

MAKR M901: INTRODUCTION TO MAKERSPACE AND MAKERSPACE SAFETY

Originator

csadnik

College

Moorpark College

Discipline (CB01A)

MAKR - MakerSpace

Course Number (CB01B)

M901

Course Title (CB02)

Introduction to MakerSpace and MakerSpace Safety

Banner/Short Title

Intro to MakerSpace

Credit Type

Noncredit

Start Term

Fall 2021

Catalog Course Description

Introduces students to the MakerSpace and general MakerSpace safety protocols. Provides a context for the role that MakerSpace plays in the design process and culture. Prepares students to use the campus MakerSpace in a safe and effective manner.

Taxonomy of Programs (TOP) Code (CB03)

1030.00 - *Graphic Art and Design

Course Credit Status (CB04)

N (Noncredit)

Course Transfer Status (CB05) (select one only)

C (Not transferable)

Course Basic Skills Status (CB08)

N - The Course is Not a Basic Skills Course

SAM Priority Code (CB09)

D - Possibly Occupational

Course Cooperative Work Experience Education Status (CB10)

N - Is Not Part of a Cooperative Work Experience Education Program

Course Classification Status (CB11)

L - Non-Enhanced Funding

Educational Assistance Class Instruction (Approved Special Class) (CB13)

N - The Course is Not an Approved Special Class

Course Prior to Transfer Level (CB21)

Y - Not Applicable

Course Noncredit Category (CB22)

I - Short-Term Vocational

Funding Agency Category (CB23)

A - Primarily Developed Using Economic Development Funds

Course Program Status (CB24)

1 - Program Applicable

General Education Status (CB25)

Y - Not Applicable

Support Course Status (CB26)

N - Course is not a support course

Field trips

Will not be required

Grading method

Pass/No Pass Grading

Does this course require an instructional materials fee?

No

Repeatable for Credit

Yes

Number of times a student may enroll in this course

Unlimited

Units and Hours

Carnegie Unit Override

No

Total in-Class (full semester or term)

Total Minimum Contact/In-Class Hours (for full semester or term; not weekly)

4

Total Maximum Contact/In-Class Hours (for full semester or term; not weekly)

4

Total Student Learning

Total Student Learning

Total Minimum Student Learning Hours

4

Total Maximum Student Learning Hours

4

Student Learning Outcomes (CSLOs)

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

-
- | | |
|---|---|
| 1 | recognize the role of the MakerSpace on campus and within culture |
| 2 | identify rapid prototyping and MakerSpace equipment |
| 3 | demonstrate MakerSpace safety |

Course Objectives

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

- | | |
|---|---|
| 1 | identify MakerSpace equipment |
| 2 | understand and apply MakerSpace safety protocols |
| 3 | demonstrate an understanding of what each piece of MakerSpace equipment is used for |
| 4 | demonstrate proper operation of bookbinding equipment |
| 5 | demonstrate proper operation of button machines |
| 6 | define and differentiate between additive and subtractive manufacturing methods and which equipment uses which method |
| 7 | recognize and explain the role of the MakerSpace on campus |
| 8 | recognize and explain the role of MakerSpaces in culture and industry |

Course Content

Lecture/Course Content

(25 %) Introduction to MakerSpace

- What is a MakerSpace
- What role does the MakerSpace play on our campus
- How are MakerSpaces used and what role do they play outside of academia
- MakerSpace and entrepreneurship

(25%) MakerSpace Safety

- Safety procedures
- Proper tool usage and protocols

(50%) Introduction to MakerSpace equipment, rapid prototyping, additive and subtractive manufacturing.

- 3-D Printing
- Button machines
- Book binding
- Vinyl cutting and printing
- Laser cutter
- CNC milling

Methods of Evaluation

Which of these methods will students use to demonstrate proficiency in the subject matter of this course? (Check all that apply):

Problem solving exercises
Skills demonstrations

Methods of Evaluation may include, but are not limited to, the following typical classroom assessment techniques/required assignments (check as many as are deemed appropriate):

Group projects
Individual projects
Quizzes
Skills demonstrations
Skill tests or practical examinations

Instructional Methodology

Specify the methods of instruction that may be employed in this course

Audio-visual presentations
Class activities
Distance Education
Demonstrations
Group discussions
Instructor-guided use of technology
Lecture
Small group activities

Describe specific examples of the methods the instructor will use:

1. The instructor will present the concept of MakerSpace and explain its role on our campus, how MakeSpaces extend outside of academia and class discussions on this topic.
2. The instructor will present and demonstrate how to use equipment in the MakerSpace.

Representative Course Assignments**Writing Assignments**

1. Take notes on how to use the button machine
2. Explain why safety in the MakerSpace is important and how we ensure that it is being enforced.

Critical Thinking Assignments

1. Identify MakerSpace equipment and explain what that piece of equipment is used for.
2. Differentiate between additive and subtractive manufacturing methods and which equipment uses which method.

Reading Assignments

1. Read an excerpt from "Free to Make" and discuss in small groups
2. Read and comprehend definitions of key terminology in the packet provided by the instructor

Skills Demonstrations

1. Demonstrate proper use of the button machine
2. Demonstrate proper use of the book binding equipment
3. Demonstrate proper MakerSpace safety protocols

Outside Assignments**Articulation****Equivalent Courses at other CCCs**

| College | Course ID | Course Title | Units |
|----------------------------|-----------|--------------|-------|
| no noncredit courses found | | | |

Textbooks and Lab Manuals**Resource Type**

Other Resource Type

Description

Dougherty, Dale and Ariane Conrad. *Free to Make: How the Maker Movement is Changing Our Schools, Our Jobs, and Our Minds*. North Atlantic Books, 2016.

Resource Type

Other Instructional Materials

Description

Instructor-generated Introduction to MakerSpace Packet containing MakerSpace safety protocols, equipment operation manuals, and keys terms.

Library Resources**Assignments requiring library resources**

Research using the Library's print and online resources.

Example of Assignments Requiring Library Resources

Utilize Library resources to research the role of the MakerSpace on campus and within culture.

Utilize Library resources to research how to cultivate a diverse and inclusive culture in a Makerspace environment.

Distance Education Addendum

Definitions

Distance Education Modalities

Hybrid (1%–50% online)

Faculty Certifications

Faculty assigned to teach Hybrid or Fully Online sections of this course will receive training in how to satisfy the Federal and state regulations governing regular effective/substantive contact for distance education. The training will include common elements in the district-supported learning management system (LMS), online teaching methods, regular effective/substantive contact, and best practices.

Yes

Faculty assigned to teach Hybrid or Fully Online sections of this course will meet with the EAC Alternate Media Specialist to ensure that the course content meets the required Federal and state accessibility standards for access by students with disabilities.

Common areas for discussion include accessibility of PDF files, images, captioning of videos, Power Point presentations, math and scientific notation, and ensuring the use of style mark-up in Word documents.

Yes

Regular Effective/Substantive Contact

Hybrid (1%–50% online) Modality:

| Method of Instruction | Document typical activities or assignments for each method of instruction |
|--|---|
| Asynchronous Dialog (e.g., discussion board) | Regular Asynchronous discussion boards will be used to encourage discussion among students where they can compare and contrast/ discuss /identify and analyze elements of course outcomes. Other discussion boards will also be used for Q&A, and general class discussion by students and the instructor to facilitate student learning outcomes. |
| E-mail | Email, class announcements and tools such as “Message Students Who” and “Assignment Comments” in Canvas will be used to regularly communicate with all students to clarify class content, remind of upcoming assignments, and provide immediate feedback to students on coursework to facilitate student learning outcomes. Students will be given multiple ways to email instructor through Canvas inbox and faculty provided email account through their own canvas email and school email. |
| Synchronous Dialog (e.g., online chat) | Communication, Online office hours, Online group discussions. |
| Other DE (e.g., recorded lectures) | Recorded lectures, Narrated Slides, Screencasts, Instructor created content, Discussions, 3rd Party (Publisher) Tools, Websites and Blogs, Multimedia (YouTube, Films on Demand, 3CMedia, Khan Academy, etc.) |

Examinations

Hybrid (1%–50% online) Modality

Online
On campus

Primary Minimum Qualification

GRAPHIC ARTS

Review and Approval Dates

Department Chair

11/17/2020

Dean

11/20/2020

Technical Review

1/21/2021

Curriculum Committee

02/02/2021

DTRW-I

02/11/2021

Curriculum Committee

MM/DD/YYYY

Board

03/09/2021

CCCCO

MM/DD/YYYY

DOE/accreditation approval date

MM/DD/YYYY