

USC Iovine and Young Academy

Arts, Technology and the Business of Innovation

PRIN 515 Maker Foundation I
(2 units)
Fall 2021 – Tuesday (9:00-11:50am)
Aug 23 – Dec 3

Location: IYH 112

Instructor: Yihyun Lim

Office Hours: By appointment

Contact Info: yihyun.lim@usc.edu

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

IT Hours of Service: 8:30am - 6:30pm

IT Contact Info: iya.helpdesk@usc.edu, 213-821-6917

Course Description

Designers, engineers and thinkers of every kind rely on their ability to visualize concepts. They need to have the ability to quickly and effectively communicate their ideas to others. Visualization is vital not just in the arts but in all disciplines. Everyone can further their potential with the ability to visualize and use their imagination. Since ideas are only thoughts in the beginning, they are easily lost. Your ability to express these creative solutions in some visual form on paper to a degree of understanding and confidence is imperative.

This course will focus on exploring techniques, concepts, tools, and materials to quickly communicate in a visual way. The class will provide students with knowledge and technical drawing skills to envision ideas at an advanced level. The class will cover 1, 2, and 3-point perspective theory, orthographic projections, and object rendering, including techniques to break down objects into their basic forms, and convincing ways to manipulate light and shadow to create the illusion of volume in three dimensions. Through direct observation, visual research, design research and ideation methodology, students will learn to sketch effectively as a key to design thinking and a means to inspire the imagination.

Assignments will require traditional and digital tools. Projects will use various methods and mediums: collage, story boarding, brainstorming, thumbnail drawing, rough sketching, comprehensives, graphic and 3d applications, and other techniques for purposes of ideation and presentation. Group critiques and class discussions are a vital part of this course and will allow students to practice the formal vocabulary necessary to communicate visual ideas, as well as provide feedback on their work. Dynamic sketching offers powerful tools and techniques for creative problem solving that open up the door to possibility.

Students will practice visual techniques through in-class studio activities and weekly assignments. Final project will be developed over multiple weeks, starting with a short exercise in design ethnography and weekly exploration in various themes and visualization techniques. Resulting project

Learning Objectives and Outcomes

By the end of the semester, students will be able to:

- Learn basic techniques, methods, concepts, tools, and materials that are used to quickly communicate ideas and concepts in a visual manner.
- Know and be able to apply the visual language (elements and principles) of art/design
- Comprehend and use composition, proportion, and value
- Be able to render 3d objects convincingly in a 2d space
- Think visually across a wide variety of disciplines and media

- Know fundamentals of the denotative/connotative aspects and hierarchy of typography
- To express a high level of concept and craftsmanship in visual presentations
- Learn basic design research methods

Course Notes / Participation

This class is a studio class that involves demonstrations and execution of craft. It is crucial for students to attend in order to succeed. The demonstrations, lectures and Information given in class may not be imparted concisely through handouts, classmates or notes. Students are responsible for all readings, assignments, including homework, in-class work, lectures, and presentations.

Description and Assessment of Assignments

The following is a breakdown of the assignment expectations. Unless otherwise noted, all submissions will be in the PDF format, and will be due prior to the class session via email.

Grading Breakdown

Assignment	Points	% of Grade
Assignment 1-10	700 (70/assignment)	70%
Final Assignment	200 (50/part)	20%
Participation	100	10%
Total	1000	100%

Required Supplies

- Materials as listed in a separate document
- USB Portable storage device/flash drive or Cloud. Back up everything. Losing work is not an acceptable excuse for missing work. It cannot be emphasized enough that you should have a reliable backup arrangement.
- No required textbook

Grading Scale

Course final grades will be determined using the following scale

A	94-100
A-	90-93
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	59 and below

Assignment Submission Policy

Unless otherwise noted, all assignments must be submitted as physical drawings or in digital format (PDFs) when appropriate. For assignments delivered in class (such as presentations), the work must be completed before the commencement of the class session in which the assignment is due.

Grading Timeline

Grades and feedback for all assignments will be returned to students within one week of submission. Grades will be provided over email. Students are encouraged and expected to keep track of their status in

the class through documenting these grades. If at any point, a student is uncertain about their status in the class, students may email yihyun.lim@usc.edu

Assignments will be accepted after the deadline with the following grade penalties. Do not ask for extensions; the below are the extensions.

- Submission in the 24 hours after the deadline 10% deduction
- Submission between 24 and 48 hours after the deadline 20% deduction
- Submission between 48 hours and 3 days after the deadline 50% deduction
- Submission more than 3 days after the deadline 100% deduction

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.

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:

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

1. Visit the USC Bookstore online:
<https://www.uscbookstore.com/usciyasoftware>
1. Select the software license(s) you would like to purchase.
2. When you proceed to checkout, add the Promo Code "IYASoftware" (This will override the listed taxes).
3. For shipping, select FedEx Home Delivery (free).
4. 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.)*
5. Upload your receipt [here](#) to receive access to your purchased license.
6. You will be notified by email when the license has been activated

Course Weekly Schedule

Blue text = Assignment due

	Class Overview	Assignments
Week 1 8/24	<p>Introductions: Syllabus Overview + Expectations</p> <p>Lecture: The Visual Language - Elements/Principles</p> <p>In-Class Activity: Team Scavenger Hunts - visual research</p>	Assignment 1: Design Elements Shape, Due 8/31
Week 2 8/31	<p>Lecture: Lines, Line weights, and Contours</p> <p>Project 1 presentation - findings from visual research</p> <p>In-Class Activity: Hand Contours and Objects</p>	Assignment 2: Hand Contours and Objects, Due 9/7
Week 3 9/7	<p>Lecture: Movements and Figures</p> <p>In-Class Activity: Croquis - quick movement sketches</p>	Assignment 3: Croquis and Figures, Due 9/14
Week 4 9/14	<p>Lecture: Value, rendering, and shadows</p> <p>ASync Drawing Cast Shadows (10 min)</p> <p>In-Class Activity: Rendering in values</p>	Assignment 4: Shapes and shadows using various medium, Due 9/21
Week 5 <u>9/21</u>	<p>Color Theory Hue, Value, Saturation Structure/Spaces - Contrast Strategies Expression Purpose</p> <p>ASync 2 hrs: Color Theory</p>	Assignment 5: Meaning of Color in Products and Spaces, Due 9/28
Week 6 9/28	<p>Lecture: Perspectives Perspective Drawing basics 1-point perspective 2-point perspective</p> <p>In-Class Activity: 1, 2 point perspectives, isometrics ASync 1-point perspective refined (15 min)</p>	Assignment 6: Representing a space from various perspectives, Due 10/5
Week 7 10/5	<p>Lecture: Orthographic Projections (plan, section, elevation)</p> <p>In-Class Activity : Creating orthographic projections</p>	Assignment 7: Representing product in orthographic projections, Due 10/12

	Class Overview	Assignments
Week 8 10/12	<p>Lecture: Exploded Axonometric Projections and Conveying Information through Annotation</p> <p>In-Class Activity:</p> <ol style="list-style-type: none"> 1) Visual research - use of axonometric projections 2) Exploded axonometric projection drawings 	Assignment 8: Exploded Axons and Conveying Information through Annotation, Due 10/19
Week 9 10/19	<p>Lecture: Typography & Poster Design - Hierarchy and Composition</p> <p>In-Class Activity: Typography visual research</p>	Assignment 9: Typography visual research, Due 10/26
Week 10 <u>10/26</u>	<p>Lecture: Design Research and Experience Design / Intro to final project.</p> <p>In-Class Activity: Unpacking the Pandemic WFH Experience (objects, spaces, emotions)</p>	Assignment 10: Design Ethnography - Observations, visual documentation, peer Interviews, Due 11/2
Week 11 11/2	<p>In-Class Activity:</p> <ol style="list-style-type: none"> 1) Insights presentation, 2) Axonometric projections - Objects <p>Lecture: Axonography</p>	Final Assignment Part 1: 'Objects' initial sketches, axonographic projections, narrative
Week 12 11/9	<p>In-Class Activity:</p> <ol style="list-style-type: none"> 1) Discuss/present 'Objects' drawings 2) Axonometric projections - Spaces 	Final Assignment Part 2: 'Spaces' initial sketches, axonographic projections, narrative
Week 13 <u>11/16</u>	<p>In-Class Activity:</p> <ol style="list-style-type: none"> 1) Discuss/present 'Spaces' drawings 2) Axonometric projections - Emotions 	Final Assignment Part 3: 'Emotions' initial sketches, axonographic projections, narrative
Week 14 11/23	<p>In-Class Activity:</p> <ol style="list-style-type: none"> 1) Discuss/present 'Emotions' drawings 2) Creating a narrative / digital collage and poster design 	Final Assignment Part 4: Refinement and poster design including text description (typography) and annotation, Final Assignment Due 12/9
Week 15 11/30	Studio Day : refinement of drawings - patterns, values, colors, and contours	
Week 16 - Finals Week 12/9	<p>Final Presentation will be held during the scheduled final exam date as noted in schedule of classes : Thursday December 9th, 11am-1pm</p> <p>The presentation will be combined with Maker Foundation II course.</p>	

Recommended Readings and Resources (some tablet versions are available):

Emotional Design: Why We Love (or Hate) Everyday Things – Don Norman

The Psychology of Everyday Things – Donald Norman

Metaphors we Live By – George Lakoff and Mark Johnson

Creativity – Mihaly Csikszentmihaly

The Geometry of Design – Kimberly Elam

Aesthetic Theory: Essential Texts for Architecture and Design – Mark Foster Gage

The Elements of Color – Johannes Itten

The Power of Limits: Proportional Harmonies in Nature, Art & Architecture – Gyorgy Doczi

The Drawing Projects: An Exploration of the Language of Drawing – Maslen and Southern

Drawing and Sketching Objects and Environments from Your Imagination – Robertson and Bertling

Drawing Perspective & Space: Basic Principles of Drawing in Perspective B/W – Marcus Agerer

Drawing from the Inside Out: Projects for Beginning Through Advanced Drawing – Barbara Kerwin

Rapid Viz: A New Method for the Rapid Visualization of Ideas – Kurt Hanks and Larry Belliston

Engineering Design Graphics: Sketching, Modeling, and Visualization – James Leake and Jacob Borgerson

Axonometric and Oblique Drawing: A 3-D Construction, Rendering, and Design Guide - M. Sales Uddin

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- Further, for PRIN515, we are strongly encouraging students to engage in social distancing when it is possible to do so.