

CS 78.1A Course Outline as of Spring 2019**CATALOG INFORMATION**

Dept and Nbr: CS 78.1A Title: MAKE IT WITH 3D PRINTING

Full Title: Make It with 3D Printing

Last Reviewed: 9/24/2018

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:

Learn where to find 3D models and turn them into physical objects using a variety of 3D printers. Includes learning about the features and abilities of 3D printers and the software and hardware used for 3D printing.

Prerequisites/Corequisites:**Recommended Preparation:**

Eligibility for ENGL 100 or ESL 100

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

Description: Learn where to find 3D models and turn them into physical objects using a variety of 3D printers. Includes learning about the features and abilities of 3D printers and the software and hardware used for 3D printing. (Grade or P/NP)

Prerequisites/Corequisites:

Recommended: Eligibility for ENGL 100 or ESL 100

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

Approval and Dates

Version:	01	Course Created/Approved:	9/24/2018
Version Created:	8/21/2018	Course Last Modified:	9/28/2021
Submitter:	Donald Laird	Course last full review:	9/24/2018
Version Status:	Approved New Course (First Version)	Prereq Created/Approved:	9/24/2018
Version Status Date:	9/24/2018	Semester Last Taught:	Fall 2019
Version Term Effective:	Spring 2019	Term Inactive:	Spring 2022

COURSE CONTENT

Student Learning Outcomes:

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

1. Find and download existing 3D models.
2. Print objects on a selection of 3D printers.

Objectives:

Upon completion of the course, students will be able to:

1. Locate existing 3D models to meet project requirements.
2. Identify 3D printer parts and components.
3. Work with slicing software.
4. Operate 3D printers.

Topics and Scope:

- I. Understanding 3D Printing
 - A. Hardware
 1. Filament
 2. Types of 3D printers
 3. 3D printer components
 - B. Software
 1. File formats

- 2. Slicing software
- II. Locating Pre-Built 3D Models
- III. Configuring and Using Slicing Software
- IV. Printing 3D Objects
 - A. Proper filament selection
 - B. Safety
 - C. Operating procedures

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

Assignment:

Lecture-Related Assignments:

- 1. Weekly assignments (3 - 5)
- 2. Terminology glossary
- 3. One final exam

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 skill demonstrations 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.

None

Problem solving
0 - 0%

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

Weekly assignments, glossary assignment

Skill Demonstrations
60 - 70%

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

Final exam

Exams
30 - 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:

Getting Started with 3D Printing: A Hands-on Guide to the Hardware, Software, and Services

That Make the 3D Printing Ecosystem. 2nd ed. Kloski, Liza and Kloski, Nick. Maker Media.
2018

OTHER REQUIRED ELEMENTS

STUDENT PREPARATION

Matric Assessment Required:	E	Requires English Assessment
Prerequisites-generate description:	NP	No Prerequisite
Advisories-generate description:	A	Auto-Generated Text
Prereq-provisional:	N	NO
Prereq/coreq-registration check:	N	No Prerequisite Rules Exist
Requires instructor signature:	N	Instructor's Signature Not Required

BASIC INFORMATION, HOURS/UNITS & REPEATABILITY

Method of instruction:	02	Lecture
	04	Laboratory
Area department:	CS	Computer Studies
Division:	72	Arts & Humanities
Special topic course:	N	Not a Special Topic Course
Program status:	1	Both Certificate and Major Applicable
Repeatability:	00	Two Repeats if Grade was D, F, NC, or NP
Repeat group id:		CS 781 781A

SCHEDULING

Audit allowed:	Y	Auditable
Open entry/exit:	N	Not Open Entry/Open Exit
Credit by exam:	N	Credit by examination not allowed
Budget code: Program:	0000	Unrestricted
Budget code: Activity:	0701	Computer & Information Science

OTHER CODES

Discipline:	Computer Information Systems	
Basic skills:	N	Not a Basic Skills Course
Level below transfer:	Y	Not Applicable
CVU/CVC status:	N	Not Distance Ed
Distance Ed Approved:	N	
Emergency Distance Ed Approved:	N	None
Credit for Prior Learning:	N	Agency Exam
	N	CBE
	N	Industry Credentials
	N	Portfolio
Non-credit category:	Y	Not Applicable, Credit Course
Classification:	Y	Career-Technical Education
SAM classification:	C	Clearly Occupational
TOP code:	0702.00	Computer Information Systems
Work-based learning:	N	Does Not Include Work-Based Learning
DSPS course:	N	Not a DSPS Course
In-service:	N	Not an in-Service Course
Lab Tier:	21	Credit Lab - Tier 1