

# USC Iovine and Young Academy

*Arts, Technology and the Business  
of Innovation*

## PRIN 516 - Maker Foundation II

**Units:** 2

**Day-Time:** Fall 2021, Thursday, 9:00am - 11:50am

**Location:** IYH 107

**Instructor:** Aaron Siegel

**Office:** Online

**Office Hours:** By email appointment.

**Contact Info:** [aaronsie@usc.edu](mailto:aaronsie@usc.edu)

### IT Help:

<https://uscedu.sharepoint.com/sites/IYAStudent/SitePages/IT-Resources.aspx>

**Hours of Service:** M-F, 8:30am - 6:30pm

**Contact Info:** [iya.helpdesk@usc.edu](mailto:iya.helpdesk@usc.edu), 213-821-6917

### Course Description

This is an advanced level class that will reinforce the skills and techniques learned in Maker Foundation I and further student's understanding and practice of design thinking, using Adobe CS industry standard software programs: Photoshop, Illustrator, InDesign, and Dimension, as well as Figma and Fusion360. Practical and theoretical projects will pose challenging design problems that will encourage students to research, experiment, iterate and forge effective solutions in cross disciplinary collaborations.

Projects will require looking through a wide range of lenses with which to view a project prompt and what tools are most effective towards a solution. Who are you working for? Who are you speaking to? Why is it being created? Where is this concept going to be seen and when? What are the best tools to communicate your solutions? How will you help viewers navigate and engage with your designed experience? These and many other questions will be posed in context with the digital vehicle being utilized. The prompts focus not only on the application of techniques, but also on creating effective solutions using principles of design.

Students will use software in a variety of ways including image manipulation, color correction, compositing, typography, page layout, web design, user experience, user interface, 3d modeling, and 3d rendering.

### Learning Objectives and Outcomes

- Reinforce the skills and techniques learned in Maker Foundation I.
- Identify and become familiar with contemporary computer-generated artwork and related historical, social, and cultural contexts.
- Create brand identity and marketing materials.
- Apply problem-solving methodology using digital programs.
- Utilize advanced image color correction strategies.
- Learn advanced techniques in photo compositing and digital painting.
- Compose and use appropriate hierarchy using typography.

**Prerequisite(s):** None.

**Co-Requisite(s):** None.

**Concurrent Enrollment:** PRIN 515 - Maker Foundation I.

**Recommended Preparation:** Have Adobe Illustrator and Photoshop installed prior to the first day of class.

### Course Notes

Students are responsible for all readings, assignments, homework, in-class work, lectures, and presentations.

## Technological Proficiency and Hardware/Software Required

- Laptop computer with authorized installations of the following software:
  - Adobe Illustrator.
  - Adobe Photoshop.
  - Adobe Dimension.
  - Adobe InDesign.
  - Figma.
  - Fusion360.
- Digital camera (smartphone will do).

## Academy Attendance Policy

The Academy maintains rigorous academic standards for its students and on-time attendance at all class meetings is expected. Each student will be allowed two excused absences over the course of the semester for which no explanation is required. Students are admonished to not waste excused absences on non-critical issues, and to use them carefully for illness or other issues that may arise unexpectedly. Except in the case of prolonged illness or other serious issue (see below), no additional absences will be excused. Each unexcused absence will result in the lowering of the final grade by  $\frac{1}{3}$  of a grade (e.g., an A will be lowered to A-, and A- will be lowered to a B+, etc.). In addition, being tardy to class will count as one-third of an absence. Three tardies will equal a full course absence.

Students remain responsible for any missed work from excused or unexcused absences. Immediately following an absence, students should contact the instructor to obtain missed assignments or lecture notes and to confirm new deadlines or due dates. Extensions or other accommodations are at the discretion of the instructor.

Automatically excused absences normally may not be used for quiz, exam or presentation days. Using an excused absence for a quiz, exam or presentation, such as in the case of sudden illness or other emergency, is at the discretion of the instructor.

In the case of prolonged illness, family emergencies, or other unforeseen serious issues, the student should contact the instructor to arrange for accommodation. Accommodation may also be made for essential professional or career-related events or opportunities. All accommodations remain at the discretion of the instructor, and appropriate documentation may be required.

### *Fall 2021 addendum:*

- Unless students provide an accommodation letter from USC's Office of Student Accessibility Services or a letter from IYA Student Services detailing visa or travel restrictions, attendance and active participation is expected in the classroom. Any student with such accommodations should submit their accommodation document to the instructor as soon as possible to discuss appropriate accommodations. Either classroom recordings or live remote access to the class via Zoom will be provided.
- Students who are experiencing illness should not attend class in person. Please inform the instructor in advance of any class sessions that you can't attend for medical reasons, and accommodations will be arranged to view recorded lectures and submit alternatives to any missed class participation. Students will not be penalized for not attending class in person under these circumstances.
- In the event that you find yourself experiencing COVID-19 related symptoms, in keeping with university recommendations, you should Stay home! This is the best way to prevent spreading COVID-19 as supported by scientific evidence; Please do not come to an in-person class if you are feeling ill, particularly if you are experiencing symptoms of COVID-19

Grading Breakdown		Grading Scale		
Project Assignments	80%		A = 100 - 95	A- = 94 - 90
Readings	10%	B+ = 89 - 87	B = 86 - 83	B- = 82 - 80
Participation	10%	C+ = 79 - 77	C = 76 - 73	C- = 72 - 70
		D+ = 69 - 67	D = 66 - 63	D- = 62 - 60
		F = 59 and below		

## Evaluation

A: (95-100%) A-: (90-94%)

**EXCELLENT** Means that your work is excellent. You have a thorough understanding of the course content, theories and the ideas presented in lectures and readings. Grades on all your assignments, attendance and participation are consistently excellent. You are engaged and actively participate in discussions and with the assignments. All of your assignments are thoroughly researched and turned in on time. You consistently demonstrate a high level of comprehension in your discussions and through your assignments.

B+: (87-89%) B: (83-86%) B-: (80-83%)

**GOOD** Means that your work is good and you demonstrate an above average understanding of the course content. Your grades on all your assignments, attendance and participation are consistently good or excellent. Ideas presented in class are understood and are reflected in your assignments. Your concepts were good, if not excellent, and you were usually able to bring them to life visually as needed.

C+: (77-79%) C: (73-76%) C-: (70-73%)

**AVERAGE** Means that your work, attendance, and participation are fair (average). You understand some of the ideas, themes and concepts presented in class. Your attendance and participation are average. Your performance in critiques and are average.

D+: (67-69%) D: (60-66%)

**BELOW AVERAGE** Means that your work was below average. You did not understand most of the ideas presented in class and did not adequately demonstrate comprehension in your assignments. Assignments were routinely not turned in or turned in on time. Your assignments are mediocre or poor and you were not able to communicate comprehension. Your attendance and participation were poor.

F: (0-59%)

**FAILING** Means that your work was poor or missing. You didn't understand the majority of the ideas presented in class and it is reflected in your work. Your concepts and ideas were poor or lacking and/or your work was not turned in. You did not attend and participate enough to pass.

## Required Readings and Supplementary Materials

- [The Interface Effect – Alexander R. Galloway](#)
- [HTML Responsive Design - W3Schools](#)
- [Responsive Web Design Basics - Pete LePage](#)
- [Grid Systems - Josef Muller-Brockmann](#)
- [The Narrative Storyboard - Bill Buxton](#)
- [Ten Principles of Good Design - Dieter Rams](#)

## Additional Online Resources

- [LinkedIn Learning - Illustrator CC 2021 One-on-One Fundamentals by Deke McClelland](#)
- [LinkedIn Learning - Photoshop CC 2021 One-on-One Fundamentals by Deke McClelland](#)
- [LinkedIn Learning - Adobe Dimension Essential Training: The Basics by Theresa Jackson](#)
- [LinkedIn Learning - Adobe Dimension Essential Training: Workflows with Photoshop and Illustrator by Theresa Jackson](#)
- [LinkedIn Learning - Fusion 360 Essential Training by Nick Kloski](#)
- [Adobe Creative Cloud Youtube Channel](#)

## Weekly Course Schedule

IN CLASS MATERIAL:	READINGS AND ASSIGNMENTS DUE:
<b>Week 1 - Vector Graphics (Thursday, 8/26):</b>	
Introduction: Syllabus, Schedule, Assignments. <i>Lecture:</i> Shapes, Composition, Value. <i>Workshop:</i> Adobe Illustrator Basics.	
<b>Week 2 - Vector Graphics (Thursday, 9/2):</b>	
<i>Presentations:</i> Symmetric and Asymmetric Compositions. <i>Workshop:</i> Adobe Illustrator Tools.	<b>DUE: Symmetric and Asymmetric Compositions.</b>
<b>Week 3 - Photo Manipulation (Thursday, 9/9):</b>	
<i>Presentations:</i> Product Illustration. <i>Workshop:</i> Adobe Photoshop Basics.	<b>DUE: Product Illustration.</b>
<b>Week 4 - Photo Manipulation (Thursday, 9/16):</b>	
<i>Presentations:</i> Photo Color Manipulation. <i>Lecture:</i> Collage, Digital Photomontage. <i>Workshop:</i> Adobe Photoshop Compositing.	<b>DUE: Photo Color Manipulation.</b>
<b>Week 5 - Product Ideation &amp; 3D Modeling (Thursday, 9/23):</b>	
<i>Presentations:</i> Photo Color Manipulation. <i>Lecture:</i> Brainstorming and Idea Selection. <i>Workshop:</i> Fusion360 Basics.	<b>DUE: Product Photomontage.</b>
<b>Week 6 - 3D Modeling (Thursday, 9/30):</b>	
<i>Presentations:</i> Product Ideas. <i>Workshop:</i> Fusion360 Modeling.	<b>DUE: Product Ideation.</b> <b>Reading:</b> <a href="#">10 Principles of Good Design - Rams</a>
<b>Week 7 - 3D Rendering (Thursday, 10/7):</b>	
<i>Presentations:</i> 3D Model of Product Idea. <i>Workshop:</i> Adobe Dimension Basics.	<b>DUE: 3D Model of your Product Idea.</b>

### Week 8 - 3D Rendering (Thursday, 10/14):

**Presentations:** Revised Model of Product Idea.  
**Workshop:** Adobe Dimension and Photoshop.

**DUE: Revised Model of your Product Idea.**

### Week 9 - 3D Printing (Thursday, 10/21):

**Presentations:** 3D Render of Product Idea.  
**Workshop:** 3D Printing.

**DUE: 3D Render of your Product Idea.**

### Week 10 - Branding (Thursday, 10/28):

**Presentations:** 3D Print of Product Idea.  
**Lecture:** Logo Design.  
**Workshop:** Adobe InDesign.

**DUE: 3D Print of your Product Idea.**  
**Reading:** [Grid Systems - Brockmann](#)

### Week 11 - Branding (Thursday, 11/4):

**Presentations:** Logo Design.  
**Lecture:** Visual Identity.  
**Workshop:** Adobe InDesign.

**DUE: Logo Design.**  
**Reading:** [The Narrative Storyboard - Buxton](#)

### Week 12 - Interactive: Web (Thursday, 11/11):

**Presentations:** Style Guide.  
**Lecture:** Web Design.  
**Workshop:** Figma Wireframing and Mockups.

**DUE: Style Guide.**  
**Reading:** [Responsive Web Design Basics - LePage](#)  
**Reading:** [HTML Responsive Web Design - W3Schools](#)

### Week 13 - Interactive: Prototypes (Thursday, 11/18):

**Presentations:** Website Mockup.  
**Workshop:** Figma Prototyping.

**DUE: Website Mockup.**  
**Reading:** [The Interface Effect ch. 1-2 - Galloway](#)

### Week 14 - Thanksgiving Break (Thursday, 11/25):

**Thanksgiving: NO CLASS!**

### Week 15 - Exhibition Poster Design (Thursday, 12/2):

**Presentations:** Website Mockup.  
**Lecture:** Poster Design.  
**Workshop:** Poster Design.

**DUE: Website Prototype.**

### Final Presentations (Thursday, 12/9, 11am - 1pm.):

**DUE: Final Presentations of Product Poster Designs**

## Assignments

### 1. Symmetric and Asymmetric Compositions (2.5%)

Using black and white only, lines, circles, rectangles, and other shape tools to create 5 symmetric and 5 asymmetric square compositions.

### 2. Product Illustration (5%)

Use vector drawing tools to illustrate a product that you own. Take photos of the object from multiple sides: front, side, top, and birds-eye view. Import the photos into illustrator and trace over them using the pen tool on another layer. Focus on contours and less on shading and lighting.

### 3. Photo Color Manipulation (2.5%)

Select a photo that you have taken yourself and use it as source material for 4 coloration experiments: film noir, sepia, psychedelic, and painted in colors.

### 4. Product Photomontage (5%)

Source a variety of photos from the internet and combine them in order to create some sort of new invention or gadget. Think about the materials, components, lighting, and the environment in which this product sits.

### 5. Product Ideation (5%)

Invent a product that would have been very useful or enjoyable to have around while self-isolating in your home over the past year and a half. It can be a toy, a tool, an appliance, a gadget, furniture, or whatever other type of consumer product you can imagine. Your product can also be technologically futuristic and speculative, so a bit of science fiction is welcome.

- a. Brainstorm a large quantity of ideas. Allow yourself to be blue sky with your thinking and don't put constraints on your output, even if you might think it's crazy or silly. Breadth of ideas is important at this stage.
- b. Once you're satisfied with your brainstorming output, take a break and come back to your ideas and begin to refine the ones you believe are the most promising. Select the top three ideas and elaborate on them in written form.

Submit all your brainstorming ideas and final 3 best ideas together via Blackboard.

### 6. 3D Model of your Product Idea (5%)

Start by sketching your product idea as a series of different potential forms using pencil and paper. Once you have selected a potential form that you feel is interesting, attempt to create a rough model of your product form in Fusion360. Focus on the proportions, components, edges, faces, and volumes of the object. Include your sketches in your submission.

### 7. Revised 3D Model (5%)

After receiving feedback on how to improve the level of detail in your model, work in Fusion360 to add those additional details to the model geometry and embellish features to make the model more realistic and interesting.

### 8. 3D Render of your Product Idea (10%)

Use Adobe Dimension to render a photorealistic image of your product model. Consider how to light the object and what sort of environment the object should be placed within.

**9. 3D Print of your Product Idea (5%)**

Produce a small scale 3D printed model of your product idea using one of the Prusa or Makerbot 3D printers available in the IYH maker space.

**10. Logo Design (5%)**

Design a logo that you feel properly represents your product. Consider symbolism and iconography, the name of your product, how text may or may not be integrated, and even how a wordmark might be utilized.

**11. Style Guide (5%)**

Create a style guide breaking down the visual identity of the brand for your product. Consider the use of color, type, iconography, photography, illustration, and other visual styles. Outline each of these characteristics in a neatly formatted InDesign document.

**12. Website Mockup (5%)**

Use Figma to wireframe and mockup a website promoting your product. Consider how you will use typography, images, color, and all of the elements from your style guide.

**13. Website Prototype (10%)**

After receiving feedback on how to improve your website design, make the adjustments you feel are necessary and then use Figma's prototyping feature to add navigation to your website to allow users to browse through different promotional pages: home page, about page, features page, order page.

**14. Exhibition Poster Design (10%)**

Create a poster promoting your product. It should provide information about what it is and what it does, the various features it has and functions it performs, as well as provide plenty of images with annotations explaining the various components.

## **HOW TO PURCHASE SOFTWARE AT THE DISCOUNTED ACADEMY RATE THROUGH THE USC BOOKSTORE:**

The following first year software are now available for purchase **online** through the USC Bookstore at the Academy discounted rate:

<b><u>Software</u></b>	<b><u>IYA Short-Term License at USC Bookstore</u></b>
<b>Adobe Creative Cloud</b>	\$70 2021-2022 annual license

1. Visit the USC Bookstore online:  
<https://www.uscbookstore.com/usciasoftware>
2. Select the software license(s) you would like to purchase.
3. When you proceed to checkout, add the Promo Code "IYASoftware" (This will override the listed taxes).
4. For shipping, select FedEx Home Delivery (free).
5. Once you complete your online purchase, you will receive a confirmation email/receipt. *(Note that even if a shipping charge appears on your invoice, it will not be charged to your credit card. This relates to a known technical problem with the Bookstore's online store.)*
6. Upload your receipt [here](#) to receive access to your purchased license.
7. You will be notified by email when the license has been activated

## **Statement on Academic Conduct and Support Systems**

### **Academic Conduct:**

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, "Behavior Violating University Standards" [policy.usc.edu/scampus-part-b](https://policy.usc.edu/scampus-part-b). Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, [policy.usc.edu/scientific-misconduct](https://policy.usc.edu/scientific-misconduct).

### **Support Systems:**

*Student Health Counseling Services - (213) 740-7711 – 24/7 on call*  
[engemannshc.usc.edu/counseling](https://engemannshc.usc.edu/counseling)

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

*National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call*  
[suicidepreventionlifeline.org](https://suicidepreventionlifeline.org)

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

*Relationship and Sexual Violence Prevention Services (RSVP)*  
-213-740-9355 (WELL)  
<https://studenthealth.usc.edu/sexual-assault/>

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Relationship and Sexual Violence Prevention and Services provides immediate therapy services for situations related to gender- and power-based harm (e.g., sexual assault, domestic violence, stalking).



*Office of Equity and Diversity (OED) | Title IX - (213) 740-5086*

[equity.usc.edu](http://equity.usc.edu), [titleix.usc.edu](http://titleix.usc.edu)

Information about how to get help or help a survivor of harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following protected characteristics: race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age, physical disability, medical condition, mental disability, marital status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations.

*USC Policy Reporting to Title IX (213) 740-5086*

<https://policy.usc.edu/reporting-to-title-ix-student-misconduct/>

The university encourages individuals to report prohibited conduct to the *Title IX Office*. Individuals can report to the university *Title IX Coordinator* in the *Office of Equity and Diversity*.

*Bias Assessment Response and Support - (213) 740-2421*

[studentaffairs.usc.edu/bias-assessment-response-support](http://studentaffairs.usc.edu/bias-assessment-response-support)

Avenue to report incidents of bias, hate crimes, and microaggressions for appropriate investigation and response.

*The Office of Disability Services and Programs - (213) 740-0776*

[dsp.usc.edu](http://dsp.usc.edu)

Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

*USC Support and Advocacy - (213) 821-4710*

[studentaffairs.usc.edu/ssa](http://studentaffairs.usc.edu/ssa)

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

*Diversity at USC - (213) 740-2101*

[diversity.usc.edu](http://diversity.usc.edu)

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

*USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call*

[dps.usc.edu](http://dps.usc.edu), [emergency.usc.edu](http://emergency.usc.edu)

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

*USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call*

[dps.usc.edu](http://dps.usc.edu)

Non-emergency assistance or information.