ARCHITECTURAL DESIGN UNDERGRADUATE MAJOR

Architectural Design (AD)
Completion of the undergraduate program in Architectural Design leads to the conferral of the Bachelor of Science in Engineering. The subplan “Architectural Design” appears on the transcript and on the diploma.

Mission of the Undergraduate Program in Architectural Design
The mission of the undergraduate program in Architectural Design is to develop students’ ability to integrate engineering and architecture in ways that blend innovative architectural design with cutting-edge engineering technologies. Courses in the program combine hands-on architectural design studios with a wide variety of other courses. Students can choose from a broad mix of elective courses concerning energy conservation, sustainability, building systems, and structures, as well as design foundation and fine arts courses. In addition to preparing students for sustainability, building systems, and structures, as well as design from a broad mix of elective courses concerning energy conservation, students can choose that blend innovative architectural design with cutting-edge engineering methods.

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Requirements

Mathematics and Science (36 units minimum) 1

Mathematics
MATH 19 Calculus 3
MATH 20 Calculus 3
MATH 21 Calculus 4
Or 10 units AP Calculus or MATH 41 & MATH 42
CME 100 Vector Calculus for Engineers (Recommended) 5

One course in Statistics (required) 3-5

Science
PHYSICS 41 Mechanics (or PHYSICS 41E requires Physics diagnostic test or application) 4/5
Recommended:
EARTH SYS 101 Energy and the Environment
EARTH SYS 102 Fundamentals of Renewable Power
CEE 64 Air Pollution and Global Warming: History, Science, and Solutions
CEE 70 Environmental Science and Technology
PHYSICS 23 Electricity, Magnetism, and Optics
or PHYSICS 43 Electricity and Magnetism
Or from School of Engineering approved list

Technology in Society
One course required; course chosen must be on the SoE Approved Courses list at <ughb.stanford.edu> the year taken. 3-5

Elective units must be such that courses in ENGR Fundamentals, Core, Depth Options, and Depth Electives total at least 63 units. One of the following must be taken:

CEE 131C How Buildings are Made – Materiality and Construction Methods 4
CEE 131D Urban Design Studio 5
CEE 32D Construction: The Writing of Architecture 5
CEE 32G Architecture Since 1900 5
CEE 32H Responsive Structures 5
CEE 32V Architectural Design Lecture Series Course 5
CEE 32T Making and Remaking the Architect: Edward Durell Stone and Stanford 5
CEE 32U California Modernism: The Web of Apprenticeship 5
CEE 32W Making Meaning: A Purposeful Life in Design 5
CEE 133F CEE 139 Design Portfolio Methods 5

Total Units 78-90

For additional information and sample programs see the Handbook for Undergraduate Engineering Programs (http://ughb.stanford.edu).

1 School of Engineering approved list of math and science courses available in the Handbook for Undergraduate Engineering Programs at http://ughb.stanford.edu.

2 Engineering depth options: Choose at least 12 units from the following courses: CEE 101A, CEE 101B, CEE 101C, CEE 120B, CEE 120C, CEE 134B, CEE 156, CEE 159, CEE 172, CEE 172A, CEE 176A, CEE 180, CEE 181, CEE 182, CEE 183, CEE 226, CEE 241, OR CEE 242; ME 203. Students should investigate any prerequisites for the listed courses and carefully plan course sequences with the AD director. Electives:

• ENGR 50, ENGR 103, ENGR 131
• ME 101, ME 110, ME 115A/B/C, ME 120, ME 203
• ARTSTUDI 153, ARTSTUDI 160, ARTSTUDI 162, ARTSTUDI 163, ARTSTUDI 164, ARTSTUDI 165, ARTSTUDI 170, ARTSTUDI 171, ARTSTUDI 181
• ARTHIST 107A, ARTHIST 142, ARTHIST 143A, ARTHIST 188A
• FILMPROD 114
• TAPS 137
• SINY 122; URBANST 110, URBANST 113, URBANST 163, URBANST 171

3 A course may only be counted towards one elective or core requirement; it may not be double-counted. All courses taken for the major must be taken for a letter grade if that option is offered by the instructor. Minimum Combined GPA for all courses in Engineering Fundamentals and Depth/Core is 2.0.

Architectural Design Honors Program
The AD honors program offers eligible students the opportunity to engage in guided original research, or project design, over the course
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of an academic year. For interested students the following outlines the process:

1. The student must submit a letter applying for the honors option endorsed by the student’s primary adviser and honors adviser and submitted to the student services office in CEE. Applications must be received in the fourth quarter prior to graduation. It is strongly suggested that students meet with the Architectural Design Program Director well in advance of submitting an application.

2. The student must maintain a GPA of at least 3.5.

3. The student must complete an honors thesis or project. The timing and deadlines are to be decided by the program or honors adviser. At least one member of the evaluation committee must be a member of the Academic Council in the School of Engineering.

4. The student must present the work in an appropriate forum, e.g., in the same session as honors theses are presented in the department of the advisor. All honors programs require some public presentation of the thesis or project.