

DESIGN STUDIES COURSE SUMMARIES

INTRODUCTORY

DES1010: SKETCH, DRAW & MODEL

Students are introduced to observational sketching, drawing and modeling, 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.

Prerequisite: None

DES1020: THE DESIGN PROCESS

Students develop an understanding of design problems through research and select, generate and evaluate possible solutions.

Prerequisite: None

DES1030: 2-D 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.

Prerequisite: DES1020: *The Design Process*

DES1040: 3-D DESIGN 1

Students develop skills and techniques for 3-D design, by using tools, materials and processes common to 3-D design to complete a variety of project activities.

Prerequisite: DES1020: *The Design Process*

DES1050: CAD 1

Students develop basic knowledge and skills in computer-aided design (CAD).

Prerequisite: None

DES1060: TECHNICAL DESIGN & DRAFTING 1

Students develop basic knowledge, skills and techniques to draft drawings for visualizing and illustrating simple design problems.

Prerequisite: None

DES1910: DES PROJECT A

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

INTERMEDIATE

DES2035: 2-D DESIGN 2

Students continue to 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.

Prerequisite: DES1030: *2-D Design 1*

DES2045: 3-D DESIGN 2

Students continue to develop skills and techniques for 3-D design by using tools, materials and processes common to 3-D design to complete a variety of project activities.

Prerequisite: DES1040: *3-D Design 1*

DES2055: CAD 2

Students develop intermediate knowledge and skills in computer-aided design (CAD).

Prerequisite: DES1050: *CAD 1*

DES2060: EVOLUTION OF DESIGN

Students develop a historical framework and study the importance and relevance of design within a cultural context by examining past and contemporary examples of designed artifacts.

Prerequisite: None

DES2065: TECHNICAL DESIGN 2

Students refine skills and techniques to present appropriate drawings and/or model(s) for visualizing and illustrating solutions to design problems.

Prerequisite: DES1060: *Technical Design & Drafting 1*

DES2075: TECHNICAL DRAFTING 2

Students produce technical drawings from sketches and apply industry standards, conventions and terminology associated with technical drawing creation.

Prerequisite: DES1060: *Technical Design & Drafting 1*

DES2910: DES 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.

Prerequisite: None

DES2920: DES 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.

Prerequisite: None

DES2950: DES INTERMEDIATE PRACTICUM

Students apply prior learning and demonstrate the attitudes, skills and knowledge required by an external organization to achieve a credential/credentials or an articulation.

Prerequisite: None

ADVANCED**DES3035: 2-D 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*

DES3045: 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*

DES3055: 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*

DES3065: TECHNICAL DESIGN 3

Students concentrate on various drawing and drafting types to illustrate design concepts and solutions, including freehand drawings, illustrative views, perspective drawings, axonometric drawings and surface developments (flat pattern).

Prerequisite: DES2065: *Technical Design 2*

DES3075: TECHNICAL DRAFTING 3

Students use drawing conventions and procedures to draw with and manipulate manual drafting equipment and/or CAD. Students draw orthographic, sectioned view, auxiliary view and axonometric drawings. Students demonstrate the ability to draw complete drawings using accepted line-work, lettering, layout and dimensioning techniques, while adhering to a drafting standard.

Prerequisite: DES2075: *Technical Drafting 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*

DES3105: ENGINEERING DESIGN

Students develop complex explanatory drawings for civil, mechanical, structural or electrical systems. This is a skill-building course with the emphasis on explanatory line drawings suitable for presentation and assembly.

Prerequisite: DES2055: *CAD 2* or DES2075: *Technical Drafting 2*

DES3115: 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*

DES3125: 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*

DES3135: 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*

DES3145: MODELLING – REAL

Students use the principles and techniques of physical modeling. They will develop the ability to construct models using a variety of materials, equipment and techniques from working drawings.

Prerequisite: DES1010: *Sketch, Draw & Model*

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*

DES3165: PRESENTATION

Students apply rendering techniques to line drawings (base or developed), concentrating on light, colour and various media; e.g., coloured pencils, marker pens, water colours, computer rendering. Presentation techniques are used to compose high quality images to communicate a design solution.

Prerequisite: None

DES3170: FUTURE OF DESIGN

Students explore new possibilities in design, including the role of the designer and the challenges that are faced by the designers.

Prerequisite: None

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

DES3950: DES ADVANCED PRACTICUM

Students apply prior learning and demonstrate the attitudes, skills and knowledge required by an external organization to achieve a credential/credentials or an articulation.

Prerequisite: None