The Pre-College Architecture Program

Schedule

Foundations: Spatial Concepts, weeks 1-3

Monday – Thursday
9 a.m. – 1:00 p.m.
   Drawing
   Digital Media, Seminars
2 – 5 p.m.
   Design Studio
6 – 11 p.m.
   TA Help Sessions
   Open Studio

Friday
   Field Trips

Weekend
   Open Studio

Advanced Topics: Architectural Practice, weeks 4-6

Monday – Thursday
9 a.m. – 1:00 p.m.
   Drawing, Advanced Digital Media,
   Digital Fabrication, Seminars,
   in current graphic format
2 – 5 p.m.
   Design Studio
6 – 11 p.m.
   TA help sessions
   Open Studio

Friday
   Special Projects

Weekend
   Portfolio and Photography Workshops
   Open Studio

The Program

Pre-College Architecture is an intensive summer program offering the creative energy and speculative culture of the college-level experience while introducing students to the interdisciplinary field of architecture. The Pre-College Architecture program is designed to provide students with a strong foundation of skills and a clear idea of what to expect from a college-level accredited program in architecture. Students will experience the dynamic of learning through making in the studio environment, supported by integrated coursework in digital media, drawing, seminars and workshops allowing experimentation with robotic and digital fabrication technologies. The program introduces students to the theory, process and methodology of contemporary design practice.

Architecture is a profession that occupies a unique role in the shaping of our built environment. Architecture is a progressive interdisciplinary course of study combining design creativity, historical perspective, technical knowledge and innovation, and social responsibility. The Pre-College Architecture program is structured to introduce you to the discipline of architecture and for you to experience the study of architecture in a university setting.
Expectations

Pre-College Architecture is an immersive program that offers the intensive energy and dynamic creative culture of the college-level experience. Design success is largely the result of focused effort and intensity of investigation; students should expect to invest significant time working in the studio with fellow students outside of class (evenings and weekends) to develop and complete project coursework.

Attendance and Participation

Students are expected to fulfill all the requirements of the program in which they are enrolled, including, without limitation: attending and participating in all classes; completing all assigned coursework, homework, projects, exams and any other program requirements. Students who fail to attend class and/or to meet program requirements without explicit approval from their program directors may be asked to leave the program at any time. This will be considered an expulsion, not a withdrawal, and such students will not receive refunds. If students have a legitimate circumstance, illness or emergency that affects their ability to attend class or fulfill the requirements of the program, they must give notice to the academic program directors as soon as reasonably possible.

Curriculum

Our program is structured to allow for enrollment in either a three- or six-week program. Students are encouraged to enroll in the full six-week program to allow for a more comprehensive learning experience and greater development of technical and creative skills. Skills are developed cumulatively; as skills learned in the first three weeks of the program are essential to the development of project work in the final three weeks, please note that the three-week program option is only available for weeks 1 – 3.

Foundations: Spatial Concepts, weeks 1 – 3

Theory, technique and general foundational principles of architecture are introduced through drawing, digital media and a series of full-scale installation projects developed in the studio. Working collaboratively in teams, students will learn through making and experience, exploring issues of site, context, scale, human movement and behavior, perception, material performance, graphic representation, and component and tectonic systems.

Advanced Topics: Architectural Practice, weeks 4 – 6

Intensive spatial development is explored as the program shifts to individually produced project design work. Advanced digital media and concepts of digital fabrication are fully and directly integrated into the studio environment; architectural ideas are investigated and represented through a variety of media including digital and analog images, composite imagery, digitally produced 3-D models and physical models built to scale. Seminars and special lectures introduce a wide variety of theoretical and practical topics; portfolio and photography workshops introduce skills to package work graphically for college submission. Process and product during these three weeks of the program most closely represents the working methodology of practicing design professionals. This final design experience allows for the continued advancement of conceptual and technical skills, as well as the development of students’ individual design sensibilities.

Course Descriptions

Design Studio

Studio is the core of the architecture pre-college program and serves as an introduction to the spatial concepts of architecture. Projects will explore the design and experience of spatial environments through a series of creative investigations consisting of both independent and collaborative work. Studio work focuses on experience and human sensory engagement in physical space; project themes include context, scale, perception, light, materiality and component systems. Studio work will be supported by individual critique as well as group discussion based upon critical review of student work. The course is focused entirely on project design work, while integrating concepts and skills from drawing and digital media as well as workshops and seminar courses.
Digital Media
Digital Media introduces students to the creative use of digital software and technology in architecture through in-class workshops and lectures. Students will learn the basic skills needed to create, explore, and critique digital images, drawings and three-dimensional environments. As a complement to the design studio, assignments will encourage an active dialogue between design intentions and representational tools. With a focus on Photoshop and Rhinoceros, skills explored include image editing, color manipulation, line drawings, curves, surfaces and solids, 3-D object manipulation and composite imagery.

Drawing
This course introduces observational and creative drawing, including free hand and mechanical drawing of spatial environments: interior and exterior, architecture, still life and the human figure. A wide range of media will be explored including pencil, ink and charcoal. We will learn the basic principles of constructing two and three-dimensional drawings and perspective as well as a variety of sketching and free hand drawing techniques.

Seminars and Special Lectures
Seminars and special lectures introduce students to the expansive field of architecture, from history to advanced technologies. Subject themes are explored through lecture presentations, workshops, and group discussion; topics vary from year to year (see examples of recent seminars, below).

Science in Design Seminar
Bodies, cells and code: why the scientific imagery matters for contemporary architecture. For centuries architects have been fascinated by the world — and words — of science. With the increasingly important role of computers and code in contemporary architectural practice, an entire generation of architects has been inspired by science and technology as an important source of imagery, inspiration and often the main authority to justify design decisions. We will explore this new frontier through the investigation and discussion of iconic buildings, articles and short theoretical texts.

Guest Lecture Seminars
Presentations by guest lecturers explore current topics in architectural research, process and advanced technologies. Guest presentation topics vary from year to year. Past topics have included digital fabrication technologies and robotics in architecture; environmental systems and design ecologies; biotechnology and energy research; nonprofit development of industrial sites; tangible interactive and computational design; architectural study abroad; and community based design-build projects.

Field Trips and Special Projects
Field trips and special projects introduce students to dynamic learning opportunities out in the field. Trips and projects vary from year to year. Past events have included visits to recently completed local architectural projects, building construction sites, museum exhibitions and workshop experiments in conjunction with the Carnegie Mellon School of Architecture Computational Design and Digital Fabrication Labs.

Advanced Digital Media and Fabrication
(weeks 4-6) Advanced workshops in 3-D digital modeling and imaging software, and an introduction to digital fabrication technologies in collaboration with our Digital Fabrication Lab. Techniques of digital media and fabrication will be fully integrated into the working environment of the design studio, creating a fluid creative workspace for students to explore ideas through a variety of media in the development of project design work.

Portfolio and Photography Workshops
(weeks 4-6) During the second half of the program, a weekend photography workshop will introduce students to the basic principles of documenting physical models for portfolios. The portfolio workshop will introduce skills, technique and strategies to package work graphically for college submission.