



Design Studies

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Course Description:

This course gives you the opportunity to explore your interests and potential in a vast number of careers within two major fields: Design and New-Media. You will be exposed to some fundamental skills required to become an architect, draftsman or engineer, an interior designer, graphic designer, product or environmental designer. You will also be exposed to a variety of basic skills required to pursue a career in the ever-increasing field of 3d modeling and animation.

Course Objectives and Assessment:

As this is a Career and Technology Studies (CTS) course, all curricular outcomes will be drawn from the [Alberta CTS Program\(s\) of Studies](#)

Skill Outcomes – 20%

Knowledge Outcomes – 60%

Competencies – 20%

In CTS at Nelson Mandela the following competencies will be assessed:

Competency	Descriptor
Information Management	Students demonstrate this competency when they identify and clarify clear criteria for problems, explore a variety of problem solving techniques, and then select and defend the most viable option.
Personal Management	Students demonstrate this competency when they take personal responsibility for their habits and wellbeing. This includes career skills like punctuality and professionalism as well as striving for personal excellence.
Communication and Collaboration	Students demonstrate this competency when they communicate clearly and effectively with a wide variety of audiences and peers. It also includes the effective use of communication technologies and the application of strategies to be an effective collaborator in a group.
Innovation and Creativity	Students demonstrate this competency when they take risks when exploring a variety of creative processes. They also adapt and persevere when exploring ways to create value and achieve excellence.
Complex Problem Solving	Students demonstrate this competency when they draw on multiple perspectives, disciplines and resources to select the most viable solution. They also approach all problems with optimism and hope.
Career Connections	Students demonstrate this when they effectively research and understand the post secondary and career options that are available to them.

Credits:

Students taking Design Studies for the first time will be working towards the Introductory set of credits while students in their second semester of the course will be working towards the Intermediate Credits.

These are the credits that **may** be offered in the course and they may change due to duplicate CTS credits in other courses.

➤ **Introductory Credits**

Credit	Outcome
DES 1010 Sketch, Drawing & Model	Students are introduced to observational sketching, drawing and modelling, and to a selection of basic materials and tools and their uses. Students also develop skills that can be applied to the field of design.
DES 1020 The Design Process	Students develop an understanding of design problems through research and select, generate and evaluate possible solutions.
DES 1030 2D Design 1	Students develop skills and techniques for 2-D design by using tools, materials and processes common to 2-D design to complete a variety of project activities. <i>Prerequisite: DES 1020: The Design Process</i>
DES 1040 3D Design 1	Students develop skills and techniques for 3D design by using tools, materials and processes common to 3D design to complete a variety of project activities. <i>Prerequisite: DES 1020: The Design Process</i>
DES 1050 CAD Design 1	Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant.

➤ **Intermediate Credits**

Credit	Outcome
Design 2035 2D Design 2	Students continue to develop skills and techniques for 2D design by using tools, materials and processes common to 2D design to complete a variety of project activities. <i>Prerequisite: Design 1030 2D Design 1</i>
Design 2920 Design Project C	Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant. <i>Prerequisite: None</i>
Design 2045 3D Design 2	Students continue to develop skills and techniques for 3D design by using tools, materials and processes common to 3D design to complete a variety of project activities. <i>Prerequisite: Design 1040 3D Design 1</i>
Design 2055 CAD Design 2	Students develop intermediate knowledge and skills in computer-aided design (CAD). <i>Prerequisite: Design 1050 CAD 1</i>
Design 2910 Design Project B	Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant. <i>Prerequisite: None</i>

➤ **Advanced Credits**

Credit	Outcome
DES 3035 2D Design 3	Students apply theories, skills and techniques to resolve complex 2-D design problems. Emphasis is placed on exploring shape, composition, aesthetics, cultural context, materials, processes and systems, while addressing social responsibility and environmental stewardship. Prerequisite: DES2035: 2-D Design 2
DES 3045 3-D DESIGN 3	Students apply theories, skills and techniques appropriate to 3-D design. Students will deal with such aspects as shaping, massing, proportion, scale, contrast, colour, texture and finish within the context of complex 3-D design projects. Students are introduced to cultural, symbolic and human factors, principles and ergonomic considerations. Prerequisite: DES2045: 3-D Design 2
DES 3055 CAD 3	Students solve design problem(s) using advanced computer-aided design (CAD) methods, advanced commands, 2-D and/or 3-D modeling techniques, rendering, shading and animation techniques. Prerequisite: DES2055: CAD 2
DES3095 ARCHITECTURAL DESIGN	Students translate architectural design concepts into graphic images, and then convert those images into technical drawings and specifications that result in creation of the built environment. Prerequisite: DES2055: CAD 2 or DES2075: Technical Drafting 2
DES 3115 INDUSTRIAL DESIGN	Industrial design incorporates innovation, aesthetics, functional requirements, technology and ergonomics into a product in order to better meet the needs of the user. Students work creatively with a design problem to analyze, propose and produce solutions using contemporary materials, techniques and finishes. The resulting presentations are both professional and unique. Prerequisite: DES2055: CAD 2 or DES2075: Technical Drafting 2
DES 3125 INTERIOR DESIGN	Students learn to consider form and space when developing interior design solutions specific to human and/or environmental needs. Students assess solutions on the basis of functional and aesthetic considerations and appropriateness within the human environment. The design process is applied to solve abstract and realistic interior design problems.

	Prerequisite: DES2055: CAD 2 or DES2075: Technical Drafting 2
DES 3135 LANDSCAPE DESIGN	Students learn to consider form and space when producing man-made environments that are ecologically appropriate, functionally successful and aesthetically pleasing. Students learn about the need to establish a balance between use and enjoyment of the land and the conservation and health of the environment. The design process is applied to solve abstract or realistic landscape design problems. Prerequisite: DES2055: CAD 2 or DES2075: Technical Drafting 2
DES3155 MODELLING – VIRTUAL	Students use virtual 3D design concepts as a starting point for developing the skill and knowledge needed to design in virtual space. Students develop an understanding of light, form, texture and shape. These components are explored through digital modeling exercises. Prerequisite: DES2055: CAD 2
DES3910 DES PROJECT D	Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant. Prerequisite: None
DES3920 DES PROJECT E	Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant. Prerequisite: None

Course Materials and Resources:

- **Headphones** (listen to video tutorials)
- Pencils/Erasers
- Rulers
- ***Sketchbook**

Key Links:

- [Competency Overview](#)