COMPUTER AIDED DESIGN & DRAFTING (CADD)

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

CADD 1100 CR-4
Drafting Fundamentals
Students will set up drawings and use geometric construction and appropriate line-types to produce orthographic and pictorial representations of models. They will use projection techniques to construct intersections and developments of various three dimensional shapes. Students will apply sections and conventions and use details to enhance the representation fill-in title blocks and use quality control procedures to complete drawings. They will prepare a mechanical assembly drawing.

Transferable (refer to transfer guide)

CADD 1110 CR-4
Summative Project
Students will follow the design process and use sketches, standards and codes to produce a 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.

Transferable (refer to transfer guide)

CADD 1150 CR-4
Computer Aided Drafting & Design (CADD) Software
Students will operate CADD software and use advanced construction techniques. They will use CADD 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.

Transferable (refer to transfer guide)

CADD 1160 CR-3
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.

Transferable (refer to transfer guide)

CADD 2100 CR-4
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: CADA 1250 or CADI 1250 or CADM 1250 or CADS 1250

CADD 2110 CR-4
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 CR-4
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: CADD 1160 or DRAF 1160

CADD 2210 CR-4
Document Control and Web Portfolio
Students will explain the need for document control and identify roles and responsibilities 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: CADA 1250 or CADI 1250 or CADM 1250 or CADS 1250

CADD 2220 CR-4
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: Completion of Citation in CADD Technologies and Certificate in CADD Technologies or permission of Instructor Transferable (refer to transfer guide)

CADD 2250 CR-4
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: CADA 1250 or CADI 1250 or CADM 1250 or CADS 1250

In the event of a discrepancy between this document and the official KPU 2014-15 Calendar (available at www.kpu.ca/calendar/2014-15), the official calendar shall be deemed correct.

2014-15 Calendar   **www.kpu.ca/calendar/2014-15**