

CS 78.1B Course Outline as of Fall 2026**CATALOG INFORMATION**

Dept and Nbr: CS 78.1B Title: DESIGN IT 3D PRINTING

Full Title: Design It for 3D Printing

Last Reviewed: 12/8/2025

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	1.50	Lecture Scheduled	3.00	8	Lecture Scheduled	24.00
Minimum	1.50	Lab Scheduled	1.00	4	Lab Scheduled	8.00
		Contact DHR	0		Contact DHR	0
		Contact Total	4.00		Contact Total	32.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 48.00

Total Student Learning Hours: 80.00

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

Catalog Description:

In this course students will learn how to modify existing 3D models and create their own custom objects. Students will work with 3D modeling and slicing software to print these objects.

Prerequisites/Corequisites:

Course Completion of CS 78.1A

Recommended Preparation:

Eligibility for ENGL C1000 (formerly ENGL 1A), or eligibility for EMLS 10 (formerly ESL 10), or equivalent; or appropriate placement based on AB705 mandates

Limits on Enrollment:**Schedule of Classes Information:**

Description: In this course students will learn how to modify existing 3D models and create their own custom objects. Students will work with 3D modeling and slicing software to print these objects. (Grade or P/NP)

Prerequisites/Corequisites: Course Completion of CS 78.1A

Recommended: Eligibility for ENGL C1000 (formerly ENGL 1A), or eligibility for EMLS 10 (formerly ESL 10), or equivalent; or appropriate placement based on AB705 mandates

Limits on Enrollment:
Transfer Credit: CSU;
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area	Effective:	Inactive:
CSU GE:	Transfer Area	Effective:	Inactive:
IGETC:	Transfer Area	Effective:	Inactive:
CSU Transfer:	Transferable	Effective: Spring 2019	Inactive:
UC Transfer:		Effective:	Inactive:

CID:

Certificate/Major Applicable:

Both Certificate and Major Applicable

COURSE CONTENT

Student Learning Outcomes:

At the conclusion of this course, the student should be able to:

1. Manipulate basic objects in a 3D environment.
2. Create and print basic 3D objects.

Objectives:

At the conclusion of this course, the student should be able to:

1. Create basic 3D models using at least three basic modeling shapes.
2. Modify 3D models using at least three basic editing tools.
3. Manipulate camera controls in order to see models from different angles.
4. Import existing 3D models and add to existing projects.
5. Print 3D objects.

Topics and Scope:

- I. Understanding 3D Terminology
- II. Basic 3D Model Creation
 - A. Lines, rectangles, circles, and arcs
 - B. Pushing and pulling faces and edges
 - C. Selecting objects and object components
- III. Editing 3D Models
 - A. Scaling and rotating objects
 - B. Combining primitive shapes
- IV. Printing Custom 3D Objects

All topics are covered in the lecture and lab portions of the course.

Assignment:

1. Weekly Assignments (3-5), such as
 - a. Slicing software assignments
 - b. Terminology quizzes/activities
 - c. 3D Printing Projects
 - d. Identification assignments

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments are more appropriate for this course.

Writing
0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Weekly projects

Problem solving
60 - 70%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None

Skill Demonstrations
0 - 0%

Exams: All forms of formal testing, other than skill performance exams.

Final exam

Exams
20 - 30%

Other: Includes any assessment tools that do not logically fit into the above categories.

Attendance and participation

Other Category
0 - 10%

Representative Textbooks and Materials:

3D Printing Projects. DK. DK Children. 2017. (Classic).