

HIGHER LEARNING

A good design education can make for a great career. Azure looks at which schools offer the most in terms of hands-on collaboration, groundbreaking technology and inspiring faculty **By Paige Magarrey**

ABOUT OUR SURVEY

We polled architects and designers across Canada and the U.S., and heard from top professionals regarding the strongest bachelor's and master's programs. Our listings highlight over 40 schools that offer a unique, innovation-oriented education. We also cite honourable mentions and international schools that have earned stellar reputations. While not an exhaustive survey, our overview, supplemented by our own research, presents the current state of design education. And with new program options in urban planning and sustainable and social design, it also speaks to what the future of the industry holds

ARCHITECTURE

COLUMBIA GRADUATE SCHOOL OF ARCHITECTURE, PLANNING AND PRESERVATION

New York / Master of architecture (three years) / US\$44,400 per year / 260 students

Columbia emphasizes analysis of architecture's history, overarching theories and future directions. On the research end, architecture students collaborate with those specializing in landscape and urban design on over 35 exhibitions, publications and other projects each year. On the more experimental side, they have access to over 15 labs, focusing on everything from Chinese megacities to sustainable urbanism, including the Studio-X global network of research hubs (see page 71).

STAR FACULTY: Michael Bell, Laurie Hawkinson, Enrique Walker

NOTABLE ALUMNI: Winka Dubbeldam, Charles Renfro

WHAT THE PROS SAY: "Columbia best combines a world approach to research into the most advanced technological issues faced by architects, and a fresh, often polemical debate on the role of the avant-garde today." – former faculty member Bernard Tschumi

CORNELL UNIVERSITY

Ithaca, New York / Bachelor of architecture (five years) / US\$43,200 per year / 275 students

Situated in the recently completed LEED Gold Milstein Hall, designed by OMA, Cornell's architecture department is one of the oldest in the United States. The undergraduate professional degree teaches communication skills, socio-economic context and practical building techniques, to foster a basis for further education. Interdisciplinary study is also encouraged; students take a quarter of their courses in other departments, and may also spend a semester studying in Rome or New York.

STAR FACULTY: Visiting critics include Shigeru Ban and Peter Cook.

NOTABLE ALUMNI: Peter Eisenman, Enrique Norten, Chad Oppenheim

HARVARD GRADUATE SCHOOL OF DESIGN

Cambridge, Massachusetts / Master of architecture (3.5 years) / US\$40,400 per year / 265 students

Focusing on the studio as the core of design education, Harvard sets up its 500 graduate students to study various specializations in the Trays, a studio space in Gund Hall arranged like a giant set of stairs. Working

at desks on the various levels, they can view and comment on others' work. This enables them to share new ideas, theories and concepts, imparted by Harvard's renowned professors and visiting critics and theorists from around the world.

STAR FACULTY: Earmarked by our respondents as the school with the best teaching staff, Harvard's faculty includes Jacques Herzog, Rem Koolhaas and Toshiko Mori.

NOTABLE ALUMNI: Frank Gehry, Thom Mayne, Joshua Prince-Ramus

WHAT THE PROS SAY: "All classes and disciplines are together in one large space, resulting in an opportunity for an exchange of ideas and great energy." – alumnus Michael Taylor of Taylor Smyth Architects

SOUTHERN CALIFORNIA INSTITUTE OF ARCHITECTURE

Los Angeles / Master of architecture (two or three years) / US\$34,000 per year / 250 students

SCI-Arc is committed to fostering advanced research that rethinks how we build structures. With an approach that focuses on learning through making, it boasts such facilities as the new 93-square-metre Robot House, where students work with the latest digital design and rapid prototyping technology to develop



WORDS OF WISDOM

“Travel, experience, observe, draw. Creative urban design doesn’t emerge from books or from the mind.”

— Doug Suisman, Suisman Urban Design, Santa Monica, California

COLUMBIA

For a year-end exhibit, the Experiments in Motion lab created a floating aluminum-and-plexiglass model of Manhattan. The lab is a collaboration between Columbia’s architecture school and Audi.



CORNELL
Interior of Milstein Hall, the newly opened architecture campus building by OMA.

WORDS OF WISDOM

"I always hear students talk about how they want to 'change the system from within.' If you want to change things, you have to do it from outside the system. That's scary and hard, but that's just the way it is."

- Steven Dale, Creative Urban Projects, Toronto

experimental architectural concepts. The study-abroad program connects them with top schools to share and engage in new research projects.

STAR FACULTY: Eric Owen Moss, Kevin Daly, Patrick Tighe

UNIVERSITY OF WATERLOO

Waterloo, Ontario / Professional degree: four-year bachelor of architectural studies, one-year master of architecture / \$7,500 per year, \$31,700 for international / 450 students

Our respondents rated Waterloo among the top Canadian schools, thanks to its co-op program. It prepares students for the job market with paid placements in such studios as Architectonica International in New York and Diamond Schmitt Architects in Toronto, as well as firms in Japan, Germany and Spain. It's also the only

Canadian architecture school with an international facility abroad, its Rome campus, where fourth-year students develop an exhibition that travels back to Canada.

STAR FACULTY: Philip Beesley, Adrian Blackwell, Janna Levitt

NOTABLE ALUMNI: Brigitte Shim, Peter Clewes, Omer Arbel, Paul Raff, Stephen Teeple

WHAT THE PROS SAY: "Programs that offer co-op placements, such as Waterloo's, offer real-world experience between academic terms, which provides a good foundation for practical skills." - alumnus Arriz Hassam of 3rd Uncle

HONOURABLE MENTIONS

CAL POLY SAN LUIS OBISPO

This California school is consistently commended for its dedication to sustainable design practices, cross-disciplinary teamwork and hands-on construction skills. Its yearly experimental structures competition invites students from across the U.S. to design dwellings made from materials that can be carried by hand for a mile.

UNIVERSITY OF CINCINNATI

The school of architecture and interior design's master of architecture is ranked among the best professional

programs in the U.S., and the campus itself was designed by a roster of outstanding architects, including Frank Gehry, Michael Graves, Peter Eisenman, Thom Mayne and Bernard Tschumi.

UNIVERSITY OF PENNSYLVANIA

PennDesign's program, with instructors such as Enrique Norton, Winka Dubbeldam and Witold Rybczynski, offers students two advanced research labs, including the Building Simulation Group, which explores computational models and other innovative technologies.

UNIVERSITY OF TORONTO

Master's students at the Daniels Faculty of Architecture, Landscape and Design benefit from diverse instructors, among them the Frank Gehry International Visiting Chair in Architectural Design, who teaches a studio to third-year students; previous chairs include Jürgen Mayer H and Daniel Libeskind. Students also have access to the Responsive Architecture lab, which develops high-tech projects with an interactive element.

INTERIOR DESIGN

PARSONS THE NEW SCHOOL FOR DESIGN

New York / Bachelor of fine arts in interior design (four years) / US\$39,300 per year / 70 students

Part of the multi-disciplinary School of Constructed Environments, this is the oldest interior design program in the United States (founded in 1906). It prepares its grads for the ever-changing industry with research-intensive coursework, and rigorous group projects where students collaborate closely with instructors to develop culturally sensitive design concepts for various building types. Senior students can apply to join the Design Workshop to develop and construct pavilions, green spaces and other projects for non-profit clients.

STAR FACULTY: Jeremy Barbour
NOTABLE ALUMNI: Antonia Hollerbach, Scott Saunders, Sarah Roberts
WHAT THE PROS SAY: "Just about every firm wants an employee with the sort of skill sets these students are given." - faculty member Antonio di Oronzo of Bluarch

RYERSON
The university's interior design school was recently revamped by Gow Hastings Architects

WORDS OF WISDOM

"Go to happy hour – but not at the architecture school. Meet businesspeople and lawyers: your future clients."

– Matthias Hollwich, HWKN, New York

PRATT INSTITUTE

New York / Master in interior design (two years) / US\$33,600 per year / 170 students

Pratt's program examines how scale, proportion, materials and colours relate to human experience. Students are encouraged to supplement their practical education with electives from other departments, a testament to the school's interdisciplinary method. For their final thesis project, they choose between testing their practical skills in the field, or taking a research-based approach to an emerging issue in the industry.

STAR FACULTY: Ike Cheung, Melissa Cicetti, Tetsu Ohara, Aki Ishida

NOTABLE ALUMNI: Joe D'Urso, Judith Stockman

RYERSON UNIVERSITY

Toronto / Bachelor of interior design (four years) / \$7,000 per year, \$19,700 for international / 400 students

With relatively small class sizes and plenty of one-on-one time with faculty, Ryerson balances theoretical learning with intensive, hands-on practical experience. Case in point: the internship program calls for 400 hours of work time, which is at the high-end of the spectrum. Students praise the yearly Vertical Studio

SPECIALIZATION VERSUS GENERALIZATION

Does the future lie in programs that offer interdisciplinary studies (think: MIT) or in honing one specialty? Architects and designers weigh in

18% SPECIALIZATION

"I would say an undergraduate degree in a specialization will lead to a career in the field. No one hires a 'big concept' person out of school. It's something you grow into."

– Paolo Ferrari, Yabu Pushelberg, Toronto

59% INTERDISCIPLINARY

"Architecture is a renaissance profession and always will be. Those who truly excel and offer exceptional innovation and creativity do so because they are generalists, not specialists."

– Michael Green, Michael Green Architecture, Vancouver

"No contest: interdisciplinary studies. Don't accept one thing, one path. Put them all together and confuse yourself. You might be enlightening yourself, or lighting yourself on fire."

– Vito Acconci, Acconci Studio, New York

5% NEITHER

18% BOTH

"Specialization is dictated by the market, and interdisciplinary approaches are the result of specializations. They exist at once because of the market."

– Antonio Di Oranzo, Bluarch, New York

OCAD UNIVERSITY Toronto

An established, well-rounded approach defines OCAD University's four-year undergraduate industrial design program, which keeps students focused on global design trends and practical techniques. They gain experience in the business side of their field by teaming up with Rotman MBA students to create corporate design for such brands as Target and Procter & Gamble.

LANDSCAPE ARCHITECTURE

HARVARD GRADUATE SCHOOL OF DESIGN

Cambridge, Massachusetts / Master of landscape architecture (three years) / US\$40,400 per year / 110 students

Billed as the oldest landscape architecture program in the world, this curriculum inspires students to explore landscape design as a profession, an academic discipline and a cultural medium. Students constantly develop practices and innovations to merge the natural and built environments, using such resources as the Arnold Arboretum, the school's 1,400-hectare ecological research lab; and the Center for the Environment, which researches how the environment and society interact.

STAR FACULTY: Martha Schwartz, Bridget Baines

NOTABLE ALUMNI: Claude Cormier, Dan Kiley, Edward Durell Stone Jr.

KANSAS STATE UNIVERSITY
Manhattan, Kansas / Master of landscape architecture (five years) / US\$10,000 per year, \$22,400 for out of state / 82 students

Small class sizes in a tightly knit department make for a family-like atmosphere in this program, which focuses on the principles of land

stewardship, and encourages students to seek "long-term solutions concerning land health, human dignity and aesthetic quality." Fourth-year students can either undertake a 28-week internship at a firm, or opt to spend their second semester expanding their understanding of landscape design in Italy and other places in Europe.

WHAT THE PROS SAY: "KSU has one of the best, if not the best, reputations in the U.S. for landscape architecture, and that brings with it great pride in the work and time we put in as students." – alumna Carisa McMullen of Landworks Studio

UNIVERSITY OF PENNSYLVANIA

Philadelphia / Master of landscape architecture (two and three years) / US\$43,300 per year / 40 students

Addressing the expanding reach of landscape architecture, PennDesign tackles such macro topics as large-scale public works and post-industrial brownfield sites. The program has been active since 1924, and has assembled an impressive roster of visitors and critics, such as Martin Rein-Cano of Topotek 1. Meanwhile, PennPraxis, the department's applied research arm, enables students to try their hand at actual projects, such as the landscaping of the National Palace Museum in Taiwan.

STAR FACULTY: James Corner, John Dixon Hunt, Laurie Olin

NOTABLE ALUMNI: Philippe Coignet, Amy Freitag

HONOURABLE MENTIONS UNIVERSITY OF TORONTO

This intensive master's program emphasizes design skills, history and theory analysis, as well as an understanding of environment and technology as a foundation for ideas that push the envelope. Students have access to the Centre for Landscape Research facility, which brings together landscape, urban design and architecture students to discuss research and current issues.

UNIVERSITY OF VIRGINIA
Charlottesville

Considering landscape design through a sociocultural filter, this intimate graduate program of about 45 students spends extensive time exploring urban issues in cities, beginning with the local area in first year, then moving on to other major metropolitan regions. Among the instructors, Julie Bargmann of DIRT teaches students about regenerating brownfields and post-industrial sites.



In one Future City Lab research project, Berlin and its buildings would be completely revamped by 2050.

THE NEXT GENERATION OF COLLABORATION

For architecture students today, the internet connects them in previously unimaginable ways, enabling them to form globalized labs that collaborate remotely on projects. One such network, the **Future City Lab**, allows a student at Ryerson University in Toronto to receive feedback on an urban design idea from peers at the University of Sassari in Alghero, Italy; ESA in Paris; ETH in Zurich; U Penn in Philadelphia; TU Delft in the Netherlands; Syracuse University in New York; and IUAV in Venice.

The brainchild of Thomas Auer, of the German climate engineering company Transsolar, the lab employs a multi-platform approach (via Facebook, a video channel, a blog and a wiki site) to create a database of research that envisions what cities will look like in 2050. For instance, a project by a student at the Dessau Institute of Architecture seeks to green the city of Berlin, building by building. The proposal has been viewed thousands of times and is currently on its 15th revision.

Offering a similar, albeit comparatively analog experience of international collaboration, the **Studio-X** research hub at Columbia University connects students with innovative thinkers via studio spaces installed everywhere from Mumbai to Rio de Janeiro. The centres organize research projects, exhibitions, workshops, and other initiatives that engage each city's community. The New York location, for example, recently hosted a symposium on the future of aging in cities.

INSTITUTE WITHOUT BOUNDARIES

Students reinvision Markham, a town north of Toronto, with new green spaces.



WORDS OF WISDOM

"Sketch, sketch, sketch as much as possible, to observe the world and objects around you."

– Mania Bedikan, Samare, Montreal

Partnerships with organizations such as the YMCA and the Canadian Youth Climate Coalition offer practical experience.

UNIVERSITY OF BRITISH COLUMBIA

Vancouver / Bachelor of environmental design (four years) / \$5,700 per year, \$27,600 for international / 51 students

For sustainability-focused students pursuing a master of architecture, this program in the School of Architecture and Landscape Architecture combines broader liberal arts courses with practical learning and hands-on projects. For further inspiration, students can access the new Centre for Interactive Research on Sustainability, a campus building that acts as a living laboratory. It covers everything from building and daylighting simulation to energy consumption monitoring and assessment.

UNIVERSITY STUDIOS RURAL STUDIO AT AUBURN UNIVERSITY

Newbern, Alabama

Since 1993, Rural Studio has been working with a small group of undergraduate and thesis students in the realm of sustainable community building. They design and build homes and other structures for non-profit organizations, for example the 2010 renovation of the Safe House Black Historic Museum in Greensboro, Alabama.

STUDIO 804 AT THE UNIVERSITY OF KANSAS

Lawrence, Kansas

This not-for-profit research studio, led by Dan Rockhill, gives graduate students experience using the latest technology and techniques to construct one building per year. Their prototype facility for the 5.4.7 Arts Center in Greensburg was the first LEED Platinum building in Kansas.

INTERNATIONAL

DESIGN ACADEMY EINDHOVEN

Eindhoven, the Netherlands / Bachelor of design (four years) / \$2,300 per year, \$9,180 for non-EU / 640 students

This avant-garde school helps students (alumni include Hella Jongerius and Formafantasma's Andrea Trimarchi and Simone Farresin) to focus on their own strengths and individual style. They hone in on one of eight specializations: living, identity, activity, public space, communication, well-being, mobility and leisure.

ARCHITECTURAL ASSOCIATION

London / Master in architecture (16 months) / \$11,000 / 65 students

The Design Research Laboratory program brings in visiting experts, and boasts such alumni as Steven Holl, Will Alsop and Ben Van Berkel. Students also have access to the Hooke Park woodland laboratory, which contains living space for 16, a woodworking shop and the new Big Shed prototyping studio.

THE BARTLETT FACULTY OF THE BUILT ENVIRONMENT AT UNIVERSITY COLLEGE LONDON

London / Master of architecture (two years) / \$16,000 per year, \$29,500 for out of country / 180 students

This research-focused architectural school contributes to worldwide discussions on such topics as sustainable cities and intercultural interaction, through research projects and publications. The master program is individually focused, with tutors who advise students on innovative concepts rooted in practical skills and theory-based learning.

ÉCAL - UNIVERSITY OF ART AND DESIGN LAUSANNE

Lausanne, Switzerland / Bachelor of industrial design (three years) / \$2,000 per year / 107 students

ÉCAL offers broad coverage of the world of industrial design, from traditional theories (it was founded in 1821) to modern approaches. Students learn from such instructors as Ronan Bouroullec and Hector Serrano, and gain practical experience collaborating with companies like B&B Italia, Swarovski and Vitra.

ETH ZURICH

Zurich / Master in urban design (one year) / \$12,700 per year / 30 students

ETH's continuing education program offers English language degrees in the architecture master program. The urban design curriculum explores how the discipline relates to global issues and development, and teaches the required methodology, practical skills and communication abilities.

ROYAL COLLEGE OF ART

London / Master in interior design (two years) / \$14,300 per year, \$42,700 for out of country / 24 students

RCA's brand new architecture school includes a school of interior design, led by Ab Rogers. It runs parallel to the architecture program, allowing for relevant overlap and collaboration alongside individual thesis work. **AZ**



↑ Academy Eindhoven student Lucas Mullié's Time Restaurant concept of definitively local cooking.
 ← DIY Mould, by ÉCAL student Rita Botelho.
 ↓ Architectural Association's new Big Shed.

