Computer Aided Design and Drafting: Diploma

Faculty of Science and Horticulture	kpu.ca/science
Drafting / CADD Technologies	kpu.ca/science/cadd
Program Type	Undergraduate
Credential Granted	Diploma Certificate Citation
Offered At	Cloverdale
Start Date(s)	September January May
Intake Type	Limited intake
Format	Full-time
Instructional Cycle	Semester-based
Curriculum Effective Date	01-Sep-2017
How to Apply	www.kpu.ca/admission

DESCRIPTION

The Computer Aided Design & Drafting (CADD) Diploma program is designed to develop and enhance practical skills; increasing students' knowledge for a successful CADD career. Throughout the program students will design and draft various projects that are produced in digital and physical models. Students will obtain extensive experience utilizing AutoCAD and BIM softwares.

This program offers students two unique ways to approach their learning. First, students may choose from several specialties including:

- Architectural
- Structural
- Mechanical

Second, the program offers students three options for their studies:

- Diploma in Computer Aided Design and Drafting
- Certificate in Computer Aided Design and Drafting
- Citation in Computer Aided Design and Drafting

The Certificate, and Citation are embedded within the diploma. They allow students who do not wish to pursue a diploma in CADD to have an optional exit point after two or one semester of coursework. Details on program and course dates are available on Kwantlen Course Timetables. Additional information is available from our program website at: kpu.ca/science/cadd

Specialties

After successful completion of the CADD Core (first semester, Citation) students will choose their Specialty. Specialties are not offered every semester, therefore students are asked to consult with the CADD Program Chair through the Specialty selection planning process.

ARCHITECTURAL

Normally offered in the Fall semester, students prepare sets of drawings to graphically convey design and dimensional information to meet the qualifications for a building permit in residential, commercial and institutional applications.

Architectural CADD/Drafting graduates create 3D models and 2D drawings for residential, commercial and government buildings. They may pursue an entry level position in a variety of employment situations such as an Architectural design office, a manufacturing company of prefabricated buildings or trusses, a construction company, a kitchen/cabinet design company, a municipal office, or a company that specializes in single and multi-family residential plans.

STRUCTURAL

Normally offered in the Spring semester, students prepare sets of drawings to graphically convey design and dimensional information for concrete, steel and timber structures, site preparation and precast concrete. Structural CADD/Drafting graduates create 3D models and 2D drawings for steel, concrete, and wood structures. They also prepare site drawings. Graduates may pursue an entry level position in a variety of employment situations such as an engineering office, a municipal office, or a steel fabrication shop. Structural graduates work on structures for Architectural, Industrial, Highway, Railway and Marine facilities.

MECHANICAL

Normally offered in the Summer semester, Mechanical CADD/ Drafting graduate students create 3D models and 2D drawings that detail industrial layouts such as conveyors and process piping, and manufacturing information for component assemblies and details. Graduates may pursue entry-level positions in a variety of engineering firms, product design companies, construction companies or in fabrication shops. Graduates may work closely with machinists and fabricators to perfect the design, and to establish efficient production and installation procedures.

MULTIPLE SPECIALTIES

Students may take more than one Specialty and obtain more than one certificate. In doing so, students should be aware of the university's policy on second credentials (Policy AR16: Requirements for Graduation. See kpu.ca/policies)

OTHER SPECIALTIES

The CADD Department has courses developed for Electrical, Industrial, Manufacturing and Civil. These courses may be run as Special Purpose courses when there is sufficient demand. Please contact the CADD Department Chair at 604-598-6123 for more information.

Options

DIPLOMA IN COMPUTER AIDED DESIGN AND DRAFTING

The Diploma enables students to acquire advanced technical writing skills, Math skills and Physics skills, and to acquire technical skills in document control, web portfolio and CADD customization, sustainable design project management, and networking. These CADD courses are offered in the evening to facilitate certificate and advanced certificate graduates who are working in their industry.

CERTIFICATE IN COMPUTER AIDED DESIGN AND DRAFTING

The Certificate prepares students for an entry level position as a CADD Drafting technician in the chosen Specialty. Using the most advanced CADD (Computer Aided Design & Drafting) software and 3 dimensional (3D) software, students will learn to produce drawings from concept sketches, design information, codes and

specifications as per industry standards for production by builders and manufacturers.

CITATION IN COMPUTER AIDED DESIGN AND DRAFTING

The Citation incorporates the CADD Core which prepares students for the Specialty semester.

CAREER OPPORTUNITIES

CADD/Drafting graduates may pursue a career in a variety of employment situations in architectural, engineering, manufacturing or municipal offices, or in a production / construction setting.

After a few years in CADD/Drafting many of our graduates move on to positions in sales, customer service, production management, estimating, CADD and network management and contract services (self-employment). Responsibilities can include design team management, project management of small projects, and production scheduling.

ADMISSION REQUIREMENTS

In addition to the Faculty's Undergraduate Admission Requirement, which consists of KPU's Undergraduate English Proficiency Requirement, the following program admission requirements apply:

- Satisfy the Math requirement at Level E1 of the Mathematics Alternatives Table; or through successful placement by the CADD Math Test
- Attend a CADD information session or interview with a CADD department representative.

Note: Students wishing to complete the Diploma program without having to undertake any preparatory courses must satisfy Level C1 of the Mathematics Alternatives Table

Students with mental or physical impairments, who may require program accommodations, should contact the Department Chair at 604.598.6123 to discuss required skills and competencies and a Disability Advisor at 604.599.3233 to ensure appropriate accommodations can be arranged.

Advanced Standing

Applicants with Drafting 11 and/or 12 from a BC Secondary School can challenge the CADD 1100 course by writing a Qualifying Assessment. Contact the CADD Department Chair at cadd@kpu.ca for more information.

CURRICULAR REQUIREMENTS

The Diploma in CADD requires 65 credits. After the first semester, courses are offered as open enrolment.

Introductory Core Requirements

CADD 1150	Computer Aided Drafting & Design (CADD) Software	4 credits
12 credits from courses in CADD at the 1100 level		12 credits

Upon successful completion of the CADD Introductory Core Requirements, students are eligible to exit the program and receive a Citation. Additionally, students may proceed to complete the further requirements for a Certificate or Diploma as outlined below.

Specialty Requirements

Following completion of the Introductory Core Requirements, students choose one of the following three specialties.

ARCHITECTURAL SPECIALTY

CADA 1250	Introduction to Building Information Modeling (BIM) Software for Architectural	4 credits
12 credits from courses in CADA numbered 1200-1999		12 credits

MECHANICAL SPECIALTY

CADM 1250	3 Dimensional (3D) Parametric Solids Modeling Software	4 credits
12 credits from courses in CADI or CADM numbered 1200-1999		12 credits

STRUCTURAL SPECIALTY

CADS 1251	Building Information Modeling (BIM) for Structural	4 credits
12 credits from courses in CADS numbered 1200-1999		12 credits

Upon successful completion of the CADD Introductory Core Requirements and one of the Specialties, students are eligible to exit the program and receive a Certificate in their chosen Specialty. Additionally, students may proceed to complete the further requirements for a Diploma as outlined below.

Diploma Requirements

ENGL 1100	Introduction to University Writing	3 credits
MATH 1112	Pre-Calculus Algebra	3 credits
PHYS 1100	Introductory Physics	4 credits
3 credits from a course in MATH, CHEM, BUSI or PHYS at the 1100 level or higher		3 credits
20 credits from courses in CADD at the 2000 level		20 credits

CREDENTIAL AWARDED

Upon successful completion of this program, students are eligible to receive a **Diploma in Computer Aided Design and Drafting**.

Upon successful completion of the CADD Introductory Core Requirements and one of the Specialties, students are eligible to receive a **Certificate in Computer Aided Design and Drafting** in their chosen specialty.

Upon successful completion of the CADD Introductory Core Requirements, students are eligible to receive a **Citation in Computer Aided Design and Drafting**.