Computer Aided Drafting & Computer Graphic Design

Advisory Committee

Program Update

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Graduates and Enrollment – CAD

Enrollment is down for CAD across all classes.

<table>
<thead>
<tr>
<th>Program</th>
<th>Degree</th>
<th>FY05</th>
<th>FY06</th>
<th>FY07</th>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
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Graduates and Enrollment – CGD

Enrollment is up for CGD across all classes.

All spring classes are full.

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<th>FY06</th>
<th>FY07</th>
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Demographics - CAD

The vast majority of the CAD students are non-traditional students. Most the students are of 30-56 years of age.

Demographics - CGD

The vast majority of the CAD students are traditional students. Most the students are of 18-30 years of age.
# Program Costs - CAD

## COMPUTER-AIDED DRAFTING

**Associate in Applied Science Degree: DRFT.AAS.C42**

Minimum credit hours required for completion: 66

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<th>Tuition and fees</th>
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<td>BSNS 1603</td>
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<td>PSCI 1514</td>
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**Supplies:**

- 1 Drafting kit: $51.00

**TOTAL:** $9,295.75
# Program Costs – CGD

**COMPUTER GRAPHIC DESIGN**

*Associate in Applied Science Degree: DSGN.AAS.V01*

Minimum credit hours required for completion: 67

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**Lab fees:**

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$1,653.55
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TOTAL $106.00

This program requires three hours of electives. The total price does not include all costs associated with the electives.

All prices are subject to change.

Student Success

Course Retention

The State of Illinois is changing the method of how community colleges will be paid. In the past the measure of payment was determined by the student enrollment on the tenth day enrollment and the number of credit hours generated on the tenth day of enrollment.

The State of Illinois will now move to a measure of payment based on the number students who successfully complete a class and the number of students who complete a degree or certificate.

Certifications/Licensure

The Industrial Safety class will now start issuing certifications in the following areas upon completion of the class:

- 10 hour OSHA training
- CPR by the Red Cross
- First Aid by the Red Cross.

In DRFT2124 CAD II, students are given extra credit if they pass the AutoCAD 2012 Associate or Professional Certification Exam.
Upcoming Faculty Needs

It is projected there will be a need for AutoCAD I instructors who have AutoCAD 2012 and advanced ANGEL learning management system skills in the 2012-2013 school year due to increase enrollment excepted in AutoCAD I.

Current Offerings – CAD

Fall 2011
DRFT1154 Technical Drafting and Print Reading
DRFT2114 CAD I
DRFT2134 CAD III
DRFT2414 Architectural Drafting

Current Offerings – CGD

Summer 2011
DSGN1243 Computer Illustration

Fall 2011
DSGN1113 Digital Photography – Two sections
DSGN1123 Introduction to Web Design
DSGN1213 Photoshop Digital Imaging – Two sections
DSGN1243 Computer Illustration

Faculty Development

John Bordeau was selected as a speaker at Autodesk University 2011. This is the largest international conference on computer aided drafting. There were 8,000 attendees who can choose from over 1,000 classes. John’s speaking topics for this year were:

- Creating 3D Primitives and Composites in AutoCAD
- Dynamic Block Tools in AutoCAD
- Introduction to Parametric Drafting in AutoCAD
John attended classes on the following software:

- Revit Architecture
- Green Building Suite
- Fusion – (3D Conceptual Modeling)

Curriculum Revisions

Name Changes

CAD I  >  AutoCAD I
CAD II > AutoCAD II
CAD III > AutoCAD III
Architectural Drafting > Architectural Drafting with Revit
Technical Illustration > Mechanical Drafting with Inventor

Course Description Changes

CAD I, CAD II, CAD III
To reflect the use of AutoCAD.

Architectural Drafting
To reflect the use of Revit

Technical Illustration
To reflect more Inventor content.

Digital Motion Graphics
Dropped the usage of AfterEffects software. The class focuses on Flash.
Curriculum Changes

DRFT1154 Technical Drafting and Print Reading has been dropped from the following curriculum and has been replaced with AutoCAD I starting Fall 2012. There is expected to be three offerings of AutoCAD I in the Fall 2012 and two offerings of AutoCAD I in the Spring 2013.

- Automotive Technology
- Air Conditioning and HVAC
- Welding Technology
- Machine Tool Technology
- Construction Management

ELTR1423 Electrical Drafting has been dropped from the Electrical Technology curriculum and has been replaced with AutoCAD I starting Fall 2012.

DSGN1253 Portfolio Development has been dropped from the Computer Graphic Design curriculum and has been replaced with AutoCAD I starting Fall 2012.

The AutoCAD I class will have common basic labs for the first eight weeks. For the final eight weeks, the labs will be applied to each discipline per the student’s program of study such as:

- Automotive Technology
- Air Conditioning and HVAC
- Welding Technology
- Machine Tool Technology
- Construction Management
- Electrical Technology
- Computer Graphic Design
- Computer Aided Drafting
New Business

Emerging Technology Trends in the Industry - CAD

Green Building Studio

Web-Based Energy Analysis Software

Autodesk® Green Building Studio® web-based energy analysis software can help architects and designers perform whole building analysis, optimize energy efficiency, and work toward carbon neutrality earlier in the design process. With faster, more accurate energy analysis of building design proposals, architects and designers can work with sustainability in mind earlier in the process, plan proactively, and build better.

- Whole building energy analysis software—Determine virtual building's total energy use and carbon footprint
- Design alternatives analysis—Consider alternatives to improve energy efficiency
- Detailed weather analysis—Extensive weather data available for project site
- Carbon emission reporting—Emissions reporting for nearly all aspects of the building
- Daylighting—Qualification for LEED® daylighting credit
- Water usage and costs—Estimated water use, in and outside building
- ENERGY STAR® scoring—Scores provided for each design
- Natural ventilation potential—Summarizes mechanical cooling required and estimates hours design could use outdoor air to cool the building naturally

Emerging Technology Trends in the Industry – CGD

HTML VS Flash

A collection of new technologies—including a rejuvenated HTML (Hypertext Markup Language) standard used to write Web pages—are aiming to reproduce some of what Flash offers.

Many believe HTML and the other technologies inevitably will replace Flash and already collectively are "very close" to reproducing today's Flash abilities.

Employment Treads

I have had more calls from employers to place students in both CAD and CGD since this spring then the entire past three years combined.
Program Outcomes

Do these Program Outcomes identify what the program needs to teach?

Program Outcomes - Computer-Aided Drafting

The KCC Technology Division has developed curriculum, based on advice from industry, to prepare our graduates for careers as successful drafters. In preparing to function as contributing members of a design team, drafting students learn to:

- Produce design documentation (multiview drawings and section views) to industry standards using Computer-Aided Drafting (CAD software).

- Accurately dimension a drawing using feature and location dimensions according to drafting industry standards.

- Demonstrate knowledge of drafting conventions including: symbols, linetypes, lineweights, and dimension styles as applicable to mechanical and architectural drafting.

- Model architectural and mechanical design concepts in 3D using the latest solid modeling software.

- Develop realistic static and animated visualizations of designs using backgrounds, material assignments, lighting and shading.

- Create exploded pictorial drawings, assembly drawings, and material component lists.

- Develop complete architectural plans using common architectural standard graphic practices with consideration for aesthetics, cost, construction methods, and building codes.
**Computer Graphic Design – Program Objectives**

The KCC Technology Division has developed curriculum, based on advice from industry, to prepare our graduates for careers as successful computer graphic designers. In preparing to function as contributing members of a design team, computer graphic design students learn to:

- Demonstrate the use of essential graphic design software Adobe Creative Design Suite; Adobe PhotoShop, Adobe Illustrator, Adobe InDesign, and Flash.

- Describe the role of technology and visual art as it applies to traditional and digital art

- Explain the proper use of a digital camera and how it is beneficial to the graphic design industry

- Design, build and maintain a web page/site

- Explain the basic principles and practices of interactive computer graphics.

- Create graphics designs, symbols, typography, Illustrations and photography to communicate ideas for promotion and sales of products in the global marketplace of print and Internet publications.

- Explain the concepts and strategies related to the field of graphic design and how it relates to marketing practices

- Develop a professional portfolio of printed and electronic materials reflecting computer graphic design proficiency that meet industry standards for career placement.
Computer Aided Drafting – Course Objectives

Do these Course Outcomes identify what the program needs to teach?

**DRFT2114 CAD I**
Upon completion of this course, students will:
- Be able use the AutoCAD interface and a keyboard, cursor pointing device, and graphics terminal to put drawing information into a computer
- Be able to describe and use the basic terms, concepts, and techniques of computer-aided drafting
- Be able to develop accurate two-dimensional drawings by drawing lines, basic shapes, and geometric constructions, and edit drawings
- Be able to place text on drawings
- Be able to insert and edit tables
- Be able to use display options to increase drawing flexibility
- Be able to use layers and layer properties
- Be able to place dimension on drawings
- Be able to plot drawings to scale
- Be able to use proper drafting standards and practices
- Be able to complete an architectural floor plan

**DRFT2124 CAD II**
Upon completion of this course, students will:
- Be able to dimension drawings and use dimension styles properly.
- Be able to draw section views and graphic designs using AutoCAD’s hatch patterns.
- Be able to make isometric drawings.
- Be able to construct blocks with attributes and use them in a drawing.
- Be able to use external references.
- Be able to use raster images with AutoCAD
- Be able to make layouts and plot or print drawings using plot styles.

**DRFT2124 CAD III**
Upon completion of this course, you will:
- Be able to define and use 3D coordinates and user-defined coordinate systems to aid in the construction of 3D objects.
- Be able to construct 3D wireframe, surface, mesh models and solid models using the 3D workspace.
- Be able to use a variety of 3D visual style display techniques.
- Be able to create still rendered views and animated shots of 3D models.
- Be able to create and use model space viewports.
- Be able to extract two-dimensional views from a three-dimensional model for detail drafting.
- Be able to create and edit 3D solid primitives, 2D regions, and composite 3D solid models.
- Be able to create complex 3D solids using extrusions, revolutions, sweeps and lofts.
- Be able to use grips and sub-object editing to construct and alter 3D solid models.
- Be able to generate 3D text and dimensions.
- Be able to display a 3D model using visual style settings.
- Be able to calculate mass properties
**DRFT2164 Technical Illustrator**  
Upon completion of this course, you will:
- Be able to use Inventor software proficiently enough to complete required projects
- Be able to create working part drawings, assembly drawings, exploded pictorials, and presentation drawings

**DRFT2414 Architectural Drafting**  
Upon completion of this course, you will:

Create a set of working drawings for a residential/commercial structure which will include:
- Basic Building Components
- Site Features
- Details
- Conceptual Massing
- Annotations
- Schedules
Computer Graphic Design – Course Objectives

Do these Course Outcomes identify what the program needs to teach?

DSGN1113 Digital Photography
Upon completion of this course, students will:

- Be able to identify different types of camera and their features
- Be able to apply different file formats, quality settings and resolution to images
- Be able to perform advanced digital camera exposure techniques
- Be able to perform advanced digital camera lighting techniques
- Be able to compose photographs
- Be able to do basic correction or modification of photographic images using digital photo editing software
- Be able to formally analyze and critique photographs

DSGN1123 Introduction to Web Design
Upon completion of this course, you will:

- Be able to develop a basic Web page using Adobe Dreamweaver
- Be able to develop a Web site
- Be able to choose and manage images effectively in regard to Web page and site development
- Have a working knowledge of HTML and CSS coding using Adobe Dreamweaver
- Be able to update, maintain, and publish a live Web site.
- Be able to use and understand basic principles of effective Web design

DSGN1133 Package Design
Upon completion of this course, you will:

- Develop an understanding of 2 and 3 dimensional computer graphic design techniques, and applications for effective usage in industry related business
- Build proficiency with Illustrator’s drawing commands, editing and drawing tools
- Understand how Illustrator is used in industry to produce accurate representations of subject matter for final production
- Understand how to build and manage proper files for final production
- Introduce the varieties of hardware and software technologies controlling a two and three dimensional environments
- Construct a mock-up of a package design

DSGN1213 Photoshop Digital Imaging
Upon completion of this course, you will:

- Use presentation graphic and web design techniques
- Use digital imaging, web, animation (2D), and presentation software
- Appropriately use vocabulary of digital imaging terms and techniques
- Write storyboards and/or journal thought processes in the form of thumbnails
- Use a variety of hardware peripherals used in computer graphics
• Apply file management and data storage options including import/export/publishing considerations
• Assemble an entry level portfolio of still images, presentation/multimedia, and web projects.

**DSGN1223 Digital Motion Graphics**

Upon completion of this course, you will:

• Use presentation graphic and web design techniques;
• Use digital imaging, web, animation (2D), and presentation software;
• Appropriately use vocabulary of digital imaging terms and techniques;
• Write storyboards and/or journal thought processes in the form of thumbnails;
• Use a variety of hardware peripherals used in computer graphics;
• Apply file management and data storage options including import/export/publishing considerations
• Assemble an entry level portfolio of still images, presentation/multimedia, and web projects.

**DSGN1233 Document Design**

Upon completion of this course, you will:

• Develop and use basic graphic design principles in a variety of formats
• Develop an understanding of page layout properties of documents using computer graphic design software
• Understand use of InDesign to create documents using a variety of elements
• Build proficiency with InDesign’s functionality
• Understand how InDesign is used in industry to produce accurate representations of subject matter for final production

**DSGN1243 Computer Illustration**

Upon completion of this course, you will:

• Develop an understanding of the basic principles of design, color typography and page layout techniques when applied to a wide variety of formats
• Apply the basic principles of design using computer graphic design techniques, through Adobe Illustrator’s myriad capabilities
• Build proficiency with Illustrator’s drawing commands, editing and drawing tools and palettes
• Understand how Illustrator is used in industry to produce accurate representations of subject matter for final production
• Understand how to build and manage proper files for final production

**Recruitment Activities and Retention Efforts**

**Undecided Senior Day**

Undecided Senior Day on Friday February 24th from approximately 9:00 AM - 12:00 PM

**Career and Technical Education Open House**

CTE open house Thursday February 23rd from about 6-7:30 PM

**CAD III Final Project Public Presentation**

The DRFT2134 CAD III will present their solid model, color renderings, and animations of their futuristic concept vehicles on Wednesday December 14, 2011 at 6:00 PM in W108 (CAD Lab)