LINC 484D: VECTOR-BASED GRAPHIC DESIGN FOR MAKERSPACES NONCREDIT

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Fall 2026
Units:	0
Hours:	1 lecture per week (12 total per quarter)
Advisory:	Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity with web browsers, email, downloading, and uploading.
Degree & Credit Status:	Non-Degree-Applicable Non-Credit Course
Foothill GE:	Non-GE
Transferable:	None
Grade Type:	Non-Credit Course (Receives no Grade)
Repeatability:	Unlimited Repeatability

Description

This course provides an overview of web-based graphic design software, with a specific focus on designing for use with makerspace tools. Students will learn the basic procedures of vector design, including drawing objects, adjusting stroke outline and fill patterns, and working with layers while applying inclusive, accessibility-minded design principles that serve diverse makerspace users. Students will both design new vector graphics and import and adapt existing graphics in order to facilitate their physical production using makerspace tools. Special emphasis will be placed on formatting vector graphics to meet the import requirements of different production tools, including laser cutters, vinyl cutters, CNC machines, and 3-D printers.

Course Objectives

The student will be able to:

1. Use the interface, tools, and basic techniques of a vector-based graphic design program to create a graphic design document.
2. Identify vector and bitmap graphics and know how each functions in a makerspace context.
3. Use line and pen tools to draw and trace graphics.
4. Create and manipulate shapes to develop complex objects.
5. Create typographic illustrations for makerspace purposes.
6. Format various graphics based on the requirements of different makerspace tools.

Course Content

1. Interface and tools
   a. Work area layout
   b. Customizing work area
   c. Tool functions
2. Graphic file formats
   a. Attributes of vector graphics
   b. Converting bitmap graphics to vector format
   c. Refining conversions to maintain user accessibility (clear paths, high-contrast options)
3. Line and pen tools
   a. Line tool
   b. Pen tool
   c. Pen curvature tool
   d. Layer management
   e. Tracing illustrations
4. Shapes
   a. Shape creation tools
   b. Transform, rotate, warp, skew
   c. Merging shapes
   d. Slicing shapes
5. Typography
   a. Font manipulation for readability and accessibility (legible, open-source typefaces)
   b. Typographic conversions
   c. Type on a path
6. Graphic formatting
   a. Laser cutter formatting
   b. Vinyl cutter formatting
   c. CNC machine formatting
   d. 3-D printer formatting

Lab Content

Not applicable.

Special Facilities and/or Equipment

When taught via the internet: Students must have current email accounts and/or ongoing access to internet-capable computers or tablets.

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Designing and developing makerspace illustration projects and products that meet accessibility guidelines and consider diverse user needs
Presenting the product or project to peers, capturing feedback, and using it to revise the product or project
Making constructive contributions to class discussions and peer review feedback

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

The student will engage with course concepts through multimodal instructional materials offered in accessible formats, supplying multiple means of representation
The student will observe instructor-guided demonstrations and then apply skills using a modality of their choice (e.g., digital, visual, or written), providing multiple means of action and expression
The student will co-construct knowledge by participating in synchronous or asynchronous discussions, peer feedback, and collaborative activities that honor diverse cultural and linguistic assets, ensuring multiple means of engagement

Representative Text(s) and Other Materials

Szép, István. Inkscape by Example: A Project-Based Guide to Exploring the Endless Features of Inkscape. 2022.

Instructor-assigned notes, materials, and resources, including instructional materials, open education resources, multimedia, and websites.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Writing assignments include a major course project and multiple developmental projects, online discussion response, and critical analysis of peers' educational projects.
2. Outside assignments include conducting project development, planning, reading, and developing the project through an iterative process.
3. When taught online these methods may take the form of video, audio, animation, and webpage presentations. Writing assignments are completed online.

Discipline(s)

Instructional Design/Technology