.5 ⟶
11.1.3.6 Interpret and utilize symbols applied to design plans.	12.1.3.6 ⟶
11.1.3.7 Demonstrate basic preconstruction procedures as applied to a project.	12.1.3.7 ⟶
11.1.3.8 Complete project(s) according to specified criteria, including timelines, to produce a quality environment.	12.1.3.8 ⟶

0490 Environmental Design (Half Credit)

Grade 11	Grade 12

Goal 1: Demonstrate technical and applied skills. *(continued)*

    GLO 1.3: Develop literacy and numeracy skills as they apply to environmental design. *(continued)*

Grade 11	Grade 12
11.1.3.9 Use technical reading skills to follow a set of instructional steps effectively.	12.1.3.9 Analyze a set of steps using correct technical writing techniques to effectively describe a technical process.
11.1.3.10 Interpret a graphic representation of a technical idea.	12.1.3.10 $\longrightarrow$
11.1.3.11 Demonstrate skill development through the production of a design project at a range of scales (e.g., furniture, interior environment, dwelling, community, landscape, urban design).	12.1.3.11 $\longrightarrow$
11.1.3.12 Use hand drafting techniques to create design plans.	12.1.3.12 $\longrightarrow$
	12.1.3.13 Use digital drafting technology to develop environmental designs.

0490 Environmental Design (Half Credit)

Grade 11	Grade 12

Goal 2: Demonstrate understanding of the fundamentals of the principles and elements of design.

GLO 2.1: Develop understanding of the principles of design.

Grade 11	Grade 12
11.2.1.1 Identify the vocabulary of the principles of design as applied to the built environment.	12.2.1.1 Analyze the principles of design and their use, as applied to the built environment.
11.2.1.2 Apply the built environment principles of design to an environmental illustration.	12.2.1.2 Create a project design using illustrations based on the principles of design.
11.2.1.3 Read and interpret plans with respect to the efficiency of their layout and design.	12.2.1.3 ⟶
11.2.1.4 Apply the principles of design to a project.	12.2.1.4 ⟶

GLO 2.2: Develop understanding of the elements of design.

Grade 11	Grade 12
11.2.2.1 Identify the vocabulary of the elements of design as applied to the built environment.	12.2.2.1 Analyze the elements of design and their use, as applied to the built environment.
11.2.2.2 Apply the built environment elements of design to an environmental illustration.	12.2.2.2 Create a project design using illustrations based on the elements of design.
11.2.2.3 Read and interpret plans with respect to the efficiency of their layout and design.	12.2.2.3 ⟶
11.2.2.4 Apply the elements of design to a project.	12.2.2.4 ⟶

0490 Environmental Design (Half Credit)

Grade 11	Grade 12

Goal 2: Demonstrate understanding of the fundamentals of the principles and elements of design. *(continued)*

GLO 2.3: Develop understanding of the evolution of environmental design.

11.2.3.1 Identify designers and their impact on environmental design (e.g., Frederick Law Olmsted (1860s), landscape architect; Frank Lloyd Wright (1910s), architect; Ray and Charles Eames (1940s), furniture designers; Arthur Erickson (1960s), architect/ urban planner; Andrée Putman, interior designer; Douglas Cardinal (1990s), Indigenous architect; Zaha Hadid (2000s), architect; David Adjaye, architect; Kate Orff, landscape architect; Tadao Ando, architect).	12.2.3.1 Research the influences of designers on current environmental design.

GLO 2.4: Develop understanding of cultural environmental design.

Teachers are encouraged to access additional resources and/or consult with an Elder(s) or Knowledge Keeper(s) when implementing the Indigenous outcomes with respect to traditional protocols. See Appendix 2.

11.2.4.1 Identify the interrelationship of environmental design among culture, politics, religion, economics, and technology.	12.2.4.1 ⟶
11.2.4.2 Identify environmental design styles associated with different cultures (e.g., Indigenous Peoples of Canada, European settlers, and today's Canadians).	12.2.4.2 ⟶
11.2.4.3 Discuss how culture and heritage have an impact on styles based on geographic location/treaty areas/cultural contexts.	12.2.4.3 ⟶
11.2.4.4 Identify the purpose and functionality of historical environmental designs (e.g., warmth, portability, material availability, etc.).	12.2.4.4 Critique the functionality and purpose to contemporary environmental design applications.

0490 Environmental Design (Half Credit)

Grade 11	Grade 12

Goal 2: Demonstrate understanding of the fundamentals of the principles and elements of design. *(continued)*

   GLO 2.5: Apply learning to the design process.

The Grades 10 (25S/20S), 11 (35S/30S), and 12 (45S/40S) Textile Arts and Design curricula explore the area of costume production and design. This GLO could be part of a theatrical set design process.

Grade 11	Grade 12
11.2.5.1 Identify a design in a variety of media.	12.2.5.1 Analyze the built environment to the implied meaning.
11.2.5.2 Research the cultural and historical aspects of a built environment.	12.2.5.2 ⟶
11.2.5.3 Apply the principles and elements of design to the design of a built environment.	12.2.5.3 ⟶
11.2.5.4 Apply the practical considerations of a built environment (e.g., budget, construction methods, context, materials, target audience, environment, etc.).	12.2.5.4 ⟶
11.2.5.5 Create a two-dimensional visual representation of a built environment (e.g., era accuracy, textures, weights, colours, and forms).	12.2.5.5 ⟶
11.2.5.6 Construct a three-dimensional form of a built environment, demonstrating safe practices and procedures.	12.2.5.6 ⟶

0490 Environmental Design (Half Credit)

Grade 11	Grade 12

Goal 3: Demonstrate understanding of citizenship and sustainability.

GLO 3.3: Explore making informed and responsible consumer decisions related to environmental design.

Grade 11	Grade 12
11.3.3.3 Identify ways a product can be up-cycled (e.g., repair, alter, redesign, recycle, reupholster).	12.3.3.3 ⟶
11.3.3.4 Create an up-cycled product using one or more of the following techniques (e.g., repair, alter, redesign, recycle, reupholster).	12.3.3.4 ⟶
11.3.3.5 Examine the availability of underutilized products in your community.	12.3.3.5 ⟶

GLO 3.4: Explore housing security and availability issues as they relate to environmental design.

Grade 11	Grade 12
11.3.4.1 Define Maslow's Hierarchy of Needs and how it relates to housing security (e.g., physical, psychological, social, emotional, and aesthetic).	12.3.4.1 ⟶
11.3.4.2 Define and recognize housing security at the individual/household and community level.	12.3.4.2 Recognize housing security at the community and global levels.
11.3.4.3 Identify the components of individual/household housing security (e.g., availability, accessibility, adequacy, acceptability).	12.3.4.3 Discuss factors that affect individual/household housing security (e.g., location, cost, availability, rural versus urban) and community/global responses (e.g., non-profit organizations, donations/charities, government).
11.3.4.4 Explain the barriers to achieving housing security and the effects of gentrification on communities within Manitoba and Canada.	12.3.4.4 Explain the barriers to achieving global housing, and identify the support structure to assist with global gentrification.

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Grade 11	**Grade 12**

Goal 4: Demonstrate understanding of relationships and influences.

    GLO 4.1: Develop understanding of living spaces.

11.4.1.1 Identify the functions of living spaces.	12.4.1.1 ⟶
11.4.1.2 Identify factors that determine the selection of living spaces (e.g., priorities, space, roles, cost, stage of life, and lifestyle).	12.4.1.2 ⟶

    GLO 4.2: Develop understanding of environmental design throughout the lifespan.

11.4.2.1 Describe the living spaces that people require at specific stages throughout their lives.	12.4.2.1 ⟶
11.4.2.2 Investigate physical spaces and their effect on mental and physical well-being.	12.4.2.2 Analyze physical spaces and their effect on mental and physical well-being.
11.4.2.3 Define the principles of universal design, including inclusive design.	12.4.2.3 Critique a space for the use of universal design and/or inclusive design.
11.4.2.4 Analyze how universal design and inclusive design accommodate various capabilities, needs, and aspirations.	12.4.2.4 ⟶

0490 Environmental Design (Half Credit)

Grade 11	Grade 12

Goal 5: Demonstrate understanding of career development and the skills required.

    GLO 5.1: Demonstrate personal and social skills.

    Note: GLO 5.1 to 5.5 outcomes are to be integrated throughout the environmental design course and are not intended to be a unit of study

Grade 11	Grade 12
11.5.1.1 Demonstrate understanding of others and their perspectives.	12.5.1.1 ⟶
11.5.1.2 Communicate effectively with others.	12.5.1.2 ⟶
11.5.1.3 Participate in a positive manner.	12.5.1.3 ⟶
11.5.1.4 Demonstrate responsibility in being accountable for their actions	12.5.1.4 ⟶
11.5.1.5 Listen in order to understand and learn.	12.5.1.5 ⟶
11.5.1.6 Enhance personal growth through continuous learning.	12.5.1.6 ⟶

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Grade 11	Grade 12

Goal 5: Demonstrate understanding of career development and the skills required. *(continued)*

    GLO 5.2: Demonstrate thinking and decision-making skills.

Grade 11	Grade 12
11.5.2.1 Explain their thinking to others in a way that is clear, accurate, logical, and complete.	12.5.2.1 ⟶
11.5.2.2 Use innovative thinking in decision making.	12.5.2.2 ⟶
11.5.2.3 Compare and contrast common approaches to decision making.	12.5.2.3 ⟶
11.5.2.4 Identify factors that affect decision making.	12.5.2.4 ⟶
11.5.2.5 Interpret fact from opinion when making effective decisions.	12.5.2.5 ⟶
11.5.2.6 Predict and analyze the outcome of a decision.	12.5.2.6 ⟶
11.5.2.7 Apply decision-making strategies to learning, life, and work.	12.5.2.7 ⟶

0490 Environmental Design (Half Credit)

Grade 11	Grade 12

Goal 5: Demonstrate understanding of career development and the skills required. *(continued)*

GLO 5.3: Demonstrate teamwork skills.

Grade 11	Grade 12
11.5.3.1 Demonstrate the ability to work independently and collaboratively as a team member.	12.5.3.1 ⟶
11.5.3.2 Develop strategies to build positive and respectful working relationships with all team members.	12.5.3.2 ⟶
11.5.3.3 Recognize and acknowledge the opinions and contributions of team members to build consensus to achieve individual/team goals.	12.5.3.3 ⟶
11.5.3.4 Use a variety of strategies to resolve conflicts peacefully and fairly with respect for others.	12.5.3.4 ⟶
11.5.3.5 Collaborate with others to establish and determine individual/team member roles, goals, and responsibilities.	12.5.3.5 ⟶

0490 Environmental Design (Half Credit)

Grade 11	Grade 12

Goal 5: Demonstrate understanding of career development and the skills required. *(continued)*

    GLO 5.4: Demonstrate understanding of project management skills.

Grade 11	Grade 12
11.5.4.1 Define, outline, coordinate, complete, assess, analyze, and reflect on an individual/group project.	12.5.4.1 ⟶
11.5.4.2 Demonstrate individual/group flexibility, adaptability, and resilience during the project process with the ability to adapt to new and evolving situations.	12.5.4.2 ⟶
11.5.4.3 Determine skills and strategies required for independent/ group projects (e.g., communication, leadership, organizational, teamwork, social skills, etc.).	12.5.4.3 ⟶
11.5.4.4 Identify and evaluate transferable skills after completing an individual/group project.	12.5.4.4 ⟶
11.5.4.5 Reflect on personal skills and strategies developed and their application to learning, life, and work.	12.5.4.5 ⟶

0490 Environmental Design (Half Credit)

Grade 11	Grade 12

Goal 5: Demonstrate understanding of career development and the skills required. *(continued)*

    GLO 5.5: Explore careers related to environmental design.

Grade 11	Grade 12
11.5.5.1 Demonstrate understanding of career opportunities related to environmental design (e.g., architecture, landscape architecture, interior design, and regional and urban planning).	12.5.5.1 Identify the potential environmental design–related employment opportunities in your community.
11.5.5.2 Identify how interests, knowledge, skills, values, and attitudes relate to work.	12.5.5.2 Demonstrate understanding of how interests, knowledge, skills, values, and attitudes are transferable to various work roles.
11.5.5.3 Examine and discover career opportunities in the area of environmental design in relation to personal career interests.	12.5.5.3 Compare and contrast the education plan required for various careers in the area of environmental design.