

DEPARTMENT OF TECHNOLOGY EDUCATION, IER
UNIVERSITY OF THE PUNJAB, LAHORE-PAKISTAN
Course Outline

Programme	BS Technology Education	Course Code	BSSTE303	Credit Hours	3
Course Title	Computer Assisted Design and Drafting (CADD)				
Course Introduction					
This course provides a basic introduction to Computer Assisted Design and Drafting (CADD). Students will learn the fundamental principles of CADD, including the use of software tools, drafting techniques, and design concepts. The course includes theoretical understanding and practical exercises to develop foundational skills in CADD.					
Learning Outcomes					
On the completion of the course, the students will: 1. Understand the basic concepts and terminology of CADD. 2. Navigate and utilize CADD software effectively. 3. Create and edit basic technical drawings. 4. Apply drafting techniques and standards. 5. Develop simple design projects using CADD software.					
Course Content				Assignments/Readings	
Week 1	Introduction to CADD			Reflective essay on the impact of CADD in modern design and drafting	
	Unit 1.1: Overview of CADD Unit 1.2: History and Evolution of CADD				
Week 2	Basic Concepts and Terminology			Create a glossary of common CADD terms	
	Unit 2.1: Understanding CADD Terminology Unit 2.2: Introduction to CADD Software Interface				
Week 3	Navigating CADD Software			Explore and document the main features of a CADD software interface	
	Unit 3.1: Basic Navigation and Tools Unit 3.2: Customizing the Workspace				
Week 4	Drawing Fundamentals			Create a basic 2D drawing	

	• Unit 4.1: Basic Drawing Commands	using simple drawing commands
	• Unit 4.2: Coordinate Systems and Grids	
Week 5	Editing and Modifying Drawings • Unit 5.1: Basic Editing Tools	Modify an existing drawing to include new elements
	• Unit 5.2: Advanced Editing Techniques	
Week 6	Layers and Object Properties • Unit 6.1: Using Layers in CAD	Organize a drawing using layers and adjust object properties
	• Unit 6.2: Managing Object Properties	
Week 7	Drafting Standards and Conventions • Unit 7.1: Introduction to Drafting Standards	Research and present on international drafting standards
	• Unit 7.2: Applying Drafting Conventions	
Week 8	Creating Text and Dimensions • Unit 8.1: Adding and Formatting Text	Annotate a drawing with text and dimensions
	• Unit 8.2: Creating and Modifying Dimensions	
Week 9	Working with Blocks and Symbols • Unit 9.1: Creating and Using Blocks	Develop a library of custom blocks and symbols
	• Unit 9.2: Managing Symbol Libraries	
Week 10	Introduction to 3D Modeling • Unit 10.1: Basic 3D Modeling Concepts	Create a basic 3D model of a simple object
	• Unit 10.2: Creating Simple 3D Models	
Week 11	Advanced 3D Modeling Techniques • Unit 11.1: Extrusion and Revolve	Develop a complex 3D model using advanced techniques
	• Unit 11.2: Boolean Operations and Modifiers	

Week 12	Rendering and Visualization • Unit 12.1: Introduction to Rendering	Render a 3D model and create a presentation
	• Unit 12.2: Basic Visualization Techniques	
Week 13	Plotting and Printing • Unit 13.1: Plotting Basics	Prepare and print a drawing to scale
	• Unit 13.2: Setting Up Print Layouts	
Week 14	CADD Project Management • Unit 14.1: Organizing and Managing CADD Projects •	Develop a project management plan for a CADD project
	• Unit 14.2: Collaboration and File Sharing	
Week 15	Final Project Development • Unit 15.1: Planning and Designing the Final Project	Develop and present a final CADD project incorporating various techniques learned throughout the course
	• Unit 15.2: Implementing the Final Project	
Week 16	Course Review and Final Assessment • Unit 16.1: Review of Key Concepts and Themes	Group presentation summarizing key learning from the course
	• Unit 16.2: Comprehensive Final Exam	
Textbooks and Reading Material		
1. Textbooks. ○ AutoCAD 2021 For Beginners by CAD Artifex 2. Suggested Readings ○ Engineering Drawing and Design by David A. Madsen and David P. Madsen		
Teaching Learning Strategies		
1. Lectures: To introduce and explain key concepts and theories. 2. Hands-on Labs: To provide practical experience with robotics components and programming.		

3. **Assignments and Projects:** To reinforce learning and encourage application of concepts in real-world scenarios.
4. **Group Discussions:** To facilitate peer learning and collaborative problem-solving.

Assessment

Sr. No.	Elements	Weight age	Details
1.	Midterm Assessment	35%	Written Assessment at the mid-point of the semester.
2.	Formative Assessment	25%	Continuous assessment includes: Classroom participation, assignments, presentations, viva voce, attitude and behavior, hands-on-activities, short tests, projects, practical, reflections, readings, quizzes etc.
3.	Final Assessment	40%	Written Examination at the end of the semester. It is mostly in the form of a test, but owing to the nature of the course the teacher may assess their students based on term paper, research proposal development, field work and report writing etc.