School of Architecture

Omar Khan
Location: CFA 201
www.soa.cmu.edu (http://www.soa.cmu.edu)

The SoA educates students in the discipline of architecture emphasizing the role of creativity in architectural design; understanding its historical, social and environmental context; critically engaging technology in its innovation; and ethically working for social progress and justice in the built environment. Our undergraduate and graduate degree programs prepare students for the challenges facing architecture and urbanism in the twenty-first century, namely global warming, artificial intelligence and social justice. We aim to produce discipline-defining designers and thinkers in diverse global contexts.

This world-class architecture education is enhanced by our position within one of the world’s leading research and entrepreneurship institutions, and by the fundamental premise that architectural excellence demands both rigorous training in fundamentals and the development of unique specializations. Students may extend their core knowledge either through concentration in a single architectural discipline, such as urban design, visual design or computational design, or through interdisciplinary interaction with CMU’s other renowned programs in the sciences, humanities, business and engineering. Though every SoA student graduates with intensive architecture knowledge, no two graduates leave with the same education.

In the twenty-first century, few architecture problems are straightforward. Graduates of SoA excel in the roles architects have performed for centuries - and in new roles catalyzed by the depth and breadth of their education - to create and execute innovative solutions to a huge range of emerging global challenges.

Undergraduate Degree Programs

The SoA offers two baccalaureate degree programs: the 5-year, professional Bachelor of Architecture (B.Arch), and the 4-year Bachelor of Arts in Architecture (B.A.). Both programs begin with the same studio-based curriculum in the first year, but then begin to diverge in terms of opportunities and outcomes. The B.Arch requires 10 studios and an extensive set of required professional courses, while the B.A. requires a minimum of 4 studios and fewer technical courses, all of which can be spread out over the four years of the program, and thus allow students to explore different opportunities in their studies.

Undergraduate students are admitted to the SoA without a declared degree program. By the end of the second year, students must select either the B.A. or the B.Arch degree program. The student’s academic advisors, faculty, and Head provide mentoring and information to guide the student in selecting their degree option.

Bachelor of Architecture Program (B.Arch)

The Bachelor of Architecture (B.Arch) is a 5-year, first professional degree program accredited by the National Architectural Accrediting Board (NAAB, www.naab.org/accreditation/information/) with a carefully defined set of “Program Criteria” (PC) and “Student Performance Criteria” (SPC). The B.Arch is for students proposing to pursue a career as a licensed architect or related profession, and centers around a carefully structured set of professional and technical courses about building design and construction, alongside the social, cultural and professional constructs in which architecture operates. Our students graduate with a professional degree that prepares them to excel in practice—but that also launches them into key specialties within and around the profession.

Due to the technical nature of the B.Arch program at CMU, it is STEM-eligible, meaning that in addition to one year of Optional Practical Training (OPT), an international student on an F-1 visa may apply for a 24-month STEM OPT extension following graduation.

Statement on NAAB-Accredited Degrees

In the United States, most registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an eight-year term, an eight-year term with conditions, or a two-year term of continuing accreditation, or a three-year term of initial accreditation, depending on the extent of its conformance with established education standards.

Doctor of Architecture and Master of Architecture degree programs may require a non-accredited undergraduate degree in architecture for admission. However, the non-accredited degree is not, by itself, recognized as an accredited degree.

The Carnegie Mellon University School of Architecture offers the following NAAB-accredited programs:

- Bachelor of Architecture (450 units)
- Master of Architecture (Pre-professional degree or equivalent + 180 units)

The next NAAB accreditation visit for the Bachelor of Architecture is scheduled for 2027. The first NAAB visit for continuation of accreditation for the Master of Architecture is scheduled for 2023.

The full 2020 NAAB Conditions for Accreditation can also be found on NAAB’s website at: www.naab.org/accreditation/conditions-and-procedures/ (https://www.naab.org/accreditation/conditions-and-procedures/).

Bachelor of Arts in Architecture Program (B.A.)

The Bachelor of Arts in Architecture (B.A.) is a 4-year liberal studies degree program that allows and encourages interdisciplinary exploration. The program is built around a core foundation of architectural studios and technical coursework, but more than half of the units required for graduation are general studies courses and flexible electives. B.A. students have the opportunity to double major, test the boundaries of the discipline, and explore a variety of interests. If you are a student that embraces creativity, is curious about the world around you, and enjoys engaging both the left and right sides of your brain, the B.A. program could be a perfect fit for you.

As a 4-year, pre-professional architecture program, the B.A. allows those who are interested to continue in architecture with a 2-year professional M.Arch degree program (often called a 4+2 degree), or to go on to specialize in other fields in graduate school, including urban design, landscape architecture or other fields related to design, the built environment, virtual worlds, community engagement, sustainability, and more. The B.A. also makes it possible for students to transfer into architecture from other studies.

In the first year, the B.A. program begins with the same studio-based curriculum as the B.Arch program, but then begins to diverge in terms of opportunities and outcomes. The B.A. requires only the first four studios and the core courses from the first two years of the B.Arch sequence, and these can be spread out over the four years of the program. Students may take more studios, specialize in particular aspects of architecture, or explore broadly.

For students seeking to integrate architecture with another field of study, CMU also offers the BXA Intercollege Degree Programs. BXA students graduate with a Bachelor of Humanities and Arts, a Bachelor of Science and Arts, or a Bachelor of Computer Science and Arts degree.

B.Arch Curriculum

Minimum units required for Bachelor of Architecture 450

**First Year: Poiesis**

<table>
<thead>
<tr>
<th>Units</th>
<th>Course Title</th>
</tr>
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<tbody>
<tr>
<td>48-100</td>
<td>Architecture Design Studio: POIESIS STUDIO 1</td>
</tr>
<tr>
<td>48-104</td>
<td>Shop Skills</td>
</tr>
<tr>
<td>62-122</td>
<td>Digital Media I</td>
</tr>
<tr>
<td>62-104</td>
<td>Design Ethics &amp; Social Justice in Architecture</td>
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<tr>
<td>62-125</td>
<td>Drawing I</td>
</tr>
<tr>
<td>76-101</td>
<td>Interpretation and Argument</td>
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<tr>
<td>99-101</td>
<td>Computing @ Carnegie Mellon</td>
</tr>
<tr>
<td>48-105</td>
<td>Architecture Design Studio: Poiesis Studio 2</td>
</tr>
<tr>
<td>62-123</td>
<td>Digital Media II</td>
</tr>
<tr>
<td>62-126</td>
<td>Drawing II</td>
</tr>
<tr>
<td>48-240</td>
<td>History of World Architecture, I</td>
</tr>
</tbody>
</table>
Second Year: Poiesis

- Architecture Design Studio: POIESIS STUDIO 3 (18 units)
- Materials & Assembly (9 units)
- Introduction to Building Performance (3 units)
- Generative Modeling (9 units)
- Elective (6 units)

Third Year: Praxis

- Architecture Design Studio: POIESIS STUDIO 3 (18 units)
- Generative Modeling (9 units)
- Elective (6 units)

Fourth Year

- Architecture Design Studio: Praxis Studio 3 (18 units)
- Environment II: Climate & Energy in Architecture (9 units)
- Elective (9 units)

Fifth Year

- Architecture Design Studio: Thesis II/Independent Project (18 units)
- Advanced Synthesis Options Studio IV (18 units)
- Architectural History III (Selective) (9 units)
- Elective (6 units)

Electives

- Architecture Electives (Outside SoA) (45 units)
- Flex Electives (In or out of SoA) (105 units)

Minors in Architecture

The SoA offers several minors in various specialty subjects related to architecture, some are only available to non-architecture students, others are only available to architecture majors, and still others can be taken by all CMU students. For the most up-to-date list of minors, see: https://soa.cmu.edu/minors/.


The Minor in Architecture sequence is for students who intend to develop intellectual links to the architectural profession. The scope of courses offered includes a full spectrum of professional issues in architecture. (Available to non-architecture majors only.)

The Minor in Architectural Design Fabrication is intended for students who wish to develop focused, disciplinary expertise in both analog and digital material methods for shaping the built environment and become involved in a community of practice dedicated to a rigorous pursuit of making as a mode of architectural research and cultural expression. It is also for students interested in gaining advanced placement in the SoA’s Master of Advanced Architectural Design (MAAD) (https://soa.cmu.edu/maad) program. (Available to architecture majors only.)

The Minor in Architectural History is intended for candidates interested in the history of architecture in its many manifestations, including high style and vernacular buildings, western and non-western traditions, built and theoretical works, and rural to urban contexts. Students wishing to pursue the minor should meet with the Architecture advisor to determine if a course is eligible. (Available to both architecture majors and non-architecture majors.)

The Minor in Architectural Representation and Visualization is intended for students who wish to develop particular skills in architectural representation, and for those who are interested in gaining advanced placement in the SoA’s Master degree program in Computational Design (MSCD) (https://soa.cmu.edu/mscd/). (Available to both architecture majors and non-architecture majors.)

The Minor in Architectural Technology is intended for students who seek to develop intellectual links to the technical aspects of the profession. (Available to non-architecture majors only.)

The Minor in Building Science is intended for students who want to deepen their knowledge in the building sciences, and for those who are interested in gaining advanced placement in the SoA’s Master degree programs in Building Performance & Diagnostics (MSBPD) (https://soa.cmu.edu/msbpd/) or Sustainable Design (MSSD) (https://soa.cmu.edu/mssd/). (Available to architecture majors only.)

The Minor in Computational Design is intended for students who wish to engage with computation as a vehicle of generative, material, and spatial design exploration, and for those who are interested in gaining advanced placement in the SoA’s Master of Science in Computational Design (MSCD)
Advanced Standing in Master Degree Programs

The SoA offers a unique opportunity to undergraduate students who wish to pursue a post-professional Master's degree in an architecture-related field. The Accelerated Master's Program (AMP) (https://soa.cmu.edu/accelerated/) offers baccalaureate students the opportunity to expedite their completion of a Master's degree, saving both time and money and allowing them to hit the job market with specialized knowledge and two CMU degrees. Baccalaureate students can pursue a graduate degree in the following subjects: Master of Architecture (M.Arch) (B.A. students only), Advanced Architectural Design, Architecture-Engineering-Construction Management, Building Performance and Diagnostics, Computational Design, Sustainable Design, and Urban Design. An AMP student must complete all of the units required by BOTH programs, less a maximum of 48 units that can be double-counted. For instance, B.Arch + MSSD-Applied would be 450 units + 135 units less 48 double-counted units, or 537 total units total for two degrees. B.Arch students may begin pursuit of a post-professional Master's degree through AMP as early as their third year.

Graduate Degree Programs

Carnegie Mellon University is recognized for outstanding contributions to science, technology, management, policy, and the fine arts. The School of Architecture builds on a tradition of interdisciplinary study. The School of Architecture offers seven (7) Master's degrees, and three (3) Doctoral degrees in the following areas of study:

Master of Advanced Architectural Design

The Master of Advanced Architectural Design (MAAD) (https://soa.cmu.edu/maad/) is a post-graduate, studio-based program that engages emerging methods of design and fabrication through architectural design to speculate upon future modes of architectural practice, enhanced construction methods, and material culture within the built environment.

Master of Architecture

The Master of Architecture (M. Arch) (https://soa.cmu.edu/march/) is two-year, studio-based, NAAB-accredited (https://soa.cmu.edu/about/#naab), first professional degree program to educate tomorrow's leaders in architecture-related careers. It requires a 4-year, pre-professional architecture program, such as the B.A. or its equivalent to enroll, and is thus often called a 4+2 degree. The M.Arch program provides both the broad, comprehensive training in fundamentals required for U.S. professional registration and licensure, and the opportunity to focus on, speculate in, and obtain dual degrees with other research-based master's programs in the SoA. Our M.Arch program's strategically small size allows our self-motivated students to shape their individual educational agendas and career paths as they interact directly with a broad array of vertically integrated studios and advanced research projects in the school, the university, the local community, and around the world.

Master of Science/Doctor of Philosophy in Architecture-Engineering-Construction Management

A joint effort between the School of Architecture and the Department of Civil & Environmental Engineering, the Architecture-Engineering-Construction Management (AECM) (https://soa.cmu.edu/aecm/) programs prepare building delivery professionals for careers in capital project delivery dealing with the entire life-cycle of capital projects, from pre-design to design, construction, commissioning, operation, and maintenance stages. Graduates are educated to become effective decision makers who can positively impact economic, environmental, and ethical aspects of the built environment through professional management strategies. Our graduates have successful careers in government, industry, business, and NGO (non-governmental organization) sectors, prospering in positions where design professionals continuously make large-scale capital project design, construction, and maintenance decisions.

Master of Science/Doctor of Philosophy in Building Performance and Diagnostics

Our graduate programs in Building Performance & Diagnostics (BPD) (https://soa.cmu.edu/bpd/) have long led the world in advanced building technologies that sustainably reshape the built environment. BPD deals with the comprehensive integration of building design and advanced technology, as a means of producing high performance architecture. Led by the Center for Building Performance & Diagnostics (CBPD) (https://soa.cmu.edu/cbpd/), students have the opportunity to gain both diversity and depth of knowledge from world-renowned and experienced faculty.

Master of Science/Doctor of Philosophy in Computational Design

Our graduate programs in Computational Design (https://soa.cmu.edu/computational-design/) are among the first and best known in the country, and our legacy continues today. The Computational Design program takes a computer science view of design, applying both the science and art of computing to design problems, in relation to creation, presentation, analysis, evaluation, interaction or aesthetic expression; in real and imagined applications, both perceived and conceived. From the beginning, the program has benefited from close cooperation with other units of the university, particularly the School of Computer Science and the Department of Civil & Environmental Engineering. Our research-based degree programs are intended for practitioners, educators and researchers in architecture, computer science, engineering and those interested in design. Our graduates go on to successful careers in government, industry, academia, and software development.

Master of Urban Design

The Master of Urban Design (MUD) (https://soa.cmu.edu/mud/) is a studio-based program distinguished by its emphasis on integrating socially engaged practice with new tools and techniques for representing, understanding, and designing cities; by the opportunity to work in trans-disciplinary teams at the intersection of the arts, humanities and technology across Carnegie Mellon’s departments and colleges; and by its location in Pittsburgh—a thriving post-industrial laboratory.

MASTER OF SCIENCE IN SUSTAINABLE DESIGN

The Master of Science in Sustainable Design (MSSD) (https://soa.cmu.edu/mssd/) is a post-professional research-based graduate program focused on enabling deep expertise, critical thinking, and investigation of innovative sustainable strategies for the design of the built environment. The MSSD program explores technical and multicultural aspects of ecological thinking, while enabling actionable expertise in sustainable design methodologies. Based in the legacy of sustainability teaching at Carnegie Mellon University, the MSSD program prepares students to excel in research methods, and to become experts in integrative design thinking for the future of the built environment.

Student Advising

Architecture students can receive advice from many sources, including the faculty, staff, and administration of the School. All SoA undergraduates are urged to meet with the Senior Academic Advisor to review their academic progress and plans before each semester. Such meetings are important to track all advantage of elective possibilities within the curriculum, general progress toward graduation, and professional goal-setting. Students may also check their progress using the online academic audit in the Student Information Online (SIO) and should review the audit results with the senior academic advisor. The Academic Advisor will assist students with registration, academic audits, transfer credits, study abroad, SoA minors, final grades and academic actions, as well as SoA and university policies and resources.

In addition, we encourage all of our students to become involved with student organizations such as AIAS or NOMAS, as well as committees such as the Student Advisory Council (SAC) in order to learn from peers. Students should seek advice about the Architectural Experience Program (AXP) and architectural licensing through the Architect Licensing Advisor.

Study Abroad

The SoA strongly encourages students to study abroad. The perspective gained through immersion in another culture and language is invaluable. A student is exposed to architectural subjects not readily available at CMU and will study architecture directly in a foreign context. The Office of International Education (OIE) is an excellent resource for getting started for study abroad planning.

Study abroad can fall into four categories: University Direct Exchanges, University Sponsored Programs, External Programs, and Departmental Summer Programs. Students are also allowed one semester abroad for which they receive study credit except for those students at approved direct, year-long exchange programs. Students may study abroad in the Fall, Spring, or Summer semesters. Careful planning and scheduling of your courses are necessary.
when incorporating a study away experience into your curriculum. Students should investigate and start making decisions to study abroad by the fall of their second year, so they can plan their courses accordingly. Please see the academic advisor prior to making any decisions on what term to schedule your study away experience.

To qualify for a study abroad program other than the departmental summer programs, a student must have completed their third year of the program, have a minimum overall GPA of 3.00, and be in good academic standing (no current academic actions).

Students in SoA departmental summer programs must have completed their first year, and must be free of any academic actions for the semester prior to studying away, or permission may be denied. Students can petition the UPEC for exceptions.

Students who participate in a study abroad program for one semester will transfer non-studio course credit by submitting course descriptions of each course taken as well as an official transcript from the host Institution. Official translated transcripts must be submitted to the academic advisor before the beginning of the academic year to receive transfer credit. Grades are not transferred, only credits. Transfer credit is awarded upon receipt of an official translated transcript and only for courses with the grade of a C or better (not C-). When students return from study abroad, they must pin up original work during the study away exhibit, which will be subject to review by the UPEC or designated faculty.

Faculty

JARED ABRAHAM, Associate Studio Professor
VICKY ACHNANI, Adjunct Instructor
SAROSH ANKLESARIA, Fitz-Gibbon Visiting Professor
MARY-LOU ARSCOTT, Studio Professor & Associate Head
NINA BAIRD, Assistant Teaching Professor
NINA BARBUTO, Adjunct Faculty
JOSHUA BARD, Associate Professor & Associate Head
WILLIAM BATES, Adjunct Faculty
ARDAVAN BIDGOLI, Robotics Fellow
PRIYANKA BISTA, Joseph F. Thomas Visiting Professor
HEATHER BIZON, Special Faculty
GINGER BROOKS TAKAHASHI, Adjunct Instructor
DARAGH BYRNE, Associate Teaching Track
DANIEL CARDOSO LLACH, Associate Professor
DONALD CARTER, Adjunct Faculty
MARK CHAMBERS, Adjunct Instructor
JEFFIE CHANG, Adjunct Instructor
ANNE CHEN, Adjunct Instructor
XIN CHEN, Adjunct Instructor
NICKIE CHEUNG, Adjunct Instructor
ERICA COCHRAN HAMEEN, Assistant Professor & Director of DEI
DOUG COOPER, Andrew Mellon Professor
STUART COPPEDGE, Adjunct Instructor
DANA CUPKOVA, Associate Professor
GERARD DAMIANI, Associate Professor
STEFANI DANES, Adjunct Faculty
JEFFREY DAVIS, Adjunct Faculty
TAMARA DUDUKOVICH, Adjunct Instructor
EMEK ERODULU, Graduate Instructor
JEREMY FICCA, Associate Professor, Director dFAB
LAURA GARAFALO, Associate Professor
SINAN GORAL, Adjunct Faculty
STEFAN GRUBER, Associate Professor
KAI GUTSCHOW, Associate Professor & Associate Head
NAJEEB HAMEEN, Adjunct Faculty
VOLKER HARTKOPF, Professor Emeritus
HAL HAYES, Studio Professor
MATTHEW HUBER, Adjunct Faculty
ELIJAH HUGHES, Adjunct Instructor
THEODOSSIS ISSAIAS, Special Faculty
JENNA KAPPELT, Special Faculty
LYNN KAWARATANI, Liaison Librarian to SoA
OMAR KHAN, Professor & Head
PHYLLIS KIM, Adjunct Instructor
JONATHAN KLINE, Associate Studio Professor
KRISTEN KURLAND, Teaching Professor
JONGWAN KWON, Special Faculty
KHEE POH LAM, Professor Emeritus
JOSHUA D. LEE, Assistant Professor
JUNYEE LEE, Assistant Professor
STEPHEN R. LEE, Professor
SUZI LI, Graduate Instructor
TIAN LI, Graduate Instructor
WEI LIANG, Graduate Instructor
VIVIAN LOFTNESS, University Professor, Paul Mellon Professor
TONYA MARKIEWICZ, Adjunct Instructor
JACKIE JOSEPH PAUL MCFARLAND, Special Faculty
CHRISTINE MONDOR, Special Faculty
MELANIE NGAMI, Adjunct Instructor
NILOOFAR NIHOROKH, Graduate Instructor
VERNELLE NOEL, Assistant Professor
PAUL OSTERGAARD, Adjunct Faculty
PAUL PANGARO, Visiting Scholar in Computational Design
MISRI PATEL, Anne Kalla Visiting Professor
NIHAR PATHAK, Graduate Instructor
STEPHEN QUICK, Adjunct Faculty
SARAH RAFFIN, Adjunct Faculty
NIDA REHMAN, Lucian and Rita Caste Assistant Professor in Architecture and Urban Design
MANUEL RODRÍGUEZ LADRÓN DE GUEVARA, Studio Instructor & Research Assistant
AZADEH OMIDFAR SAWYER, Assistant Professor
NATHAN SAWYER, Special Faculty
CHARLIE SCHMIDT, Adjunct Instructor
EDWARD SEGAL, Adjunct Instructor
DIANE SHAW, Associate Professor
TULIZA SINDI, Anne Kalla Visiting Professor
ALA TANNIR, Adjunct Instructor
FRANCESCA TORELLO, Special Faculty
KUSHAGRA VARMA, Graduate Instructor
VALENTINA VAVASIS, Special Faculty
GERROD WINSTON, Adjunct Instructor
GARRET WOOD-STERNBURGH, Adjunct Instructor
HEATHER WORKINGER MIDGLEY, Adjunct Faculty
TOMMY CHEEFOU YANG, Anne Kalla Professor in Architecture
TIANCHENG ZHAO, Graduate Instructor