MODULE DES2040: DRAFTING/DESIGN APPLICATIONS

Level: Intermediate

Theme: Drafting for Design and Technical Drawing Skills

Prerequisite: None

Module Description: Students learn skills in assembly, section and/or auxiliary drawing. They further develop the knowledge, skills and techniques; e.g., pictorial drawings, multiview drawings, surface developments (flat patterns), and by applying them in the context of more complex design projects.

Module Parameters: Basic sketching and drawing tools and equipment, drafting tables, equipment and materials and/or computer with a computer-aided design (CAD) software package, a printer and/or plotter.

Note: It is recommended that students have access to instruction from an individual with formal, specialized training in a design discipline, drafting and where applicable in CAD.

Supporting Module: DES1060 Drafting/Design Fundamentals

Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will: • produce pictorial drawings; e.g., isometric, oblique, one- and two-point perspective using rendering styles and techniques; e.g., pencil, ink, colour, computer generated within the context of design projects	*Assessment of student achievement should be based on:* • production of pictorial drawings and renderings within the context of a teacher- and/or student-specified design assignments. *Assessment Tool* *Project Assessment: Drafting/Design Applications (DES2040–1)* *Standard* *Performance rating of 1 for each criteria*	40

©Alberta Education, Alberta, Canada

MODULE DES2040: DRAFTING/DESIGN APPLICATIONS (continued)

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will:	*Assessment of student achievement should be based on:*	
• produce at least two types of drawings chosen from assembly, section or auxiliary, either manually or with the aid of a computer • produce dimensioned multiview drawings, either manually or with the aid of a computer OR	• production of two of the following based on teacher- and/or student-specified three-dimensional references and/or sketches and aided by mechanical drafting equipment or CAD software and describing their purpose and application: – assembly drawing – section drawing – auxiliary drawing	30
• produce surface developments for items; e.g., garments, sheet metal, packaging, manually or with the aid of a computer	• production of the following based on teacher- and/or student-specified three-dimensional references and/or sketches and aided by mechanical drafting equipment or CAD software: – dimensioned multiview drawing(s) or – surface development(s) for construction. *Assessment Tool* *Project Assessment: Drafting/Design Applications (DES2040–1)* *Standard* *Performance rating of 1 for each criteria*	10
• select, organize and present design projects	• maintenance and presentation of a module-based design portfolio and a design journal. Emphasis will be placed on the student's discourse, emphasizing: – his or her understanding of pictorial drawing and rendering styles and techniques – how these can be used – how these were applied in the drawings produced – and understanding of multiview drawings, their preparation and use. *Assessment Tool* *Presentations/Reports: Drafting for Design and Technical Drawing Skills (Intermediate) (DESPRE–2B)* *Standard* *Performance rating of 2 for each criteria*	20

©Alberta Education, Alberta, Canada

MODULE DES2040: DRAFTING/DESIGN APPLICATIONS (continued)

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will: • demonstrate basic competencies.	*Assessment of student achievement should be based on:* • observations of individual effort and interpersonal interaction during the learning process. *Assessment Tool* *Basic Competencies Reference Guide and any assessment tools noted above*	Integrated throughout

Concept	Specific Learner Expectations	Notes
Skills Development	*The student should:* • demonstrate increased skills in pictorial drawing and/or in producing surface development drawings (flat patterns) • produce at least two examples chosen from the following drawings types: assembly, sectional, or auxiliary; and be able to describe their purpose and application within a design project • use appropriate terminology within the context of each design project • produce one or more multiview drawing(s) (at least three views) of a product, structure or devise, etc. OR • produce at least two surface developments chosen from the following: – a package – a fold-up model – a garment – ventilation ducting – a container – a collapsible shelter – other teacher-specified project(s).	In this module, students should engage in a variety of activities that involve generating drawings based in a design problem. The specific skills should be taught within this context. Some teachers may take a single theme (e.g., lake cottage, all-terrain vehicle or garment) as the context for learning. Other teachers will want their students to engage in two or more smaller projects. Students need to be able to communicate in a common language. Learning specific terminology associated with this area will help the students communicate effectively to each other and to outside parties.

©Alberta Education, Alberta, Canada

MODULE DES2040: DRAFTING/DESIGN APPLICATIONS (continued)

Concept	Specific Learner Expectations	Notes
Applied Problem Solving	*The student should:* • select appropriate drawing types and styles and use them to accurately illustrate potential design solutions as part of the resolution of a design brief • select and use appropriate tools and materials as outlined in each design brief.	Students may use this module in several contexts including architecture, landscape design, product design, and flat pattern design for fashion. Students may use traditional drafting equipment, CAD or other technology specified by the teacher to complete the module. Students may need guidance in choosing appropriate drawing types and approaches for the design project(s) they engage in.
Presentation, Design Journal and Portfolio	• print/plot drawings and include them in a design portfolio • explain drawings as required (e.g., pictorial/ multiview drawing styles and techniques, drawing preparation, drawing use).	See notes for 2-D Design Applications and CAD Applications.

©Alberta Education, Alberta, Canada