ONE PAGE SUMMARY

Creative Skills › 3D Design & Modeling › CAD & 3D Printing Basics

Overview

Master the Basics of CAD and 3D Printing for Creative Design!

DEFINITION

> CAD (Computer-Aided Design) is software used to create detailed 3D models. 3D printing is the process of turning these digital designs into physical objects.

KEY CONCEPTS

CAD Software

Programs like AutoCAD and SolidWorks help designers create precise 3D models.

3D Printing Process

This involves slicing the 3D model into layers and printing them one by one.

File Formats

Common formats like STL and OBJ are used to save and share 3D models.

Material Types

Different materials like PLA, ABS, and resin are used for various 3D printing applications.

Design Principles

Understanding balance, proportion, and functionality is crucial for effective 3D design.

EXAMPLES

→ Creating a custom phone case using CAD software.

→ 3D printing a prototype for a new product design.

→ Designing a miniature architectural model for a project.

MEMORY TIPS

★ Remember 'CAD' as 'Create And Design'.

★ Think of '3D' as 'Three Dimensions' - width, height, and depth.

★ Use the acronym 'MFD' for Material, File, and Design principles.

COMMON MISTAKES

✗ Neglecting to check the print settings before starting a print.

✗ Using incorrect file formats that printers can't read.

✗ Overlooking the importance of model scale and dimensions.

QUICK RECAP

CAD and 3D printing are essential tools for modern design. Understanding software, file formats, and materials is key to successful projects. Remember to check settings and use appropriate formats to avoid common pitfalls.