## CS 78.1B Course Outline as of Spring 2019

# CATALOG INFORMATION

Dept and Nbr: CS 78.1B          Title: DESIGN IT 3D PRINTING
Full Title: Design It for 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 how to modify existing 3D models and create your own custom objects. Work with 3D modeling and slicing software to print these objects.

**Prerequisites/Corequisites:**
Course Completion of CS 78.1A

**Recommended Preparation:**
Eligibility for ENGL 100 or ESL 100

**Limits on Enrollment:**

**Schedule of Classes Information:**
Description: Learn how to modify existing 3D models and create your own custom objects. 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 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: | 6/26/2023 |
| 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: | |
| Version Term Effective: | Spring 2019 | Term Inactive: | |

# 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:**

Lecture-Related Assignments:
1. Weekly projects (1 - 5)
2. 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 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

# OTHER REQUIRED ELEMENTS

## STUDENT PREPARATION

| | | |
|---|---|---|
| Matric Assessment Required: | E | Requires English Assessment |
| Prerequisites-generate description: | A | Auto-Generated Text |
| Advisories-generate description: | A | Auto-Generated Text |
| Prereq-provisional: | N | NO |
| Prereq/coreq-registration check: | Y | 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: | | |

## 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 |