

Drafting Design (DDSN)

DDSN 113. Technical Drafting. 3 Credits.

The student will gain knowledge and skills needed to identify drafting equipment and demonstrate its use to produce technical drawings and understand basic drafting theory. Topics developed on the board will include sketching, lettering, instruments, scaling, applied geometry, orthographic projection, isometric projections, dimensioning, applied technical mathematical relations, primary/auxiliary views, sections, threads, and weld symbols.

DDSN 114. Introduction to CAD. 3 Credits.

This is a systems oriented course designed to introduce students to the concepts, techniques, and applications of PC-based computer aided drafting. It is the intent of the course to provide students with competencies that will allow them to use the system to create drawing files and download files for hard copies. Command structure, coordinate systems, text dimensions, and plotting will be covered.

Course Fees: \$15.75

DDSN 116. 3D CAD. 3 Credits.

This is a study in advanced CAD concepts and procedures to develop three-dimensional wire frame models. Emphasis will be on the creation and use of 3D primitives, surface modeling, basic solids modeling, shading techniques, and the use of animation software. Exercises will include rendered output to paint type printers. Prerequisite: DDSN 114.

Course Fees: \$15.75

DDSN 192. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

DDSN 239. Parametric CAD. 3 Credits.

The student will explore advanced computer modeling and techniques used in industrial design. Students will experiment with various applications in solving assigned problems. Prerequisite: DDSN 116, DDSN 376, or consent of instructor.

Course Fees: \$10.75

DDSN 245. Civil Drafting. 3 Credits.

Fundamentals of mapping and geographic information systems (GIS). Includes applications of mapping projections, presentation of surveying information, and GIS methods. Mapping and GIS computer applications will be used and developed throughout the course. Pre-requisites: DDSN 114.

Course Fees: \$10.75

DDSN 255. Machine Drafting. 3 Credits.

The study and application of standards used for producing working drawings, including the fundamentals of geometric dimensioning and tolerancing. Both detail and assembly drawings will be produced. Prerequisite: DDSN 116 3D CAD.

Course Fees: \$15.75

DDSN 265. Architectural Drafting. 3 Credits.

This course is the study of the principles involved in the construction drawings of an average wood frame residential structure. A complete set of working drawings will be developed.

Course Fees: \$10.75

DDSN 292. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

DDSN 298. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail only. 201450.

DDSN 312. CAD Management. 3 Credits.

This course will introduce the successful student to various aspects of CAD Management and decision making. The successful student will gain knowledge applicable to an active CAD environment in which technological concerns need to be addressed in a clear and efficient manner. Prerequisite: DDSN 114.

DDSN 376. Presentation & Animation. 3 Credits.

A study in the effects of using CAD images and animation for professional presentations. Students will explore a variety of software and techniques. Prerequisite: DDSN 114.

Course Fees: \$15.75

DDSN 435. Industrial Product Design. 3 Credits.

An advanced course designed to prepare the student for the basics of mechanical design. Techniques and procedures used in the design process, geometric tolerancing and dimensioning, and the application of CAD will be studied. This course meets the general education requirements for a capstone course. Prerequisites: DDSN 255 and DDSN 256.

Course Fees: \$10.75

DDSN 465. Architectural CAD II. 3 Credits.

This course allows students to apply the design process to a residential project. A complete set of working drawings will be developed and published.
Course Fees: \$15.75

DDSN 489. CAD Presentation II. 3 Credits.

A continuation in the study of CAD presentation and simulation techniques that builds on the skills learned in DDSN 376. Advanced multimedia and 3D studio concepts and methods will be explored to create still and animated images. Prerequisite: DDSN 376.
Course Fees: \$10.75

DDSN 492. Independent Study. 3 Credits.

Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

DDSN 498. Cooperative Education. 1-12 Credits.

A planned and supervised work-learning experience extending the student's learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: Cooperative Education 298 or Junior standing and approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail only.