

DRAFTING

DRFT V01A - INTRODUCTION TO CAD DESIGN GRAPHICS I - 2-5 Units

Hours: 4-10 lecture-laboratory weekly

This course is designed to introduce entry-level students to Computer Aided Design (CAD). It covers the interpretation of mechanical drawings and the application of the fundamentals of design graphics through lecture and laboratory practice. The course topics include the areas of technical sketching, lettering, orthographic projection, working drawings, auxiliary views, dimensioning, developments, pictorial drawings, basic computer applications and the introduction to computer aided design (CAD).

DRFT V01B - INTRODUCTION TO CAD DESIGN GRAPHICS II - 2-5 Units

Recommended preparation: DRFT V01A

Hours: 4-10 lecture-laboratory weekly

This course covers the application of computer design graphics and drafting standards used in industrial practice. This course uses computer graphics to introduce two-dimensional and three-dimensional design drafting, editing and printing-plotting techniques.

DRFT V01C - INTRODUCTION TO CAD DESIGN GRAPHICS III - 2-5 Units

Recommended preparation: DRFT V01A and DRFT V01B

Hours: 4-10 lecture-laboratory weekly

This course covers the interpretation of three-dimensional mechanical drawings and the application of the fundamentals of design graphics through lecture and laboratory practice. The course topics include the areas of technical sketching, lettering, orthographic projection, 3D assembly drawings, auxiliary views, dimensioning, developments, pictorial drawings, basic computer applications and the introduction to solid modeling in computer aided design (CAD).

Field trips may be required.

DRFT V01D - INTRODUCTION TO CAD DESIGN GRAPHICS IV - 2-5 Units

Recommended preparation: DRFT V01A and DRFT V01B and DRFT V01C

Hours: 4-10 lecture-laboratory weekly

This course covers the interpretation of architectural drawings and the application of the fundamentals of design graphics through lecture and laboratory practice. The course topics include the areas of technical sketching, lettering, orthographic projection, building design and construction methods, auxiliary views, dimensioning, developments, pictorial drawings, basic computer applications and the introduction to computer aided design (CAD).

Field trips may be required.

DRFT V02A - BLUEPRINT READING: MANUFACTURING - 3 Units

Hours: 3 lecture weekly

This course covers the interpretation of mechanical drawings typical of the metal working field; theory of common types of projections, dimensioning principles, machine standards, application of creative sketching and interpretation of blueprints.

Formerly Drft 2A. Same as MS V02 & WEL V02. Transfer credit: CSU; credit limitations - see counselor.

DRFT V02B - BLUEPRINT READING: ARCHITECTURAL/ CONSTRUCTION - 3 Units

Hours: 3 lecture weekly

This course provides experience in construction blueprint reading and plan review. Experiences will include the study of lines, symbols, notations and dimensions used on architectural drawings. Code interpretation and design compliance will be stressed.

Field trips may be required. Formerly Drft 2B. Same as ARCH V11 & CT V20. Transfer credit: CSU; credit limitations - see counselor.

DRFT V03 - DRAFTING FUNDAMENTALS - 3 Units

Hours: 2 lecture, 3 laboratory weekly

This course covers the application of the fundamentals of industrial design drafting. Topics include the basic concepts of graphic presentation including design languages/symbols, sketching, pictorial drawing, lettering, orthographic projection, working drawings, auxiliary views, dimensioning, geometric developments, duplication, interrelationships to the design process, the introduction to computer aided design, and industry trends and applications.

Fees will be required. Formerly Drft 3. Transfer credit: CSU.

DRFT V04 - MEASUREMENTS AND COMPUTATIONS - 3 Units

Hours: 3 lecture weekly

This course is the occupational application of measurements and computations as used by technology students. Topics include geometric shape calculations, practical trigonometry, areas, volumes, ratio and proportion, units and conversions, decimals and fractions and applied algebra.

Field trips may be required. Formerly Drft 4. Same as MS V04 & MT V04.

DRFT V05A - INTRODUCTION TO AUTOCAD - 2 Units

Prerequisite: DRFT V03 or 1 year of drafting experience

Hours: 1 lecture, 3 laboratory weekly

This course is an introduction to the use of AutoCAD including commands, editing, printing and plotting with emphasis on two-dimensional, and introduction to three-dimensional drawings. Overview of related industry trends, practices and employer expectations will be addressed.

Fees will be required. Field trips may be required. DRFT V05A/ ARCH V23 may be taken in any combination for a maximum of 2 times. Formerly Drft 5A. Same as ARCH V23. Transfer credit: CSU; UC; credit limitations - see counselor.

DRFT V05B - ADVANCED OPERATIONS OF AUTOCAD - 2 Units

Prerequisite: ARCH V23 or DRFT V05A

Hours: 1 lecture, 3 laboratory weekly

This course focuses on AutoCAD instruction including three-dimensional drafting, customization of AutoCAD, introduction to architectural and electronic CAD, and introduction to CAD/CAM.

Fees will be required. Field trips may be required. May be taken for a maximum of 2 times. Formerly Drft 5B. Transfer credit: CSU.

DRFT V10A - ELECTRONIC DRAFTING I - 3 Units

Recommended preparation: DRFT V03 or 1 year of drafting experience

Hours: 6 lecture-laboratory weekly

A study of electronic drafting that includes block diagrams, schematics, printed circuit boards and integrated circuits. Computer assisted drafting (CAD) is an integral part of the course.

Formerly Drft 10A. Transfer credit: CSU.

DRFT V10B - ELECTRONIC DRAFTING II - 3 Units

Prerequisite: DRFT V10A

Hours: 6 lecture-laboratory weekly

This course is a study of logic diagrams, packaging and advanced principles of printed circuit board design. Computer assisted drafting (CAD) is also an integral part of the course.

Formerly Drft 10B. Transfer credit: CSU.

DRFT V14A - TECHNICAL ILLUSTRATION I - 3 Units

Prerequisite: DRFT V03 or 1 year of drafting experience

Hours: 6 lecture-laboratory weekly

Gives the student skills in the preparation of technical illustrations to meet the standards of industry. Drawings are made from blueprints, technical orders and freehand sketches. Axonometric projection will be covered.

Fees will be required. Formerly Drft 14A. Transfer credit: CSU.

DRFT V14B - TECHNICAL ILLUSTRATION II - 3 Units

Prerequisite: DRFT V14A

Hours: 6 lecture-laboratory weekly

Systems of perspective drawing. Information on and study of layouts and makeup of industrial manuals. Techniques used in industrial publications.

Fees will be required. Formerly Drft 14B. Transfer credit: CSU.

DRFT V16 - CIVIL DESIGN - 3 Units

Recommended preparation: DRFT V03 or 1 year of drafting experience

Hours: 6 lecture-laboratory weekly

This is a fundamental course in grading design; contour manipulation; computations and procedures; applicable fundamental design techniques; practice with maps and land descriptions; estimating also covered.

Field trips may be required. Formerly Drft 16. Transfer credit: CSU.

DRFT V18 - DRAFTING PROJECTS - 3 Units

Prerequisite: ARCH V23 or DRFT V05A

Hours: 6 lecture-laboratory weekly

This course is an integration of previously acquired knowledge through assignment of projects in the areas of machine drafting, architectural drawing, technical illustration and electronic drafting. Students will select one area. The majority of work is performed on computer assisted drafting (CAD) hardware.

Fees will be required. Field trips may be required. May be taken for a maximum of 3 times. Formerly Drft 18.

DRFT V41 - INTRODUCTION TO INDUSTRIAL DESIGN GRAPHICS - 3 Units

Hours: 2 lecture, 3 laboratory weekly

This entry-level course covers the application of the fundamentals of industrial design graphics through lecture and laboratory practice. The course topics include the areas of technical sketching, lettering, orthographic projection, working drawings, auxiliary views, dimensioning, developments, pictorial drawings, drawing duplication, introduction to computer assisted drafting (CAD) and their interrelationship to the design process.

Field trips may be required. Transfer credit: CSU.

DRFT V42 - DESIGN DRAFTING AND 3D SOLID MODELING - 3 Units

Recommended preparation: ARCH V23 or DRFT V05A; and DRFT V41

Hours: 2 lecture, 3 laboratory weekly

This course consists of the drawing of machine details and assemblies with attention to tolerances, notes, and dimensioning consistent with industrial practices. The course also covers the study of 3D CAD (computer assisted drafting) design concepts and applications. Students will develop skills in wire frame, surface, and solid model creation.

Field trips may be required. Transfer credit: CSU.

DRFT V43 - INTRODUCTION TO SOLIDWORKS - 3 Units

Recommended preparation: DRFT V42

Hours: 2 lecture, 3 laboratory weekly

This course provides a foundation in 3D parametric design using Autodesk, AutoCAD, Mechanical Desktop software and/or other industry standard solid modeling software. The students will be introduced to the design concepts of parts and assemblies, parametric design, feature driven design, profiles and sketches, detail drawings, assembly drawings and CAD (computer assisted drafting) standards used in industry. The course covers the development of 3D design models, 2D detail drawings and the creation and application of parametric assembly models.

Fees will be required. Field trips may be required. Transfer credit: CSU.

DRFT V44 - RAPID DESIGN AND PROTOTYPING - 3 Units

Recommended preparation: DRFT V42 or DRFT V43

Hours: 2 lecture, 3 laboratory weekly

This course introduces the applications of technology and tools for creating three-dimensional physical models from 3D CAD (computer assisted drafting) files and other 3D data. Rapid prototyping and model making technologies are covered that accelerate the design process, allowing the student designers to shorten the design cycle time, update the product development process and improve communication between the design focus groups, engineering, marketing and manufacturing.

Fees will be required. Field trips may be required. Transfer credit: CSU.

DRFT V50 - FLEXIBLE MANUFACTURING APPLICATIONS: COMPUTER ASSISTED DRAFTING (CAD)/ COMPUTER ASSISTED MACHINING (CAM) - 3 Units

Recommended preparation: ARCH V23 or DRFT V05A or MS V40

Hours: 2 lecture, 3 laboratory weekly

This course is an introduction to flexible manufacturing applications and CAD/CAM. Topics include set up and operation of numerical control lathes, mills, electrical discharge machines and robotics principles.

Fees will be required. Formerly MS V50. Transfer credit: CSU.

DRFT V51 - INTRODUCTION TO 3D STUDIO MAX - 2 Units

Hours: 1 lecture, 3 laboratory weekly

This course is designed to prepare students for entry-level positions using 3D Studio Max. This course provides hands-on training in hardware and software applications, including conceptual principles, modeling, rendering and animation. Tutorials focus on the primary uses of animation in the real world, including architectural, mechanical, accident recreation and character animation.

Fees will be required. Field trips may be required. May be taken for a maximum of 2 times. Formerly Drft 51. Offered on a credit/no credit basis only. Transfer credit: CSU; credit limitations - see counselor.

DRFT V88 - DRAFTING WORKSHOPS - .5-10 Units

Prerequisite: varies with topic

Hours: lecture and/or laboratory as required by unit formula

Designed to meet specific needs of the college and community, as required and requested by persons whose needs in this area are not met by present course offerings.

Fees may be required. Courses with same title may not be repeated; may be taken for a maximum of 4 times. Formerly DRFT V89.

DRFT V99 - AUTOCAD JOB TRAINING PROGRAM - 4 Units

Hours: 2 lecture, 6 laboratory weekly

This AutoCAD course is designed to prepare the student for entry-level employment into the drafting industry. Hands-on training will be provided in various hardware and software applications including setting up programs, editing, drawing, attributes and extractions, AutoLISP, menus, scripts, etc. Students may opt to emphasize one or all of the three major styles which include architectural, 3 D, or mechanical.

Field trips may be required. May be taken for a maximum of 4 times. Formerly Drft 99. Offered on a credit/no credit basis only. Not applicable for degree credit.