COMPUTER AIDED DESIGN & DRAFTING (CADD)

This is a list of the Computer Aided Design & Drafting (CADD) courses available at KPU.

Enrolment in some sections of these courses is restricted to students in particular programs. See the Course Planner - kpu.ca/registration/timetables - for current information about individual courses.

For information about transfer of credit amongst institutions in B.C. and to see how individual courses transfer, go to the BC Transfer Guide bctransferguide.ca

CADD 1100 **4 Credits**
Drafting Fundamentals
Students will set up drawings using CAD software and use geometric construction and appropriate line-types to produce orthographic and pictorial representations of models. They will use drafting fundamentals to complete the various Industry typical drawing techniques and presentations. Students will apply typical drafting conventions, fill-in title blocks and use quality control procedures to complete drawings. They will prepare an assembly drawing in CAD software and produce hand sketches of sections and assemblies. Students will employ computer technology skills for file management and cad software.

CADD 1110 **4 Credits**
Summative Project
Students will follow the design process and use sketches, standards and codes to produce a multi-sheet set of drawings that would be suitable to mechanical, industrial or architectural projects. They will produce site and other required plans along with cross sections and elevations. Students will extract details and produce schedules. They will select appropriate presentation scales and apply annotation, dimensions and symbols as per industry standards. Students will employ computer technology skills to manage files and external data and identify sustainable materials and fabrication/construction processes.

CADD 1150 **4 Credits**
Computer Aided Drafting & Design (CADD) Software
Students will operate CAD software and apply advanced drawing development techniques. They will use CAD software to perform analytical calculations, and to import and export data using external references and other techniques. Students will create three-dimensional (3D) solid and wire frame models. They will use presentation techniques to create two-dimensional (2D) images and 3D rendered images from 3D models. Students will customize the software user interface. Students will employ computer technology skills for working within an office network.

CADD 1160 **3 Credits**
Introduction to Office Procedures and Software
Students will use office software with CADD software to exchange data and graphics. They will follow basic office procedures to produce memos, change orders, and to follow document control and revision procedures. Students will investigate a variety of disciplines in the Drafting/CADD field and write a report or give a presentation on the discipline of their choice. Students will apply geometric, algebraic, and trigonometric principles to solve problems. They will develop educational plans and run student meetings.

CADD 1161 **4 Credits**
Office Procedures
Students will use office software with CAD software to exchange data and graphics. They will follow basic office procedures to produce memos, change orders, and follow document control and revision procedures. Students will describe a variety of disciplines in the Drafting/CADD field, develop a personal educational plan, and prepare a technical report. They will apply geometric, algebraic, and trigonometric functions to solve problems. Students will employ computer technology skills for office software and file management, describe sustainable design and practices, and explain project management procedures. They will apply descriptive geometry procedures to solve problems, and apply surveying fundamentals to calculate contours, latitude and departure. Students will use photo editing software and create an e-Portfolio.

CADD 2100 **4 Credits**
CADD Graphics and Models: Rendering and Animation
Students will render 2D graphics and create 2D perspectives. They will apply color, texture and shadows. Students will create digital 3D models, build physical models from common materials and use photo editing software to insert models into photographs. They will import 3D models into rendering and animation software and apply lighting and camera locations. Students will create motion paths, create flythrough paths and create assembly animations. They will give presentations of completed projects.

Prerequisites: 16 credits from courses in either a) CADA b) CADS or c) CADM or CADI

CADD 2110 **4 Credits**
Surveying and Site Work
Students will apply surveying fundamentals and use surveying equipment to collect coordinates and elevations. They will apply algebra, geometry, trigonometry and introductory calculus to perform surveying calculations. Students will prepare a subdivision drawing and indicate boundaries, access, roads and services. They will indicate contour lines and perform cut and fill calculations. Students will prepare a site layout, determine site grading and drainage, prepare retaining walls and outlines of buildings to complete a site plan drawing. They will use 3D modeling software for Civil applications.

Prerequisites: (CADD 1100 or DRAF 1100) and (CADD 1110 or DRAF 1110) and (CADD 1150 or DRAF 1150) and (CADD 1160 or DRAF 1160 or DRAF 1270)

CADD 2160 **4 Credits**
Professional Practice for Design and Drafting
Students will explain document control procedures and apply a document change-manage process. They will follow health and safety procedures, describe the effects of office ergonomics, and follow appropriate office deportment related to design and drafting. Students will explain liability issues, follow ethical principles, and explain basic project management principles related to design and drafting. They will identify the roles of Engineering and Architectural professionals.

Prerequisites: 16 credits from courses in either a) CADA b) CADS or c) CADM or CADI

CADD 2210 **4 Credits**

Document Control and Web Portfolio

Students will explain the need for document control and identify roles and responsibilites in document control. They will categorize types of documents and their purposes and implement document control procedures. Students will set up document control websites, create information websites and create portfolio websites. They will participate in online meetings with document and application sharing. Students will give presentations of completed projects.

Prerequisites: 16 credits from courses in either a) CADA b) CADS or c) CADM or CADI

CADD 2220 **4 Credits**

Sustainable Design

Students will develop an awareness of sustainability issues and how they influence sustainable practices in design. They will identify regulatory bodies and their roles, identify environmental impact standards and describe sustainable design certification. Students will evaluate and analyze green design strategies, product lifecycle and sustainable materials and systems through a variety of methods including site visits. They will interpret output from a variety of efficiency testing software and conduct cost-benefit analysis of sustainable practices. Students will incorporate sustainable materials, systems and fabrication/construction processes on a project.

Prerequisites: 16 credits from courses in either a) CADA, or b) CADS, or c) CADI or CADM

CADD 2250 **4 Credits**

CADD Customization and Networks

Students will explain the need for CADD customization and identify programming languages used with CADD software. They will determine the appropriate programming language for a variety of CADD custom functions, use programming to customize CADD software and use scripting and macros. Students will explain the fundamentals of operating systems and describe command line interfaces and system utilities. They will install CADD software, set-up multi-user CADD local area network (LAN) with client/server, apply permissions and install printers.

Prerequisites: 16 credits from courses in either a) CADA, or b) CADS, or c) CADI or CADM

CADD 2900 **4 Credits**

Special Topics in CADD

Students will engage in an intensive study of a special topic in design and drafting and/or related technology as selected by the instructor. They will research, analyze and demonstrate the theory and application of the selected topic.

Prerequisites: 16 credits from courses in either a) CADA b) CADS or c) CADM or CADI