

USC Iovine and Young Academy

*Arts, Technology and the Business
of Innovation*

ACAD 176 - Rapid Visualization

Units: 4

Day-Time: Fall 2021 – Tuesday / Thursday, 2pm - 4:50pm

Location: IYH 212/213

Instructor: Aaron Siegel

Office: Online

Office Hours: By email appointment.

Contact Info: aaronsie@usc.edu

IT Help:

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

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

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

Course Description

Our society is dominated by verbal thinking. We learn alphabets, words, and numbers in school. A typical education primarily develops the analytical skills – reading, writing and arithmetic – the left half. The visual-thinking hemisphere assumes a subordinate role and is seldom if ever developed to its full potential. But every machine, every invention, and every modern convenience existed first as a visual thought in someone’s mind. Not only did they visualize their thoughts, but they converted them into reality. 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. “Yes, I had learned to draw: but more importantly, I learned to think.” — Kurt Hanks, RV author.

Learning Objectives

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

- Understand and draw in atmospheric, isometric, linear 1, 2, 3-point perspectives.
- 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 through a unique set of problems posed in a wide variety of disciplines.
- Apply visual problem-solving methodologies.
- Know fundamentals of the denotative/connotative aspects and hierarchy of typography.
- Realize the value of the collaborative design process as a tool for innovation.

Prerequisite(s): None.

Co-Requisite(s): None.

Concurrent Enrollment: None.

Recommended Preparation: Have Adobe InDesign installed for the first day of class.

Course Notes

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.

Catalog Description

Basic techniques, methods, concepts, tools, and materials that are used to quickly communicate ideas and concepts in a visual manner.

Grading Breakdown		Grading Scale		
Project Assignments	80%		A = 100 - 95	A- = 94 - 90
Asynchronous Material	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		

Assignment Submission Policy

Describe how, and when, assignments are to be submitted.

Grading Timeline

Your projects will generally be graded within 1 week of its due date. If I am creating a video critique for a project, then it will generally be within 2 weeks of its due date. In an individual video critique, I bring up a student's work on my screen. This form allows me to take more time with the work and discuss conceptual and visual approaches. It also allows me to dig into the actual file to make important points about tools and technical processes.

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 Iovine and Young software catalog 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

To purchase:

- Visit: <https://commerce.cashnet.com/IOVINE>
- Select the software license(s) you would like to purchase by clicking “View Details” or the software title, and make your purchase.
- You will receive an order confirmation receipt at the email address you provided.
- You will be notified by email when the software license has been activated.

If you have any questions about this process, please do not hesitate to contact Academy IT Support at iya.helpdesk@usc.edu.

Weekly Course Schedule

Date	Topics/Daily Activities	Readings and Videos	Deliverable/ Due Dates
Week 1 - Lines & Shapes			
8/24	Introduction, Syllabus, Schedule. <i>Lecture:</i> Shape Composition. <i>Workshop:</i> Adobe InDesign.		<i>Exercise:</i> Scavenger Hunt: Points, Lines, and Planes.
8/26	<i>Presentations:</i> Project #1. <i>Lecture:</i> Proportions. Line Quality/Confidence, Harmony, Rhythm, Symmetry/Asymmetry. <i>Workshop:</i> Calculating Proportions.		DUE: Project #1: Design Elements: Circles, Squares, Alphabet due via Blackboard at midnight 8/25. <i>Exercise:</i> Calculating Proportions posted on class Google Drive.
Week 2 - Volume & Contour			
8/31	<i>Presentations:</i> Project #2. <i>Lecture:</i> Contour Drawing. Materials, Sketching, Shape, Volume. <i>Workshop:</i> Statue Contour Sketches.	ASYNC/ LAB/ 1hr.: Sketching with Peter Han	DUE: Project #2: Design Elements: Lines due via Blackboard at midnight 8/30. <i>Exercise:</i> Statue Contour Sketches posted on class Google Drive.
9/2	<i>Lecture:</i> Adding Value to Contour Drawings. <i>Workshop:</i> Contour Hand Drawings.		<i>Exercise:</i> Contours: Hand posted on class Google Drive.
Week 3 - Perspective			
9/7	<i>Presentations:</i> Project #3. <i>Lecture:</i> 1-Point Perspective. <i>Lecture:</i> Architectural Styles. <i>Workshop:</i> 1-Point Landscape.	ASYNC/ LAB/ 15min. 1-point perspective refined	DUE: Project #3: Contour Shoe Drawing due via Blackboard at midnight 9/6. <i>Exercise:</i> One-Point Landscape posted on class Google Drive.
9/9	<i>Lecture:</i> 2-Point Perspective. <i>Workshop:</i> 2-Point Landscape.	ASYNC/ 1hr Abstract: The Art of Design Es Devlin: Stage Design	<i>Exercise:</i> Two-Point Landscape posted on class Google Drive.
Week 4 - Value			
9/14	<i>Lecture:</i> Value and Shading. <i>Workshop:</i> Value Scales.	ASYNC 10min Sketch like an industrial designer	<i>Exercise:</i> Value Scales posted on class Google Drive.
9/16	<i>Workshop:</i> Building a Perspective Cube. 3-Point Perspective.	ASYNC: 10min. Drawing Cast Shadows	<i>Exercise:</i> Shading Cubes posted on class Google Drive.
Week 5 - Mural			

9/21	<i>Presentations:</i> Project #4a. <i>Lecture:</i> Mural Characteristics. <i>Workshop:</i> Mural Concepts Research.		<i>DUE:</i> Project #4a: Two-Point Perspective Bird Hotel due via Blackboard at midnight 9/20.
9/23	<i>Workshop:</i> Mural Themes and Iconography.		
Week 6 - Mural			
9/28	<i>Presentations:</i> Project #5a. <i>Workshop:</i> Combining Concepts.		<i>DUE:</i> Project #5a: Mural due via

			Blackboard at midnight 9/27.
9/30	<i>Workshop:</i> Mural Drawing.		
Week 7 - Mural			
10/5	<i>Workshop:</i> Mural Drawing.		
10/7	<i>Workshop:</i> Mural Drawing. <i>Presentations:</i> Project #5b.		DUE: Project #5b: Mural due at the end of class.
Week 8 - Value			
10/12	<i>Workshop:</i> Rendering Glossy Surfaces.		<i>Exercise:</i> Rendering Glossy Surfaces posted on class Google Drive.
10/14	Fall Recess - NO CLASS!		
Week 9 - Creative Problem Solving			
10/19	<i>Presentations:</i> Project #4b. <i>Lecture:</i> Universal Creative Problem Solving Process. <i>Workshop:</i> How to Make Toast.	ASYNC/ 1hr Abstract: The Art of Design Neri Oxman: Bio-Architecture	DUE: Project #4b: Two-Point Perspective Bird Hotel due via Blackboard at midnight 10/18. <i>Exercise:</i> How to Make Toast posted on class Google Drive.
10/21	<i>Lecture:</i> Mindmapping. <i>Workshop:</i> Group Mindmapping.		<i>Exercise:</i> Mindmap posted on Google Drive.
Week 10 - Creative Problem Solving			
10/26	<i>Lecture:</i> Brainstorming. Morphological Analysis. <i>Workshop:</i> Group Brainstorming.	ASYNC/ 1hr Abstract: The Art of Design Paula Scher: Graphic Design	<i>Exercise:</i> Brainstorm posted on Google Drive.
10/28	<i>Lecture:</i> Storyboarding. <i>Workshop:</i> Storyboarding an Experience.		DUE: Project #6a: Animal+Machine Hybrid Drawing due via Blackboard at midnight 10/27. <i>Exercise:</i> Storyboards posted on Google Drive.
Week 11 - Graphics			
11/2	<i>Presentations:</i> Project #6. <i>Lecture:</i> Graphic Development. <i>Workshop:</i> Graphic Economy.	ASYNC 1.5 hrs: Graphic Design Foundations	DUE: Project #6b: Animal+Machine Hybrid Drawing due via Blackboard at midnight 11/1. <i>Exercise:</i> Graphic Economy posted on Google Drive.

11/4	<i>Lecture:</i> Geometry in Graphics. <i>Workshop:</i> Geometry in Graphics.	ASYNC 2 hrs: Graphic Design Foundations: Typography	<i>Exercise:</i> Geometry in Graphics posted on Google Drive.
Week 12 - Typography			
11/9	<i>Presentations:</i> Project #7a. <i>Lecture:</i> Typography. <i>Workshop:</i> Grid Based Typography.	ASYNC .5hrs/ Chpt. 1-4 America Through Foreign Eyes	DUE: Project #7a: Sound Interpretation due via Blackboard at midnight 11/8. <i>Exercise:</i> Grid Based Typography posted on Google Drive.
11/11	<i>Presentations:</i> Project #7b. <i>Lecture:</i> Calligraphy. <i>Workshop:</i> Calligraphy Experiments.	ASYNC 4hrs What is Design Thinking	DUE: Project #7b: Sound Interpretation due via Blackboard at midnight 11/10. <i>Exercise:</i> Calligraphy posted on Google Drive.
Week 13 - Data Visualization			
11/16	<i>Presentations:</i> Project #7c. <i>Lecture:</i> Data Visualization. <i>Workshop:</i> Quantitative Information Design.		DUE: Project #7c: Sound Interpretation due via Blackboard at midnight 11/15. <i>Exercise:</i> Quantitative Information Design posted on Google Drive.
11/18	<i>Lecture:</i> Designing a Visual Language. <i>Workshop:</i> Visual Language.		<i>Exercise:</i> Visual Language posted on Google Drive.
Week 14 - Data Visualization			
11/23	<i>Lecture:</i> Data Journaling. <i>Workshop:</i> Data Journaling.		<i>Exercise:</i> Data Journaling posted on Google Drive.
11/25	Thanksgiving - NO CLASS!		
Week 15 - Portfolio			
11/30	<i>Presentations:</i> Project #8. <i>Lecture:</i> Portfolio Material. <i>Workshop:</i> Portfolio Wireframing.		DUE: Project #8: Data Visualization due via Blackboard at midnight 11/29. <i>Exercise:</i> Portfolio Development posted on Google Drive.
12/2	<i>Lecture:</i> Portfolio Visual Identity. <i>Workshop:</i> Portfolio Branding.		<i>Exercise:</i> Portfolio Visual Identity posted on Google Drive.
Final Presentations			

12/9	Presentations: Project #9: Final Portfolio Thursday, 2pm - 4pm	DUE: Project #9: Final Portfolio due via Blackboard at midnight 12/8.
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*Outline/schedule subject to change as needed

Assignments

1. Design Elements: Circles, Squares, Alphabet (5%)

Working in a group, use InDesign to create a document with three pages: one containing a grid of 12 photos of different circular forms, one containing a grid of 12 photos of different rectangular forms, and one containing a grid of 26 letters in alphabetical order.

2. Design Elements: Lines (5%)

Use InDesign to create a document with two pages: one containing a grid of 12 photos containing different types of man made lines, and the other a grid of 12 photos containing different types of organic lines. Be sure to pay careful attention to the way you align your content and create consistent margins between photos as well as consistent padding around the edges of your spread.

3. Contour Shoe Drawing (10%)

Pick a shoe from your closet that has a lot of interesting geometric details. Set your shoe up in a still life position and illustrate it from a fixed position, focusing on the contours of the geometry, the proportions of the elements, and less on the value/shading/lighting of the material itself.

4. Two-Point Perspective Bird Hotel (10%)

Design a birdhouse for multiple birds inspired by a particular architecture movement. Use two-point perspective to sketch out the architecture inside of your 11" x 14" sketchbook. Shade and render the architectural elements to give a realistic sense of lighting and materials.

- Establish the perspective and general shapes of your architectural forms.
- Establish the position of a light source and shade surfaces based on their direction towards lighting and shadows that are being cast by architectural features. Consider the texture and pattern for the various materials in your scene, and don't forget to add context in terms of a background in which this bird hotel exists.

5. Mural (10%)

The mural is a visual representation of your entire cohort as a collective mix of interests, backgrounds, cultures, skills, and personalities. It should evoke the holistic quality of what makes you IYA students as well as reveal some individual attributes about each one of you.

6. Animal Machine Hybrid Drawing (10%)

Create a drawing combining an animal and a machine. Consider how the form and function of the animal and machine connect. How is this machine related to your animal as opposed to any other? How creative/unique is your solution? Do adequate research into machine and animal options before beginning your sketches. In what environment does this hybrid animal exist?

- 3 unique rough draft ideas and sketches for critique. Focus on the outline of the form, identifying iconographic pieces of anatomy and mechanisms, and less focus on adding value and refining detail.
- Full shading and refined details for your animal machine hybrid. Consider what the material for different surfaces will be; is it organic or synthetic, soft or hard, matte or

glossy? Place your hybrid animal in an appropriate environment with lighting and shadows.

7. Sound Interpretation (10%)

Use abstract graph elements to create a visual representation of these four sounds: a CAR CRASH, a FLY BUZZING PAST YOUR HEAD, TYPING ON YOUR COMPUTER, and an EMPTY STOMACH.

- a. Create 3 rough thumbnail sketches at 2.5" x 2.5" for each of the sounds listed. Use pencil and eraser. You must use only circles, ovals, squares, rectangles, or triangles. Don't just draw outlines, but fill in the tones as needed for your design.
- b. In a group create a list of words that describe the sound you are trying to express. See how many of the words are matched by the visual compositions you created. Based on feedback from fellow students, myself, and your own perceptions, choose the single most successful design from each of the sound options. Refine 3 sounds, each concept into a 6" x 6" square box, each on a single page in your sketchbook.
- c. Create 3 final solutions, each in a different medium, 6" x 6":
 - i. Pencil, Pen, Marker.
 - ii. Collage (paper, scissors, glue).
 - iii. Digital (any Adobe CC program, 3D, or motion graphics. Alternative mediums should seek approval from the instructor first).

Scan or photograph your pieces and arrange them on the first page of an Adobe InDesign document 22" x 8" with 1" padding around all sides and between images. On the second page include all process: first stage 12 thumbnails at 2.5" x 2.5" each, second stage: refined single solution for each 4 sounds in pencil with full value. Include any other research that contributed to your solution.

8. Data Visualization (10%)

Using the data set provided to you, create a question you would like to pose against the data in order to establish an appropriate visual perspective for analysis. Create a visual representation of the data set that will afford the viewer a better understanding of the subject matter.

9. Final Portfolio (10%)

Use Adobe InDesign to put together a comprehensive portfolio of the work you have created in this class over the course of the semester. Export your final portfolio as a print quality PDF and upload it to blackboard.

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. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, policy.usc.edu/scientific-misconduct.

Support Systems:

Student Health Counseling Services - (213) 740-7711 – 24/7 on call

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

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, 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

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

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

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

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, 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

Non-emergency assistance or information.