Department of Architecture
Cal Poly, San Luis Obispo
June 2019

Dear incoming architecture and architectural engineering students,

Welcome to the College of Architecture and Environmental Design! You are about to begin a new adventure in thinking and making. And you are beginning a life-long learning process for two rewarding and demanding professions. This letter will orient you to some of the principles, tools and logistics of your first year.

Over the coming year, you will transition from traditional forms of verbal-linguistic and logical-mathematical learning into visual-spatial and project-based work critical to success for engineers and architects. ARCH 131 (and 132 and 133) will be a major component of this experience, and will typically be referred to as "studio."

Studio refers to both a place — a big, open room with tables for creative work — and a way of learning that is communal, exploratory and experimental. The hours dedicated to studio are a time to develop ideas through thinking, making, and discussion, and an opportunity to grow as an individual creator and as a contributor to the studio collective. The three mutually dependent principles of studio culture at Cal Poly are the cultivation of respect, the cultivation of community and the cultivation of ideas.

Cultivation of Respect

Each individual is responsible for making unique contributions to the studio. We support diverse ideas and promote a culture of respect. The excellence of our school depends on our ability to appreciate the value of ideas and experiences that are divergent from our own.

Each of us is responsible for our own well-being, which means eating well, getting enough sleep, and managing time efficiently. Have patience with yourself and your peers. Learning often happens at an erratic pace.

Cultivation of Community

Studio is a communal and social form of learning. Students learn as much from each other as they do from faculty. The studio parallels professional practice, where each person is expected to be a thoughtful collaborator and aid in the development of ideas. Learning how to make positive contributions to teams and build productive relationships is essential. These shared experiences also foster a sense of camaraderie amongst students that continues throughout your education.

Cultivation of Ideas

Ideas are cultivated through observation, experimentation, questioning, and dialogue. The design process hinges on your willingness to think both abstractly and concretely. Ideas may develop fitfully. Learning will come from success as well as mistakes, which are both productive aspects of the studio experience.

Reflection on your work is essential to developing your ideas. Equally important is critique, a process in which your projects will be reviewed publicly and you will discuss your work with peers, instructors or invited guests with expertise in design and professional practice. These conversations help you to understand the work in relationship to ideas circulating within the studio and ideas in the world beyond the studio. Critique is always meant to be constructive.

**Other Courses**
Studio will be complemented by EDES 123 and ARCH 101 (for architecture students), as well as your various physics, math and humanities courses. Even though studio will be the most time intensive, these courses are related, and your work will benefit from reflection on their relationships.

EDES 123 - Principles of Environmental Design is an introduction to design and the constructed environment through transdisciplinary, project-based learning, surveying the myriad factors that are considered in the design and construction of all scales of the built environment. You will look at ways that design and construction disciplines communicate graphically and verbally, and investigate the impact of our design decisions on individual self-development, society, health, and natural systems.

ARCH 101- Survey of Architectural Education and Practice explores contemporary and historical topics in design. The class focuses on architectural representation through the analysis of images, close reading of theoretical texts, and written assignments.

**Faculty**
Our faculty comes from varied backgrounds in architecture, architectural engineering and landscape architecture. We teach as a coordinated group, share a common syllabus, and model the collegiality we expect you to have with each other.  While you will have a primary faculty member assigned to your studio, we are all your professors and you are free to speak to any of us. We try to make the faculty-student relationship open for informal communication to accompany the open-endedness, intensity and complexity of the projects and process. We are here for you in class, and out of class through office hours, and via e-mail. Faculty will have office hours, emails, and office locations published in the syllabus. You may also share any concerns or challenges with Associate Dean of Academic Affairs Mark Cabrinha, Architecture Associate Department Head Robert Arens,  Architecture Department Head Margot McDonald and Architectural Engineering Department Head Al Estes.

**Calendar**
We will begin on Thursday, September 19. There is a lot to accomplish in the 11-week fall term. Generally, we do not recommend trips home on weekends or taking a weekend away except for Thanksgiving. In ARCH 131 projects usually span the weekends. As designers you will find that studio projects are best explored when you have large undisturbed time blocks- the weekends are perfect for that 'in the zone' kind of thinking.

Please note, we have several project reviews over the quarter. It is imperative that you are present for these. Please do not plan any trips home or book any flights on scheduled class days.  The Cal Poly 2019-20 academic calendar is posted online for your reference.

**Mustang Family Weekend**
The university-wide event Mustang Family Weekend is from October 25 through October 27. We will install an exhibit of our work for your friends and families to see. Please encourage your families to come if they are able.

**Thanksgiving**
The week of Thanksgiving- November 25th-December 1st- is an academic holiday.
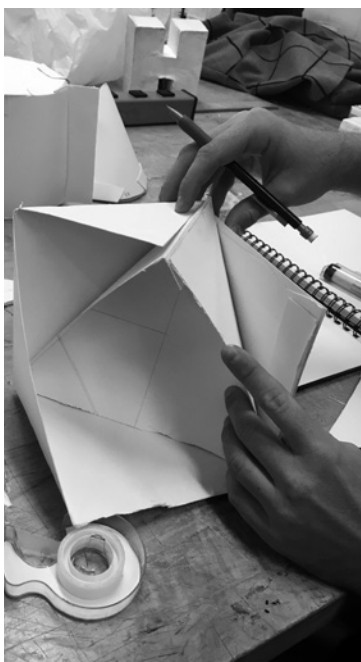
**Supplies**
Project-based learning requires gear. You will need a computer and software, tools, and assorted materials to execute the projects. A list of required tools & supplies is attached to this letter. Please obtain the items listed prior to the start of classes. You may buy the supplies as a kit from our local art supply store, Art Central. The kit will be available to order online by mid-July (http://artcentralartsupply.com/) and may be picked up at Art Central upon your arrival in San Luis Obispos in September. The University Store is another place to purchase individual supplies once school begins.

We have made an effort to pare down this list to minimize the initial expense, but we realize that the upfront cost may be sizable. We have worked with Art Central to find quality supplies at a very good price. As you assemble your gear, please remember you now have access to student discounts, especially on computers and software. Students that have severe financial limitations should contact their SAS, EOP, or Financial Aid Advisors.

**Additional Expenses**
You should anticipate the following costs each quarter for model making supplies, printing and other fees.
Supplies (replacement blades, pens, etc.): up to $200/quarter
Printing costs: up to $150/quarter
Design Village Entry Fee: $90 (Spring Quarter only)

**And Finally**
We are looking forward to an intense, exciting and collaborative year in studio. Whether or not you are familiar with any of this gear or these ways of working (and we are assuming you aren't!), over the next year you will become capable of more than you ever thought possible. You will also find your peers and your professors very supportive in this endeavor. On behalf of the first year architecture faculty, welcome. We look forward to meeting you in September.

Emily White
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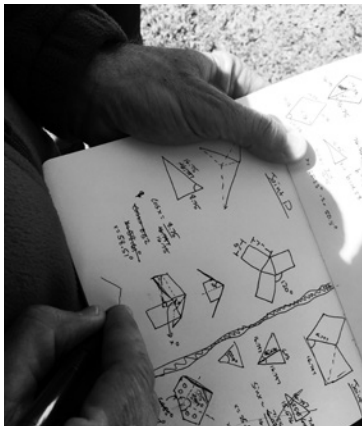
# TOOLS & SUPPLIES

**The following supplies are included in the ARCH 131 Class Kit, available online from Art Central, all tools required unless noted:**

Drafting

Alvin 295 Parallel Glider (10" minimum)
12" ARCHITECTURAL Triangular Scale
30°/60° Drafting Triangle, 12", with ink edge
45°/90° Drafting Triangle, 12", with ink edge
Erasing Shield
Metal Pencil Sharpener (Staedtler 510 or equivalent)
Circle Compass w/ removable pencil and inking heads
Drafting Brush
White vinyl eraser
Kneaded eraser
Drafting Tape or Drafting Dots 24"
18"x24" Bristol Board, 15+ sheet pad, vellum finish
Tracing Paper Roll (12" min, white)
Circle Template
French Curve
24" T-Square
Zippered pouch to carry supplies in

Drawing

11" x 14" spiral bound sketchbook
Pigma Micron Pens (black): 01 & 05 widths
ProMarker: Black
Prismacolor Pencils: White, Black, Warm Gray 50%, Sepia
2 Pentel sign pens
Drafting Pencils: 4H, 2H, H, HB, 3B, 6B hardnesses
3 Charcoal sticks, soft
12-color Portable Watercolor Set (Winsor & Newton or equivalent)
Round watercolor brush
Waterbrush Pen (Kuretake or equivalent)
Drawing Storage Tube

Model-making

Metal Straight Edge, 24" with cork backing and cutting edge
Precision Knife #1 (Xacto or Excel)
Xacto or Excel #11 blades (15 pk minimum, 100 pk recommended)
Olfa L-2 snap-off knife
Olfa L-2 replacement blades
Scissors
18"x24" Self-Healing Cutting Mat
Hot Glue Sticks
Needle-Nose Pliers
Aileen's Quick-dry Tacky Glue
Elmer's Glue
UHU glustick
Assorted sandpaper
10 yard roll Scotch aluminum foil tape
Masking tape
Safety goggles
Clear push-pins

**The following supplies are not in the kit and are required:**
25' (minimum) Tape Measure

**The following supplies are not in the kit and are recommended:**
Cordless Drill and drill bit set
Phillips and Flat head screwdrivers
Razor Saw & Miter Box set
6" combination square
Hot glue gun (some are available in studio)

# SOFTWARE & HARDWARE

**Required**
**Computer and peripherals**

Laptop computer, Mac or PC (more detail in FAQ pages)
Mouse
USB flash drive, 4 GB (min)
External Hard Drive, 1 TB (4TB is a plus; wireless back-up capability is a plus)

**Optional**
**Computer and peripherals**

All-In-One Color Inkjet Printer & Scanner (recommended, but you can print on campus)
Printer Paper, 24 lb (minimum) bright white premium inkjet paper
DSLR Camera is recommended but not required (see FAQ for info about on campus camera loans)

**Software**

Adobe Creative Cloud (Photoshop, Illustrator, InDesign and Acrobat)
Rhinoceros 6
Word Processing (Microsoft Office or equivalent)
Presentation (Keynote or Powerpoint)
Video Editing (iMovie or equivalent; Premier is included in Creative Cloud)
Anti-virus as required by university

Note: the CAED tech support team has links to free and student discounted software on their website  http://www.caed.calpoly.edu/techsupport

# F.A.Q.

Q: I have heard studio is time intensive- is that true?
A: Yes. You will likely find you have less free time than many of your peers in other majors. Design involves new ways of thinking, something like learning a language or a musical instrument- time on task leads to proficiency and confidence. You will find the design projects are very open ended with multiple paths to discovery and success. This kind of lateral and creative thinking is critical for both architects and architectural engineers.

Q: Will I have time for sports or music?
A: Time management is a skill you must master to do well in studio. You have to be even more disciplined here due to all your freedom as a collegiate scholar vs. your high school days! If you are an athlete or musician and have meets or concerts in fall, please notify your instructor on day one.

Q: Do we need special clothes?
A: In studio you should dress comfortably and know that you may get dirty from pencil, pen, adhesives, etc. When working in the shop, closed toed shoes and safety glasses are required. Our studios generally do not get especially hot (Mediterranean climate), but can get chilly in our rainy winter. We can have 40+ degree temperature swings during any season. Think layers.

Q: Are we expected to bring all these tools and things to class each day?
A: Count on having your sketchbook and pencils to draw with everyday. Beyond that we'll tend to tell you what we need in advance. Inevitably you will be working on drawings of various scales, larger photo collages and models, and you will have to figure out how to transport them. We suggest a storage tube for transporting large work and a zipped pouch or tackle box to carry the bulk of your equipment. We'll do some computer work very early on, so having a way to safely transport your computer is critical too. There is limited locker space available.

Q: I already have some triangles and scales that are metric- will they be satisfactory?
A: All drafting and modeling will be in Imperial Units (aka US Customary Units aka feet and inches), so having an Imperial units based architectural scale is essential. As a side note: you don't have to have any drafting background for day one- we will cross that bridge (among many) later this fall.

Q: Some tools are 'recommended', like the dslr camera, what if we don't have them?
A: The CAED Support Shop has a certain number of tools for your use. The university has a take-out window for short duration loans of digital equipment (see below). Some of the early projects will focus on images, and the quality of the image is important. Cameras are only as good as the lens, and a dslr is usually a great base line for quality.

Media distribution services: http://classtech.calpoly.edu/equipment-checkout

Q: Will we use Sketch-Up? Autocad?
A: Although Sketch-Up is not a bad learning tool, it has limited capacity to represent complex shapes. Software tends to fall into types for 1) design and 2) development and production. We are concerned primarily with design in first year, and will use the digital modeling software Rhinoceros (aka Rhino), which is highly flexible. Autocad and it's companion Revit are also useful for precision construction documentation, and you may encounter them in future studios.

Q: Does it matter if I have a Mac or PC computer?
A: in first year studio, you will be able to complete all projects using any type of computer, as long as it can run Adobe Creative Suite and Rhinoceros 6.0. In upper years, you will likely begin to use more specialized software. Some software, such as Revit, must be run on Windows. Other software, such as Rhinoceros and its widely used parametric modeling plug-in Grasshopper, perform significantly better when run on Windows. It is possible to use Parallels or Bootcamp to run Windows operating system on a Mac.

Q: Is a 17" laptop preferable to a 15" model? How about 13"? Is a desktop model ok?
A: You may choose a size that is comfortable for you. 13" is a little small for detailed models and images. 17" is heavy and doesn't always fit comfortably on lecture hall desks. Get something that you are able/willing to always carry. Desktop computers are not allowed in first-year; however, many students choose to have a desktop and/or additional monitors in later years, when each student has a dedicated desk.

Q: What if I have an older version of the Adobe products?
A: Each new version has more capacities and may work better with current operating systems. We will tend to teach to the capacities in the newer version and we can't always troubleshoot issues with older software. Adobe Cloud's student subscription is cost effective and includes automatic updates.

Q: I'm an ARCE student, do I really need all of the tools?
A: ARCE students do very little required hand drafting after their first-year. Therefore, supplies may be purchased used or borrowed from past students. However, EVERY student must have ALL of the required supplies by the first week of class. Check out the Cal Poly Architecture Class of 2023 and 2024 Facebook groups for used supplies for sale.

Q: Can we get the equipment and supplies in San Luis Obispo?
A: Local sources for materials and tools are Art Central, Cal Poly's University Store, Beverly's, Michaels, Miner's Ace Hardware, or Home Depot.

Q. What if I have other questions?
A: Contact Emily White (ewhite14@calpoly.edu) or the Architecture Department (architecture@calpoly.edu and 805-756-1316). We will be happy to answer any questions.