SCIARC

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2015-2016

Course Catalog

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Course Catalog

Courses and Degree Requirements

UNDERGRADUATE DEGREE (B.ARCH)
5 YEAR (10 TERM) PROGRAM

Professional Bachelor of Architecture (B.Arch) program, accredited by the National Architectural Accrediting Board (NAAB).

Tom Wiscombe
Undergraduate Program Chair

SCI-Arc's undergraduate program is aimed at educating young architects who will go on to lead the discipline as designers and question the status quo by searching for new models of architectural inquiry. The program achieves a fluid and holistic approach through an emphasis on a wide range of conceptual and practical skills, from critical thinking to technical expertise. Advanced digital technologies and fabrication methods permeate the program and take advantage of SCI-Arc's state-of-the art fabrication shops, ranging from 3D printers, CNC mills, and vacuum-forming machines to traditional forms of metal and wood working, as well as sophisticated automation and robotics facilities.

The four parallel paths of the program feed into the design studio, creating a platform for the synthesis of the curriculum. Cultural Studies, Applied Studies, Visual Studies, and General Studies are crafted so as to develop in students a rigorous knowledge of the discipline. An understanding of the inherent interrelationships of these topics is developed as students sequence through their five years of study. Throughout the program, emphasis is placed on the development of the individual student's personal growth, self-reflection, knowledge and critical engagement of architectural design issues, including not only design, but advanced visualization techniques, information technologies, systems integration, deep cultural interactions, and new ecological and sustainable approaches.

The early foundation sequence of the program emphasizes General Studies and a holistic knowledge base, while the subsequent core sequence engages the more technical and practical aspects of architectural investigation. The advanced studies portion of the program includes Professional Practice coursework to prepare students for the complexities of the profession, while a choice of vertical design studios and electives enables students to pursue their individual interests. Students culminate their studies with a focused thesis project in their final semester to both manifest the cumulative knowledge of their education and act as a point of trajectory from which to engage their discipline, field and profession at large.

General Studies

The Bachelor of Architecture degree program at SCI-Arc includes a fully-integrated required General Studies curriculum of 36 units for a total of 45 units of non-architectural content.

A fully-integrated General Studies curriculum represents a fresh and innovative approach to teaching a wide breadth of knowledge and critical thinking skills. Non-architectural content is directed with a two-pronged approach: firstly, as an intensive series of developed courses at the foundation level, and secondly, as a flexible series of one-time elective seminars taught by leading thinkers, writers, theorists and practitioners in a wide spectrum of fields and subjects, from real estate development to biomimicry to media culture to particle physics. By preparing students to think critically, engage other areas of thought and discipline directly and acquire basic knowledge through reading, writing and iteration, students are positioned to understand the inherent complexity and expertise required in more specific fields during the later sequence of the undergraduate program. They are also prepared to meet the expected standards of their thesis work, as well as for specific engagement within their field and the profession of Architecture. A permanent course in the history of ideas serves as the cornerstone for this program, allowing students to critically understand the range, form, history and organization of the complexity of all human concepts in order to empower and nurture independent, creative thinking.

A general studies committee, consisting of the Undergraduate Program Chair, General Studies Coordinator, Cultural Studies Coordinator, Director of Admissions, and Academic Counselor periodically review and update general studies requirements.

Course structure

I. Foundation program

First term — 1A	Second term — 1B
DS1010 — 6 units Material Strategies for the Physical World **GS7010— 3 units** Introduction to Design Cultures **GS7011 — 3 units** Collegiate Writing **GS7015 — 3 units** Introduction to Calculus and Trigonometric Functions **GS7013 — 3 units** Visual Rhetorics	**DS1011 — 6 units** Conceptual Strategies for the Physical World Prerequisite: DS1010 **CS2012 — 3 units** History of Architecture 1: Premodern to Modern **GS7014 — 4 units** Humanities 1:Premodern to Modern **GS7012 — 4 units** Introduction to the Physical World **VS4011 — 3 units** Fabrications and Delineations Prerequisite: GS7013

Students who fall behind their studio level by three or more required courses will be required to enroll in seminars only during the subsequent term.

Third term — 2A	Fourth term — 2B
DS1020 — 6 units Formworks: Sites and Contexts Prerequisite: DS1011 **CS2024 — 3 units** History of Architecture 2: Modern to Contemporary Prerequisite: CS2012 **GS7020 — 4 units** Humanities 2: Modern to Comtemporary Prerequisite: GS7014 **AS3021 — 3 units** Structures 1 **VS4020 — 3 units** Technologies of Description 1 Prerequisite: VS4011	**DS1021 — 6 units** Frameworks: Programs Prerequisite: DS1020 **GS7021 — 3 units** The History of Ideas Prerequisite: CS2024 **AS3030 — 3 units** Structures 2 Prerequisite: AS3021 **VS4021 — 3 units** Technologies of Description 2: Prerequisite: VS4020 **General Studies Elective - 3 units**

Students are required to submit a portfolio at the completion of the 2B studio prior to advancing into the fifth term.

Fifth term — 3A	Sixth term — 3B
DS1030 — 6 units Field Operations: Static Architectural Systems Prerequisite: DS1021 **CS2030* — 3 units** Introduction to Urban Systems Prerequisites: GS7021 **VS4030 — 3 units** Technologies of Description 3 Prerequisite: VS4021 **AS3020 — 3 units** Environmental Systems 1 **General Studies Elective - 3 units**	**DS1031 — 6 units** Dynamic Architectural Systems + integrated Applied Studies component Prerequisite: DS1030 **GS7051* — 3 units** Philosophy of Technology Prerequisites: CS2030 **AS3033 — 3 units** Tectonics **AS3031 — 3 units** Environmental Systems 2

*** Non-Architectural/General Studies Content**

III. Advanced studies

Seventh term — 4A	Eighth term — 4B
DS1040 — 6 units City Operations: Architecture in Critical Settings + integrated Cultural Studies component Prerequisite: DS1031 **CS2040 — 3 units** Architectural Theory Prerequisite: CS2031 **AS3040 — 3 units** Design Development **AS3032 — 3 units** Smart and Sustainable Systems **General Studies Elective - 3 units**	**Vertical studio— 6 units** Prerequisite: DS1040 **AS3041 — 3 units** Construction Documents **AS3042 — 3 units** Professional internship (by approval: full-time summer) or **Elective** or **CPT** **Non-Architectural Elective — 3 units**

Students are required to submit a portfolio at completion of the DS1040 (4A) studio before advancing into the eighth term. Students are also required to complete all core courses prior to advancement.

All General Studies requirements must be completed before entering the 5A semester.

⊗ Students may apply for CPT units beginning in their 4B semester. Only two 3 unit electives can be used for CPT. Students wishing to apply for CPT units must enroll with the Registrar and Academic Counselor's Offices. Approval for coursework is made by the Director's Office.

Ninth term — 5A	Tenth term — 5B
Vertical studio — 6 units **CS2050 — 3 units** Thesis Project Research **AS3050 — 3 units** Practice Environments: Contracts, Liabilities, and Business Models **Elective — 3 units** **or CPT ⊗**	**DS1051 — 9 units** Thesis Project Studio Prerequisite: CS2050 **Elective — 3 units** **or CPT ⊗** **Elective — 3 units** **or CPT ⊗**

All General Studies requirements must be completed before entering the 5A semester.

⊗ Students may apply for CPT units beginning in their 4B semester. Only two 3 unit electives can be used for CPT. Students wishing to apply for CPT units must enroll with the Registrar and Academic Counselor's Offices. Approval for coursework is made by the Director's Office.

GRADUATE DEGREE PROGRAMS

Elena Manferdini
Graduate Programs Chair

The century ahead of us will introduce many challenges we cannot possibly envision in advance, yet must solve as soon as they arrive. We have no choice but to imagine them, and to prototype our responses. The Graduate Programs' mission is precisely to reveal and forge future directions in the architectural discipline, providing an evolving learning context where committed individuals can reinvent the present and master the upcoming shifts in society, technology, and culture.

For the past 40 years, SCI-Arc collaborative and immersive environment of students, theorists, and practitioners has been able to empower the next generation of architects. All the Graduate Programs are led by faculty engaged in worldwide architectural practices in fields ranging from design and engineering to visual and cultural studies. Its curriculum is continuously and dynamically updated in a focused learning environment that can exist only in an institution entirely devoted to architecture. At the same time the graduate school promotes a critical cross-pollination from other fields of design and the curriculum is forged to promote synthesis of thinking, inquiry, and execution. A range of public symposia, lecture series, technology labs, seminars, workshops, initiatives, books, and special projects create a platform for debate, challenging conventional ways of learning in a classroom.

The graduate programs at SCI-Arc attract a diverse and international student body that after graduation assumes leadership roles in shaping the built environment. Because the school is committed to influencing the evolution of our global culture and is simultaneously grounded in the architectural reality of Los Angeles, each program provides a rigorous and unusually intimate education, able to cultivate and recognize experimentation and creative freedom.

SCI-Arc offers two professional Master of Architecture degrees, M.Arch 1 and M.Arch 2, both accredited by NAAB (National Architectural Accrediting Board).

M.Arch 1
3 Year (7 Term) Program
The Master of Architecture 1 is a three-year (seven-term) professional program open to applicants who hold a bachelor's degree or equivalent in any field of study. This program requires attendance for the fall and spring terms of the first two years, and the fall, spring and summer terms of the final year.

Central to the program's philosophy is a firm commitment to architectural discipline and design excellence, achieved through a comprehensive course of study

that provides students with a solid intellectual base and understanding of the history, theory, technology, and professional practice of architecture.

Starting with a four-semester core sequence, students develop a framework for the discipline, as well as a strong foundation for critical inquiry and experimentation. Alongside an international design faculty, renowned across a wide breadth of fields, and a distinguished group of critics and theorists, students challenge conventional ways of learning and attain the knowledge to shape our contemporary environment.

Upon completion of the core sequence, students are encouraged to develop a personal point of view through applied research in advanced studios and seminars.

The M. Arch 1 programsculminates with a design thesis that exemplifies SCI-Arc's mission to develop independent thinking and promote research and innovation. The depth and rigor of graduate thesis also serve as a transition from graduate school to professional practice.

Course structure

First term— 1GA (fall)	Second term — 1GB (spring)
DS1100 — 6 units Fundamental Architecture 1 **CS2101— 3 units** Introduction to Contemporary Architecture **AS3100 — 3 units** Materials and Tectonics **VS4100 — 3 units** Techniques of Representation 1	**DS1101 — 6 units** Fundamental Architecture 2 Prerequisite: DS1100 **CS2100 — 3 units** Architecture Culture 1 Prerequisite: CS2101 **AS3101 — 3 units** Structures 1 Prerequisite: AS3100 **AS3121 — 3 units** Environmental Systems 1: Light, Air, and Sound **VS4101 — 3 units** Techniques of Representation 2 Prerequisite: VS4100

Students are required to submit a portfolio at the completion of the 1GB studio prior to advancing into the third term.

Third term — 2GA (fall)	Fourth term — 2GB (spring)
DS1120 studio — 6 units Architecture's Integration Prerequisite: DS1101 **CS2120 — 3 units** Architecture Culture 2 Prerequisite: CS2100 **AS3120 — 3 units** Structures 2 Prerequisite: AS3101 **AS3123 — 3 units** Environmental Systems 2: Sustainability and Complex Envelopes Prerequisite: AS3121 **VS4120 — 3 units** Advanced Computation 1 Prerequisite: VS4101	**DS1121 — 6 units** Architecture's Intervention Prerequisite: DS1120 **CS2121 — 3 units** Urban Culture / Contemporary Architectural Theory Prerequisite: CS2120 **AS3122 — 4 units** Design Development and Documentation Prerequisite: AS3123 **VS4121 — 3 units** Advanced Computation 2 Prerequisite: VS4120

Students are required to complete all the above courses prior to advancing into the fifth term.

Fifth term — 3GA (fall)	Sixth term— 3GB (spring)
Vertical studio — 6 units **AS3130 — 3 units** Practice Environments: Contracts, Liabilities, and Business Models **AS3140 — 3 units** Advanced Project Delivery / Construction Documents **Cultural Studies elective — 3 units**	**Vertical studio — 6 units** **CS2410 — 3 units** Thesis Research **Elective — 3 units** **or CPT ⊗** **Elective — 3 units** **or CPT ⊗**

Students are required to submit a portfolio at the completion of the 3GA studio prior to advancing into the thesis prep (3GB) term.

Students are required to complete all course requirements up to the sixth term (3GB) prior to advancing into the graduate thesis term.

Seventh Term— 4GA (summer)
DS1420 — 9 units Graduate thesis Prerequisite: CS2410 **Elective — 3 units** **or CPT ⊗** **Elective — 3 units** **or CPT ⊗**

⊗ Students may apply for CPT units after completing the 1GB semester. Only two 3 unit electives can be used for CPT. Students wishing to apply for CPT units must enroll with the Registrar and Academic Counselor's Offices. Approval for coursework is made by the Director's Office.

M.Arch 2
2 Year (5 Term) Program

The Master of Architecture 2 is a two-year (five-term) professional program open to applicants with a minimum of a four-year degree in Architecture, or its equivalent abroad. This program requires attendance for the fall and spring terms of the first year, and the fall, spring and summer terms of the final year.

The curriculum is specifically designed to build upon the knowledge gained from undergraduate degrees in architecture. Shaped as a design research platform, SCI-Arc's M.Arch 2 program advances contemporary experimentation and propels new formal explorations. The curriculum aims to expand the boundaries of conventional architectural practice, and offers students an alternative educational model that promotes close collaboration with a team of faculty and consultants at the top of the field.

During the first year, the program operates as a laboratory for emerging techniques and technologies. Students are exposed to the latest architectural theories and design methodologies and develop contemporary design languages within historical and contemporary contexts. On completing the two-term core sequence, students select vertical studios and elective seminars that either continue the focus of their core studies or broaden the scope of their education.

The M. Arch 2 program culminates with a design thesis that exemplifies SCI-Arc's mission to develop independent thinking and promote research and innovation. The depth and rigor of graduate thesis also serve as a transition from graduate school to professional practice.

On completing the two-term core sequence, students select vertical studios and elective seminars that either continue the focus of their core studies or broaden the scope of their education.

Students complete their studies with a presentation and public exhibition of a thoroughly researched architectural thesis. Select thesis projects are featured for extended public display in the SCI-Arc Gallery.

Required Courses

The Academic Counselor reviews the transcripts of students entering the M.Arch 2 program to verify that they have completed courses comparable to the following core Applied Studies classes offered at SCI-Arc: AS3101: Structures 1; AS3120: Structures 2; and AS3121: Environmental Systems 1: Light, Air and Sound. Students who have not passed these classes are required to do so. M.Arch 2 students who have passed a sequence of courses on structures during their undergraduate courses at other institutions, but have not been introduced to seismic issues, are required to take a course on that subject before the end of their second term at

Course structure

First term — 2GAX (fall)	Second term — 2GBX (spring)
DS1200 — 6 units Compositional Morphologies **CS2201 — 3 units** Theories of Contemporary Architecture 1 **AS3200 — 3 units** Advanced Tectonics **VS4200 — 3 units** Modeling, Tooling, and Computation	**DS1201 — 6 units** Generative Morphologies Prerequisite: DS1200 **CS2200 — 3 units** Theories of Contemporary Architecture 2 Prerequisite: CS2201 **AS3201— 3 units** Advanced Building Systems Prerequisite: AS3200 **AS3302 — 3 units** Advanced Structural Systems Prerequisite: AS3200

Students are required to complete all 2GAX and 2GBX courses prior to advancing into the third term.

2GAX Students who do not meet NAAB SPC requirements for A.9- Historical Traditions and Global Culture will be required to take CS2100 | Architecture Culture

Third term — 3GAX (fall)	Fourth term — 3GBX (spring)
Vertical studio — 6 units **or DS1210— 6 units** Prerequisite: DS1201 **AS3222 — 3 units** Design Development and Documentation Prerequisite: AS3201 and AS3302 **Cultural Studies elective — 3 units** Prerequisite: CS2200 **Elective — 3 units** **or CPT ⊗**	**Vertical studio — 6 units** **CS2410 — 3 units** Thesis Research **AS3230 — 3 units** Practice Environments: Contracts, Liabilities, and Business Models **Elective — 3 units** **or CPT ⊗**

Students are required to submit a portfolio at the completion of the 3GA studio prior to advancing into the thesis prep term.

Students are required to complete all 3GAX and 3GBX courses prior to advancing into the graduate thesis term.

Fifth Term — 4GAX (summer)
DS1420 — 9 units Graduate Thesis Prerequisite: CS2410 **Elective — 3 units** **or CPT ⊗** **Elective — 3 units** **or CPT ⊗**

⊗ Students may apply for CPT units after completing the 1GB semester. Only two 3 unit electives can be used for CPT. Students wishing to apply for CPT units must enroll with the Registrar and Academic Counselor's Offices. Approval for coursework is made by the Director's Office.

POST GRADUATE PROGRAMS

1 Year (3 Term) programs

SCIFI (Future Initiatives)

The SCI-Arc Future Initiatives (SCIFI) is a one-year (three-term) post-professional degree program leading to a Master of Design Research (M.DesR) in City Design, Planning and Policy. SCIFI is open to applicants with a professional degree in architecture, urban design and planning or landscape architecture. The program requires attendance in the fall, spring and summer terms.

As an intensive research-based, post-professional degree program and think tank dedicated to generating contemporary approaches to large-scale urban architecture, SCIFI's curriculum takes a sequential approach to understanding and rethinking city design-making through the lens of architecture.

Students focus on identifying adaptive and holistic—rather than rigid and segmented—responses to economic, social and environmental pressures. As a center for urban discussion, the program connects students, academics, theorists and architects with public agencies, as well as those in private development, to generate debate regarding the role of cities and urban systems.

Established in 2005 to complement other programs offered at SCI-Arc, SCIFI draws on the resources of the school, its faculty and the surrounding community. Furthermore, it promotes and extends its academic mission nationally and internationally via publications, public forums, exhibitions and competitions.

Culminating in the production of a thesis and research projects, students work with core and visiting faculty to generate deliverables that form the basis of a dissertation–quality research portfolio.

Course structure

First Term (fall)	Second Term (spring)	Third Term (summer)
DS1500 — 6 units Design research studio **CS2200 — 3 units** Seminar **CS2600 — 3 units** Seminar **VS2500 — 3 units** Coding Form: Computation, Scripting, and Programming	**DS1501 — 6 units** Design research studio **CS2501 — 3 units** Seminar **CS2601 — 3 units** Seminar **Elective — 3 units**	**DS1502 — 6 units** Design research studio **CS2502 — 3 units** Seminar **Elective— 3 units** **Elective— 3 units**

EST^{m} (Emerging Systems and Technologies | Media)

SCI-Arc Emerging Systems and Technologies | Media (EST^{m}) is a one-year (three-term) intensive post-professional degree program leading to a Master of Design Research in Emerging Systems and Technologies | Media. A rigorous and experimental program, EST^{m} aims to define new platforms for design innovation, fusing digital and physical research within the rapidly evolving fields of computation, material fabrication and advanced building systems.

An intensive design and research laboratory uniquely tailored for applicants with a professional degree in architecture, engineering or industrial design, EST^{m} focuses exclusively on technology as it applies to the present and future of design, computation, media, digital fabrication, robotic manufacturing, sustainable engineering, material ecologies and novel tectonics.

Newly constructed for this program, the SCI-Arc Robot House is the most progressive facility of its kind in the US academic environment and is among one of the world's most advanced facilities as well.

Utilizing this and other platforms, EST^{m} faculty and students explore new production paradigms, envisioning the future of synthetic materials, free form assembly and automated manufacturing, in close collaboration with partners both inside and outside the architecture building industry.

Testing new levels of environmental performance that will advance design practices in the 21st century, EST^{m} students are prepared to successfully integrate formal, technical, logistical and material processes into advanced architectural design. Working with progressive architects, designers and theorists worldwide, students will propose the next-generation of architecture in the form of specific projects, structural morphologies, sophisticated material prototypes and complex construction systems.

Course structure

First Term (fall)	Second Term (fall)	Third Term (summer)
DS1700 — 6 units Design research studio **CS2201— 3 units** Theories of Contemporary Architecture 1 **VS4300 — 3 units** Coding Form: Computation, Scripting, and Programming **Applied Studies Seminar — 3 units** (as assigned)	**DS1701 — 6 units** Design research studio **AS3601 — 3 units** Applied Studies Seminar **Applied Studies Seminar — 3 units** (as assigned) **Visual Studies Seminar — 3 units** (as assigned)	**DS1702 — 6 units** Design research studio **AS3602 — 3 units** Applied Studies Seminar **Elective — 3 units** **Elective — 3 units**

GENERAL STUDIES

The Bachelor of Architecture degree program at SCI-Arc includes a fully-integrated required General Studies curriculum of 36 units for a total of 45 units of non-architectural content. The General Studies curriculum has recently been developed, beginning in Fall 2011, and represents a fresh, innovative approach to teaching a breadth of knowledge and critical thinking skills in an institution of higher learning.

The General Studies curriculum directs non-architectural content as a two-pronged approach: one, an intensive series of developed courses at the Foundation level; the other, a more flexible and open series of one-time elective seminars taught by leading thinkers, writers, theorists and practitioners in a wide spectrum of fields and subject interests from across Los Angeles and the Southern California region - from real estate development to biomimicry, media culture to particle physics. By preparing students in the first years to think critically, engage other areas of thought and discipline directly, and to acquire basic knowledge through reading, writing and iteration in the first prong, it is the implicit intention of the second prong to encourage students to understand and uncover the inherent complexity and expertise required in more specific fields. Armed with this practiced understanding, the student is uniquely prepared to meet the expected standards of their thesis work as well as the forms of complex and specific engagement within the field and the profession of Architecture. The General Studies curriculum necessarily includes a permanent course in the history of ideas to serve as the cornerstone for this program, allowing students to see and critically understand the range, form, history and organization of human concepts. As with all schools and universities, it is SCI-Arc's hope that General Studies will empower and nurture independent and creative thinking.

Core General Studies Seminars

Undergraduate

GS7010 | Introduction to Design Cultures

This course serves as an introduction to the immense variety of pathways available to students as they move ahead in the world as a designer and, possibly, as an architect. The aims of the class are to expose students to a broad range of design work in the fields of furniture, interior space, set design, exhibition design, product design, and landscape, and to develop in them the eye and senses of the curious and critical observer of the products of design culture. Invited faculty and speakers augment the class, exposing students to alternative design practices, and a review of the overall undergraduate curriculum serves to inform students of the relationship between the program and the broader design fields. This course is augmented by visiting lecturers and critics discussing their own design approaches and reasoning, as well as field trips to local museum and design exhibitions.

GS7011 | Collegiate Writing

The class helps undergraduates improve their writing and composition skills. Students read basic literary texts, surveying a variety of writing styles. Students are given a number of short writing assignments including essays, expository prose, non-fictional writing and creative writing. Students will conduct research based on primary and secondary sources; learn basic library skills and rules of style.

GS7012 | Introduction to the Physical World

This course introduces students to the physical properties governing works of architecture and their material making. Drawing upon Physics, Chemistry, Biology, and Philosophy, the class examines concepts relating to energy and forces. These include gravity and thermal forces, material qualities such as brittleness and flexibility, reactions between forces and materials such as tension and compression. Properties and performance of materials are investigated through the development of a series of physical models and a final term paper.

GS7013 | Visual Rhetorics

This course is aimed at teaching students the ways and means of argumentation using visual and cultural techniques and strategies. Beginning with an overview of classical rhetoric – Plato, Aristotle and the Sophist logos, students will be introduced to the ways in which visual media communicate and express through arrangement, emphasis, clarity, conciseness, tone and ethos. Students will examine and analyze the visual rhetorics of charts, paintings, sculpture, diagrams, films, ads and web pages. Students will particularly study the relationship of techniques as strategies for visual rhetoric, from perspectival drawing to advanced computer software. The intent of this class is to expose students to the larger cultural history of visual media prior to the more applied sequence of Visual Studies classes.

GS7014 | Humanities 1: Premodern to Modern

This introductory course surveys ancient to pre-modern cultural production with a framework that extends beyond a normative Western trajectory with an interest in tracing parallel histories in disparate geographical and cultural locales. The course examines art, theater, music, fashion and literature in ancient Greece, Rome, Africa, Egypt, Asia, Europe and beyond. This course is reading-based.

GS7015 | Introduction to Calculus and Trigonometric Functions

The main focus of Trigonometry is on nonlinear functions, right triangle properties, trigonometric functions, and advanced algebra. Through the study of trigonometry, the student will expand his/her understanding of mathematical concepts and apply advanced algebra techniques to solve problems including identities, logarithms and exponents.

GS7020 | Humanities 2: Modern to Contemporary

This introductory course surveys modern to contemporary cultural production understood as global phenomena. The course examines art, music, fashion, theater/film, and literature as well as other practices of creative expression that particularly characterize modernity and beyond. This course is reading-based.

GS7021 | The History of Ideas

This course surveys a broad integrated history of human consciousness and the awakening of ideas, from the concept of monetary exchange to the idea of democracy to the valorization of ingenuity, and all points in between. Studied as a series of "cases," the understanding of ideas is seen inclusive to all economic, social, cultural and political forces, and seeks to expose students to this basic complexity. This course is also taught with an eye towards aligned developments in the definition of knowledge and knowledge categories in pedagogical systems.

GS7051 | Philosophy of Technology

This course provides a historical survey of the philosophy of technology, using Martin Heidegger's seminal lecture, "The Question Concerning Technology," as a guide. Examining the ways in which technology has been addressed through time by different philosophical and critical traditions, from pre-Socratic discussions of "techne" to Deleuze's "machinic delirium," this course charts the progress of the human relationship with technology and the nature it mediates. This course is a non-architectural content course.

Recurring General Studies electives

Please note that these courses are not offered every semester and are subject to change. Check the latest course schedule for current course offerings, and visit my.sciarc for each semester's course descriptions.

GS7019 | Los Angeles Literature
Claire Phillips

This creative writing class focuses on the literature of Los Angeles and its impact on our popular imagination. Through a wealth of non-fiction, poetry, prose, journalism, and film discover the unsettling contradictions, architectural splendors, and delicate ecosystems of the City of Angeles. Explore its history through the hardboiled writing of Raymond Chandler, the crime fiction of Chester Himes, the transgressive poetry of Charles Bukowski, the dirty realism of John Fante, the 60s minimalism of Joan Didion, the artist writings of David Hockney, the underground films of Kenneth Anger and Thom Anderson, as well as the contemporary writing of Kate Braverman, James Ellroy and Janet Fitch, along with the hip hop of Dr. Dre and Ice Cube. Capture the city of shifting identities through the work of historians Reyner Banham, Mike Davis, Norman Klein, and memoirist D. J. Waldie. Special emphasis will be paid to noir, neo-noir, and tech-noir film.

GS7024 | Italian Futurism
Amit Wolf

This seminar tracks Italian Futurism within wider historical trajectories and speculating on its remaining relevance. Consistent with the emergence of bellicose technologies concerned with firepower and speed, Futurism was a practice in which firepower and speed not only dominated space, but modern man's bodily and psychic experiences. This focus on pyrotechnics and velocity—whether technicist, literary, or performative and affective —made Italian Futurism a powerful instrument of Italian ideologues and for a time the darling of the Fascist regime. But it simultaneously transformed modern art, giving expression to a full range of affective potentials. Having instigated against and, in most cases, broken free of stale 19th century traditions (significantly Expressionist painting, the realist/naturalist/decadence novel, and drama theater) Italian culture has witnessed an emphasis on experimental techniques and practices from Futurisms onward.

GS7025 | Art, Science, and Literature in the Age of Robotic Culture
Stephen Phillips

This course studies the history of robotics with an emphasis on the theories, literatures, films, and art practices surrounding automatism, automation, animation, and computational machines. Readings and films include Aristotle's De Anima, Freud's Uncanny and Beyond the Pleasure Principle, Anson Rabinbach's The Human Motor, Norman Weiner's Cybernetics, Fritz Lang's Metropolis, ETA Hoffman's The Sandman, Henri Bergson's World of Dreams, and Greg Lynn's Animate Form among others.

GS7029 | Outside Influence: Japanese Cinema
Russell Thomson

This course explores Japanese cinema as a reflection of the rapid cultural changes that overtook the country as it opened itself to the outside world, traced from its early beginnings and concentrating on the post-war period through the 1960's. Japan has always found a way to incorporate outside influences, forging them into a particular and unique form of culture. Ideas about the individual, reflected in the influence of the west ran headlong into traditional values that always placed the collective above the self. Changing character types, the reinforcement and rejection of tradition, cultural and political criticism, the changing role of women... all of these were explored in the powerful, visual medium of film, an expression of a social discourse raised to the level of art.

DESIGN STUDIOS

Undergraduate (Core Studios)

DS1010 | 1A studio | Material Strategies for the Physical World

This first studio in a sequence of four foundation studios introduces the student to spatial problem-solving. A sequence of increasingly complex problems charge the students with working within two opposing knowledge-based fields: analytical and intuitive operations are applied to the study of materials, their potential for transformation, and their capacity to suggest ideas and intentions, organizational concepts, and abstract spaces. The interrelationship between the act of making and the process of execution is studied. The studio begins with an examination of two-dimensional problems, then focuses on problem-solving in three dimensions. Students are given the Emerging Professionals Companion along with updated Intern Development Program (IDP) information. Skills: Craft in drawing and model building; plan, section, elevation drawing; self-organization in work; use of shop. Concepts: Syntax of architecture, seriality, repetition, fields..

DS1011 | 1B studio | Conceptual Strategies for the Physical World

The premise of the second studio in the foundation sequence is that ideas, when deliberately assembled, become intellectual structures for conceptual strategies that oversee notions of spatial ordering systems and architectural form. The relationship between the conceptual and the circumstantial will be examined in a series of evolutionary and interrelated projects that guide the student towards an understanding of sophisticated notions of spatial structures and material considerations. Skills: Communication of spatial concepts, projection drawing, craft in model building and drawing. Concepts: Abstract programming, complex ordering systems, matrices.

DS1020 | 2A studio | Formworks: Sites and Contexts

Projects work within the variable conditions that determine the characteristics of a site, whether conceptual (e.g., musical score, text, painting, idea) or physical (e.g., location, geometrically described piece of property, legal boundary condition). Students explore the various conditional relationships that affect the reading and description of sites, and understand circumstance and environment as complex systems of information. Skills: Analysis of data, photographic depiction of information. Concepts: Context, conditions, circumstance, environment, data sets.

DS1021 | 2B studio | Frameworks: Programs

Students examine the structure of information that organizes a project. Consideration for varying weaves of interrelationships is studied through increasingly complex data sets. Students are challenged to work within specific conditions, as well as develop working processes that yield their own ideas for organizational

operations regarding space, site, and context. Skills: Familiarity with AutoCAD and hand drafting, verbal presentation. Concepts:
Analytical processes, work process/scenario planning.

DS1030 | 3A studio | Field Operations: Static Architectural Systems

The first studio of the core studio sequence locates the idea of architecture at the intersection of various systems of information: from technical to cultural, from visual to tactile. Students consider the uses of precedent and antecedent in their work, while the main investigation examines the impact of structure and material systems on site and building form, and the capacity to use transformation as a methodological tool to guide a rigorous approach to decision making. Skills: Methodological decision making. Concepts: Transformation and behavior alteration of simple systems.

DS1031 | 3B studio | Dynamic Architectural Systems

This studio introduces students to the comprehensive development of a building, from conception to large-scale detail, with an emphasis on the assimilation of building systems. Students examine interrelated systems that are able to both modify the spatial structure of a building and articulate expectations of their performance structurally, thermally, acoustically, and environmentally. In this studio, along with AS3040–Design Documentation Analysis and Development, students are expected to demonstrate how their buildings explore and resolve issues of egress, codes and life-safety. Both classes comprise the academic sequence in fulfillment of NAAB condition 13.28, Comprehensive Design, defined as "Ability to produce a comprehensive architectural project based on a building program and site that includes development of programmed spaces demonstrating an understanding of structural and environmental systems, building envelope systems, life-safety provisions, wall sections and building assemblies and the principles of sustainability." Skills: Research, working process and design methodology, technique (precision and purposefulness); 3D modeling. Concepts: Performativity.

DS1040 | 4A studio | City Operations: Architecture in Critical Settings

The premise of this studio is that cities and buildings are largely shaped by a dynamic flow of interrelated cultural, social, political, and economic forces. Different cities are chosen by individual studio faculty and used as a basis for student projects. During the course of the term, students test the nature of interfaces between architecture and its various settings within the contemporary city. Individual and varied theoretical assumptions, within the separate design studios, are tested and developed as an integral part of the building design process. Students gain knowledge through individual explorations of the specific urban conditions being investigated, as well as exposure to alternative positions as posited and defined by the instructors.

DS1051 | 5B | Thesis Project Studio

The intent of the thesis studio is for student to demonstrate proficiency in making proposals for buildings that integrate knowledge from the principal disciplines in the program. Building Design, History, Theory and Humanities, Technology, and Visual Studies factor into the execution of a synthetic work of architecture. Students work with a committee consisting of representatives from each academic discipline and design a project selected from proposals developed in the prior semester.

4B | 5A | Vertical studio

Students develop projects that explore particular interests and topics. They have the opportunity to work with architects visiting the school and gain insight into a broad range of issues concerning approaches to building, the environment, technology, theoretical stances, and personal interests.

M.Arch 1

DS1100 | 1GA studio | Fundamental Architecture 1

The first studio in a sequence of four foundation studios, this course introduces the student to fundamental issues of architecture. Through the study of the interrelationship of geometry, form, tectonics, and materiality, students are asked to continually develop and reconsider strategies for the production of architecture. The studio aims to endow students with a range of fundamental working methodologies. Through generative drawing, iterative material studies, generative modeling, descriptive drawing and analytical mapping and diagramming, students are expected to develop an intellectual framework as well as productive techniques for the development of spatial organizations, architectural forms and structural systems.

DS1101 | 1GB studio | Fundamental Architecture 2

This course is a continuation and expansion of the fundamental issues of architecture introduced in the first studio of the core sequence. The interrelationship between geometry, form, tectonics, and materiality is explored as it relates to overarching organizational systems and emergent systemic behaviors driven by programmatic content, structural logics and physical setting. Program and structure are considered to be creative components of design rather than fixed entities. Students are given the Emerging Professionals Companion along with updated Intern Development Program (IDP)information. The working methodologies introduced in 1GA are expanded and refined to allow each student to continue developing conceptual frameworks and productive techniques for the creation of architecture. As the first part of the Graduate Program's Comprehensive Design Sequence, this course challenges students to design both site and buildings accommodating individuals with
varying physical disabilities.

DS1120 | 2GA studio | Architecture's Integration

The first term in the second year of the core M.Arch 1 sequence builds upon the awareness of the discipline and knowledge of architectural production by focusing on issues of Comprehensive Design. The studio is structured to hone each student's awareness of the complex and layered issues involved in an architectural problem. Elemental spatial constructs and organizational systems are seen as resulting from and reacting to forces of site, context and territory. These influences are considered physical and virtual, permanent and ephemeral, situational and circumstantial. Qualities of site, situation and environment, as well as cultural contexts, are considered as potential tools with which to challenge conventional approaches to architectural design.

DS1121 | 2GB studio | Architecture's Intervention

This studio examines the interrelationship between architecture and the city, deepening students' understanding of the ways in which architecture can both inform, and be informed by, the urban fabric into which it is woven. Through a full integration of design resources and research on various scales of operation—from housing to institutional and commercial building types that contribute to the formation of neighborhoods and public space—students are encouraged to design into existing urban conditions with a full understanding of the dynamic and interdependent forces of economics, ethnicity, culture, society, politics and infrastructure that have shaped the contemporary city.

M.Arch 2

DS1200 | 2GAX studio | Compositional Morphologies

Programmatics, geotechnics, structure, mechanics, commerce and environment are among the many fields which enable architecture to operate and perform. These technologies react to create Composite Morphologies that favors multiple and temporal approaches to design over planning and orchestration, and allows architecture to participate in and reorganize our constantly shifting culture. This studio looks at the contemporary architectural platform and operates as a laboratory for finding new possibilities of integrating a wide range of techniques and technologies. Conventions and standards in architecture are challenged through a rigorous examination of other models of design and production, such as fashion, art, film and industrial design, creating a nonlinear process that can respond to a number of parameters, while exposing the disparate strategies and technologies inherent in the production of architecture. Students are also exposed to issues concerning the relationship of the part to the whole, repetition and structure, as well as the notion of variation and systemic manipulation through topological evolution. As the second part of the Graduate Program's Comprehensive Design sequence, students are expected to design site and building.

DS1201 | 2GBX studio | Generative Morphologies

This studio explores topological evolution and systems of design intelligence, with an emphasis on the broader infrastructural role that architecture can play in the city. With its ability to both perform and organize at the same time, architecture, it is argued, is able to have an effect that is felt at the scale of the urban landscape.

GRADUATE THESIS

DS1420 (M.Arch 1 and M.Arch 2)

Since its founding, SCI-Arc has maintained a proud tradition of graduate design theses. In addition to a consistent stewardship of the thesis within the architectural discipline, SCI-Arc has been dedicated to the empowerment of individual design vision on the global stage. The graduate thesis program at SCI-Arc represents a culmination of the graduate curriculum and a significant test of the students' ability to synthesize and produce critical and rigorous architecture.

For M.Arch 1 students, preparation for the thesis begins at the end of the first year, when they submit portfolios of their work to a graduate review committee, who review their strategies of representation and ability to communicate effectively. Prior to entering the Thesis Research and Preparation class (thesis prep), all graduate students submit their portfolios, which provide immediate feedback on their particular design vision and serve as a solid foundation for the development and direction of each individual student. In thesis prep, students work in small, topical workgroups, led by a thesis advisor, to prepare their argument and the research and materials necessary for an intelligent thesis.

Upon successful completion of thesis prep, students are encouraged to strengthen their thesis arguments through the selection of a thesis advisor of their choice with whom they will work independently on their design thesis. Thesis advisors are not limited to SCI-Arc faculty: Students may select advisors from outside the school in order to foster an intellectually challenging relationship. During the thesis term, students undergo a series of public reviews, with their advisor present, to evaluate progress and develop their projects in the light of the collective intellect of the reviewing body.

The SCI-Arc graduate thesis program culminates in a public two-day event in which students present their thesis projects to critics from all over the world. A celebration of academic achievement, the SCI-Arc thesis weekend is widely regarded as a major forum for the discussion of fresh insights and innovative concepts among noted theoreticians and practicing architects.

Jury panels comprising members of the international, national and local design community, along with SCI-Arc faculty members, discuss and critique the work in hour-long panel sessions. Following a question and answer period, the discus-

sion opens to the attending audience members, other SCI-Arc faculty, students and community members.

Vertical studios

SCI-Arc's upper level studios brings students into contact with renowned architects from all over the world whose work has placed them firmly at the forefront of the discipline. Visiting instructors have included Peter Testa, Dennis McGlade, Jesse Reiser, Thom Mayne, Lauri Olin, , Peter Trummer, Robert Mangurian, Marry-Ann Ray, Tom WIscombe, Eric Owen Moss, MIng Fung, Hernan Diaz-Alonso, Coy Howard, Wes Jones, Dwayne Oyler, Peter Zellner, David Ruy, Elena Manferdini, LIse Ann Couture, Marcelo Spina, among others. Students from both undergraduate and graduate programs who have completed their core sequence work together in groups of 15 or fewer.

Recent vertical studios include:

Please note that these courses are not offered every semester and are subject to change. Check the latest course schedule for current course offerings, and visit my.sciarc for each semester's course descriptions.

DS 1501 | OLIN Urban Rivers Studio
Dennis McGlade, David Rubin, Skip Graffam, Laurie Olin

This studio is divided into three phases that immerses students in the complex issues associated with urban river systems and specifically involve regional and local site analysis, land use programming, master planning, and detailed public space design.

DS 4315 | Cipher: Architecture in an Awkward Position
Andrew Zago

The studio takes up the problem of an architectural investigation as a series of country houses (or, in this case, suburban houses). In each case a legible figural or typological condition are contorted into a new figure and developed as a house. That is, Ledoux's maison de campagne meets the contortionist. A hypothesis of this studio is that contortion of form also reduces a building's legibility as an isolated object. That is, that contortion creates an ambiguous relationship to its surroundings. Additionally, the studio carefully examines the ground condition of the Ledoux houses. In many cases they have a plinth with an ambiguous status - it can be seen as either part of the ground or part of the building. The studio takes this ambiguity further by exploring the relationship of building to ground through a variety of topological approaches.

DS 3195 | Coachangdi
Robert Mangurian, Marry-Ann Ray

Coachangdi is one of nearly 500 urban villages in Beijing. An estimated 1.5 million people, or one in ten Beijingers, live in these villages. This studio focuses on

making clever additions and adjustments to Caochangdi. Coachangdi's future may depend on the success of this work. The kinds of projects include other kinds of housing, small scale projects such as public bath/bathroom, and other programs necessary to bring Caochangdi into the 'fold' of Beijing without losing its vitality and diversity. And Caochangdi's successful resistance to prosaic development can surely provide an example for other urban villages in Beijing and other Chinese cities.

DS 4000 (02) | Real to Reel
Peter Testa

Computation, Computational Materials, and Robotics are converging in a new design paradigm that is beginning to transform the physical world at all scales. Design and manufacturing is shifting from older industrial models of serial production towards technologies and material processes of differentiation, variation, mutation and flexibility. This new design and production paradigm (third industrial revolution) represents a fundamental transformation in material culture with unprecedented aesthetic, technical, and economic possibilities. The studio is positioned at this frontier of design research.

DS 4000 (09) | Stadium at LA Live
Eric Owen Moss, Ming Fung

The design studio examines the prospect of a new downtown football stadium, integrated in the LA Live complex. Unlike many of the more conventionally constructed new stadia around the world, the hypothesis studied here will be that of a stadium with "no outside"...that is, the stadium will not be a free standing structure surrounded by the usual sea of parking, rather the concept involves the prospect of associating the new stadium concept with other adjoining uses already part of the LA Live venue. That means that entertainment, retail, office, housing, hotel and convention amenities, recreational options, theaters and museums, and parking will combine in a complex which becomes a "future" city within the city.

DS 4000 (12)| MEGACHURCH
Jesse Reiser, Nanako Umemoto

This studio assembles around the broadcasting of a religion, in this case a spectacular, technological event. This building must engage users within a wide range of scales and interests from the client, The Crystal Cathedral located in Garden Grove, California, to the producers who broadcast a weekly event, "The Hour of Power," around the globe, to those who are live spectators either viewing as pedestrians or from the seats of their automobiles. This project encompasses a multiplicity of events and uses within a complex yet coherent whole, integrating the typologies of a drive-in theater/ parking lot, a religious sanctuary, facilities to view and produce television coverage of the event, and landscape into a unified yet diverse suite of environments in which the movement of various modes

(car, pedestrian, goods) at different speeds will inform the very organization of space itself.

DS 4304 | XLAB
Hernan Diaz-Alonso

The strategies of the XLAB conducted by Hernan Diaz-Alonso is a semester which could role in to the second vertical as continuous research. Working in a laboratory environment, students develop knowledge by investigating and applying the possibilities of emerging theories and technologies, as well as testing new design territories such as scripting, robotics, biogenetics, genetic codification, and cellular systems. Studio projects, alongside related design workshops and seminar, focus on the challenges of developing and expanding the domain of emerging technologies in the design and production of architecture.

DS 4306 | Objects within Objects and the Weirdness of Matter
Tom Wiscombe

This studio re-visits the figure-in-a-sack problem through the increased directness and weirdness of matter coupled with special emphasis on advanced part-to-whole theories. Polymers, and in particular thermoplastics, are explored for their ability to gather, squish, suck, and melt multiple distinct objects into complex arrangements, without homogenizing and subverting them into compartments or subdivisions of a superunity. The goal of focusing on plastic materiality is not to celebrate formlessness or express material truth; on the contrary, it is to develop objects with mysterious and alien character that will relate to other objects in their realm. This studio concentrates on the notion of objects inside objects, on top of objects, as a way of re-thinking architectural relationships of massing, interior, and ground.

DS 4320 | Vertical Studio
Coy Howard

This studio will broaden your intellectual understanding of aesthetics and increase the range of your skill sets in order to promote a more robust personal aesthetic. More specifically, through a set of readings, exercises, and projects we will challenge the current dominance of reductive abstraction as the sole acceptable aesthetic taught in architectural education.

DS 4322 | Solar Decathlon
Wes Jones, Dwayne Oyler

This is a three part studio. In committing its resources to the Solar Decathlon endeavor SCI-Arc has two goals. First, to win the competition on the terms set by the sponsors, but then also to contribute to a larger vision of sustainable design, by discovering other ways to be environmentally responsible, beyond those already established as green orthodoxy. So, on the one hand, the studio works towards mastering the general knowledge, intellectual and manual skills, and

technical expertise embodies in the ten official contests. On the other hand, SCI-Arc will leverage its own unique perspective to explore the larger picture and what strategies and tactics might reside outside the carefully delimited boundaries of the competition.

DS 4326 | LOS ANGELES BOULEVARDS: Urban Typologies, Taxonomies, Archives & Amalgamations
Peter Zellner

The SCI-Fi Vertical Studio follows the format of the Ungers/Kolhoff experiment in order to develop the potential of the typological index of archive as a generative urban design tool. In particular the studio focuses on the status the boulevard in Los Angeles as a means of testing new parametric and generative design tools to achieve innovative urban designs. Applying these techniques to LA's existing city fabric, our goal is to move the typological approach and work of the Ungers/Kolhoff studio forward via the introduction of contemporary attitudes and tools which allow for the blending, amalgamation and hybridization of known or found urban types.

DS 4338 | The Imbalancing Act of Entropic Architecture
Marcelyn Gow

The studio develops a contemporary attitude toward the Vitruvian principle of firmitas or solidity through deploying various forms of composite materiality whereby surface geometry becomes actuated through the integration of arduinos and servo motors or is infused with fiber optic lighting. Students conduct research into materials and modes of fabrication with an emphasis placed on design techniques where morphological and material properties become allied to generate structural, environmental, and affective performance. In particular exploiting the qualities and structure of material organizations in vegetal matter, identifying how specific features augment various modes of performance including: water flow and storage, shading and cooling, responsivity to sunlight (photosynthetic exchange), efflorescence and color transformation.

DS 4343 | The City as an Object
Peter Trummer

The aim of the studio is to design a new model for a city, a city as an aggregated object. This model of the city, is to be a city without a ground. The formalist approach of designing cities has mainly been considered as a relationship between a figure and its ground. In the case of the pre-- industrial city the ground was considered as being the mass of the city. This mass consisted out of all the architecture the city was made of. The figures of this city were all public spaces carved out as voids from that mass. The modern city described a reverse figure ground diagram. While the architecture was considered to be the figure, the space between the buildings became the ground for all its architecture. The intention of the studio is to design a city without a ground. This means that architecture, the building itself, become the figure as well as the ground of the city.

DS 4344 | Combinatory Urbanism: New York City and Roosevelt Island
Thom Mayne

This studio examines and envisions a Roosevelt Island as a vital territory within the Borough of Manhattan and contributing to the City's established role as a global megalopolis. Its contribution and extension depends largely on its ability to establish its own planning raison d'etre through the interrogation of diverse development strategies. These strategies are translated into operational and programmatic systems encompassing the built environment, the natural environment, economics, demographics, culture and infrastructure.

DS 4369 | DEEP
Elena Manferdini

The students in this Studio design a contemporary façade for Palladio's Palazzo della Ragione in the city of Vicentza, Italy. The goal of the class is to broaden students' intellectual and historical understanding of architectural envelopes and increase their range of technical skill sets. Building upon the contrasting geometrical and visual techniques that Palladio mastered in the Basilica, students will develop digital and analogical procedures to create innovation in serial fenestrations. The focus for the students is to achieve a new material depth for contemporary facades. The work of the class a whole critically participates on the current debate about the implications of advanced digital tools for the production of architecture and questions issues of superficiality in relationship to stable forms in architecture. The class researches an alternative to traditional component assemblies, curtain wall grids and structural expressionisms for architectural facades.

DS 5000 (08) | Figuring Math
Marcelo Spina

Turning its attention towards both primitive and figure, the studio's intention is to generate new cumulative mass and interstitial networks. Based on a simple logic of aggregation and growth of self-similar primitives, their formal accretion will promote a diversely unified special atmosphere that defy the distinction between holistic and discrete, figure and figuration, with emerging and ever-shifting number of massing configurations, group outlines and individual silhouettes as a possible outcome. "Figuring Math" is as much about the mathematics of form and materials as it is about the necessary intuition associated to their formation.

CULTURAL STUDIES

Cultural Studies at SCI-Arc is uniquely tailored to meet the educational needs of emerging architects and designers in the contemporary field. As a necessary step in their enculturation, "Cultural Studies" at SCI-Arc refers to the study of architectural cultures: design cultures, building cultures, disciplinary interiority and exteriority, canons and traditions, critiques and avant-gardisms. In this manner,

it is both fundamental and interdisciplinary: the core program at both the undergraduate and graduate levels is comprised of courses in Urban Studies, Visual Culture, Philosophy, New Media, Critical Theory, and all aspects of Architectural History, Theory and Criticism.

After completion of their core studies, students may enroll in a series of advanced seminar electives which represent the most current conceptualizations, discourse and production in architectural studies. In addition to courses offered by regular faculty, the Cultural Studies program seeks authors and critics worldwide to share their recent work in this forum. Many courses are offered in conjunction with publications and conferences, or enlist the active participation of students in research endeavors. Therefore, while some elective courses do recur, all are subject to shifts in content and concentration.

Core Cultural Studies seminars

Undergraduate

CS2012 | History of Architecture 1: Premodern to Modern
This course introduces students to the history of world architecture by examining the origins and elaboration of human settlements and architecture from prehistory to the modern era. Particular attention is given to the evolving status and role of the architect and the discipline of architecture as well as to the development of architecture as an autonomous category of cultural artifact. Particular emphasis is placed on global and western traditions in architecture. This course is a lecture survey course.

CS2024 | History of Architecture 2: Modern to Contemporary
This course tracks the development of architecture and urban culture from the rise of modern institutions and practices, through the era of industrialization, to the current day. This course pays particular interest to the influence of modern materials, methods and tectonics, as well as concomitant cultural changes in theory and discourse. This course is a lecture survey course.

CS2030 | Introduction to Urban Systems
This course examines the city as a dynamic process composed of so-called "open systems" —infrastructural, economic, environmental and socio-cultural—that interact with each other. Through an exploration of their interrelationship, these systems are understood as historically determined and are presented in the class in rough chronological order, from water and sewage systems to fiber optic and wireless technologies. This course is a non-architectural content course.

CS2040 | Architectural Theory
This course tracks developments in architectural theory and discourse from the era immediately following WWII to the present day. Students read and dissect primary texts from significant fields of study including postmodern studies, phe-

nomenology, structuralism, deconstruction, post-structuralism, feminism, contemporary materialism and the current discourse on architectural effects and figures. This course introduces students to architectural argumentation through critique, reviews of ongoing installations and exhibitions, including those of the SCI-Arc Gallery, and attendance at public lectures. This course prepares students for their thesis work.

CS2050 | Thesis Project Research

The Thesis program is fundamentally about the development of a set of beliefs. Students are expected to have a cumulative knowledge base paired with a unique and passionate perspective on their work. Thesis preparation asks that each student stake a position based on her or his perspective and hold it up against a set of widely held beliefs. The thesis program involves the development of a thesis regarding architecture, as well as a design program and project that explores and tests it. The thesis is more than a theme, a site, or a specific type of program. It is a proposition regarding architecture that takes a specific position in a field of possibilities. It is a position that requires architectural exploration in order to understand it, test the possibilities, and recognize the limits of its application.

Undergraduate Writing Clinic

This writing clinic is an appointment-based non-credit workshop where students can receive help on work in progress. A faculty member provides one-on-one help with formulation, articulation and structure of student ideas and helps the student to discover the appropriate expression of written documentation.

M.Arch 1

CS2100 | Architecture Culture 1

This course introduces students to the history of the discipline of Architecture in Western and non-Western culture from the Vitruvian tradition, as exemplified by Alberti, to the beginning of the "critical," or postwar period. The course considers architecture as both a profession and a discipline, and explores its relationship to the society, economy, politics, and cultural developments of this time period. Theories of aesthetics and space are covered, as well as the rise of the academy, the inclusion of landscape and other arts in architectural studies, and the subsequent fragmentation—from the Enlightenment onwards—of Classical ideals into broad questions of origin, type, form, function and identity. Throughout the course, students will also be introduced to a range of different possible histories of architecture- vernacular histories, formal histories, and geographic histories that have been heretofore considered "outside" of the discipline. Students will be challenged to consider whether these forms and meanings have had a critical impact in the discipline, and to imagine a set of alternative canons and agencies that could be implicit in each. This includes a six-week module on non-Western and Regional Architectural Traditions, at which attendance is mandatory for all graduate students at SCI-Arc. The course culminates in a 12-week

research project in which students will gain and present a thorough knowledge of one historic building (pre-1949) in order to further the investigations of this class into architecture's disciplinary identity. All research projects will be archived in the SCI-Arc Library.

CS2101 | Introduction to Contemporary Archticture

This course introduces students to their more immediate heritage in the emergent architectural discipline, and to its concomitant problematics in the modern and postmodern eras. In the first section of the semester, the discipline is considered in relation to the radical changes brought about by social, political and economic events from the Industrial Revolution to World War II. The linkage of architecture and morality, the rise of the metropolis , the development of urban design, and the adoption of the machine as model and metaphor are key themes of investigation. In the second section, the consequences of the transition from the modern to the postmodern are considered in architecture. Emphasis is placed on the canonization of modernism into high modernism following World War II and its subsequent critique and decline. Throughout the course, issues of race, colonization, class and gender are understood as constituent factors of global—and hence architectural—culture.

CS2120 | Architecture Culture 2

This course concentrates on the ways in which the shift from philosophy to "theory," following the events of 1968, directly affected the intellectual life of architecture from the 1970s to today. Through an examination of scholarly journals, school curricula, and intellectual discourse and debate in architecture, students are introduced to the rise and fall of these theory vanguards —their continuous critique and the influence it has had on the work of architects. Furthermore, given the significant challenges to critique in recent work, students are asked to consider its influence on the rapidly changing nature of contemporary architectural practice.

CS2121 | Urban Culture / Contemporary Architectural Theory

This course of study presents students with a range of contemporary research methods for understanding the complex, multivalent and dynamic set of systems and pressures known as "the city." In order to provide rigor and intensity, the urban studies course is divided into 2 small seminar sections that align exactly with the sections of the 2GB studio. Through various methods and theories—from market research to scenario analysis to historiography—students are asked to formulate interpretations of urbanism and apply these to their studio projects. Because SCI-Arc innately understands the shifting nature of this discourse, the courses in Urban Studies endeavor to represent the most current paradigms and orientations.

CS2410 | Thesis Research

The Thesis program is fundamentally about the development of a set of beliefs. Students are expected to have a cumulative knowledge base paired with a unique and passionate perspective on their work. Thesis preparation asks that each individual stake a position based on their perspective and hold it up against a set of widely held beliefs. The thesis program involves the development of a thesis regarding architecture, that takes a specific position in a field of possibilities. It is a position that requires architectural exploration in order to understand it, test the possibilities, and recognize the limits of its application.

M.Arch 2

CS2201 | Theories of Contemporary Architecture 1

This seminar focuses on an emergent form of post-vanguard design practice that employs testing and prototyping to create design knowledge, or *design intelligence*. It details the emergence of this new intelligence paradigm through readings drawn from a variety of contemporary debates in philosophy, science, strategic gaming and other areas, before turning to a series of firm-specific case studies that explicitly address the role of intelligence in contemporary design practice.

CS2200 | Theories of Contemporary Architecutre 2

This seminar tracks the short but intense history of architecture's transition from modernism to postmodernism to supermodernism. Within the context of the last three decades of the 20th century, it is argued that contemporary architectural practices have been dominated by, and characterized by, different modes of communication. Through the rigorous study of architectural practices that have moved from an emphasis on meaning to one of immersive experience, this seminar focuses on the communicative potentials and critical explorations of contemporary architectural design.

CS2410 | Thesis Research

The Thesis program is fundamentally about the development of beliefs. Students are expected to have a cumulative knowledge base paired with a unique and passionate perspective on their work. Thesis preparation asks that each individual stake a position based on their perspective and hold it up against a set of widely held beliefs. The thesis program involves the development of a thesis regarding architecture that takes a specific position in a field of possibilities. It is a position that requires architectural exploration in order to understand it, test the possibilities, and recognize the limits of its application.

Recurring Cultural Studies electives

Please note that these courses are not offered every semester and are subject to change. Check the latest course schedule for current course offerings, and visit my.sciarc for each semester's course descriptions.

CS 1349 | Cultural Geographies of Globalization
David Bergman

This course provides an investigation of globalization and its effects on the social, environmental and cultural conditions of the early 21st century. During the course of the semester we investigate definitions and measurement of globalization, the meaning of the global division of labor, and the creation of global culture. We also examine the impact of globalization on women and ethnic minorities around the world. Major issues such as economic development, resource conservation and environmental quality as well as tools for assessing change are a focus of the class

CS 1350 | Aesthetics of Globalization
Benjamin Bratton

This seminar examines how images become programs (computational, architectural, and political programs) and how programs become images. We consider what it means to design or designate the "becoming of the world" through programmatic images, while focusing on the role of subtractive and transitive architectural strategies (removal, elision, opacity, remoteness, relay, miniaturization, compression, expansion) may have in this. Is sustainability an end or a means, and if so for what?

CS 1357 | European Architecture 1990 – 2010
Lilian Pfaff

The seminar introduces the foremost representatives of each country and reads their seminal manifestos. In order to do so, it also reviews the historical, political, and social background of these contemporary architects and demonstrates how they perpetuate, or how they distinguish themselves from, the preceding generation.

CS 1358 | The Science Fictional Grotesque
Claire Phillips

This is a creative writing class that introduces students to the writing of cross-genre works. Students are introduced to an overview of horror and sf, ranging from late 19th century grotesque romance to mid-80s 'body horror' and splatterpunk fiction and film. Particular emphasis is paid to the 'abject,' works predicated on hybridity, indeterminancy and alterity. Narrative strategies of transcendence and transgression are mined, machine and human binaries are explored and exploded. The potential of a resistive social imaginary is introduced through the criticism of Donna Haraway, Julia Kristeva and Slavoj Žižek. Projects include the short dramatic scene, short story and the film treatment. Materials for study range from the precursors of sf/horror genres, H.G. Wells and H.P. Lovecraft, to the body horror and splatterpunk works of Clive Barker, Octavia Butler, to the popular cross-genre works of David Cronenberg and Bret Easton Ellis. Readings are supplemented with film and television material.

CS 1362 | Theory in Practice
Aaron Bocanegra

Crafting a critical practice of cultural production requires re-examination of past techniques and assumptions while simultaneously experimenting with novel tactics in media, technology, concept and economy. Theory and practice must be critically intertwined and self-reflexive. It is no longer feasible to simply respond to a condition of change and new technologies. Current practices can move towards actively engaging in the production of new tools throughout culture and practice. Theory in practice calls for a critical research environment that continually evolves the discourse of cultural production. In this manner, we seek to clearly define individual practice within the context of cultural production, theory, and new economies. Readings will be tailored to expand on the questions posed by each students work. In addition, we will cover the current state of cultural production and economy while positing new directions. An intense focus on media theory, technology and critique will permeate the conversation. This course is in direct collaboration with the workshops of Sylvere Lotringer.

CS 1363 | History of Idea of Architecture
Wes Jones

This course examines the idea of Architecture as it has varied through time, from its first emergence out of the mists of prehistory, through the Greek coining of the term (arche-tecton) to the contemporary focus on its virtual dimensions. Students will explore the notion that architecture is neither a fixed concept, permanent for all time, nor an absolutely linear narrative of evolutionary development. The seminar will specifically study those points during its long history when the idea of what architecture is seemed to change. These changes will be charted, keyed to specific examples of relevant architecture from the period, and analyzed to identify contributing factors. As a reflection of its elective status, architecture has accumulated many definitions by influential practitioners throughout its history, and these will be taken as primary sources to be cataloged and correlated with overt changes in the physical record.

CS 1378 | Architecture's Expanded Field
Amit Wolf

This course traces the evolution of and explores the shifts in architecture's cultural and economic roles during the1960s through the prism of vitalism. The vitalist aesthetics of the last century is a particularly understudied yet rich current of architecture speculation whose theoretical cues range from Henry Bergson's critique of the "will to life" to the more recent reinterpretations of Bergansonian space as duration by Gilles Deleuze, and back to the historical Werkbund of Hans Poelzig and the "will to form" (Kunstwollen). The seminar begins by framing the structuralist expressionism of Konard's The Turning Point of Building: Structure and Design (1961). Then considers the heritage of late Modernism in 1960s architecture, the notion of "good design," against increasingly sophisticated notions

of "bionics" and "environmental design" as developing then in specialized exhibitions, design fairs, and professional literature.

CS 1398 | Provisional Practices: SCI-Arc NOW
Marcelyn Gow, Peter Zellner

This seminar stages a series of informed discussions regarding the diverse practices and discourses that make up the contemporary architectural milieu of Los Angeles and, in particular, SCI-Arc in its current manifestation. The practices of a number of SCI-Arc faculty are scrutinized in relation to other practices taking into account shared lineages as well as diverse trajectories. The seminar is organized around several contemporary disciplinary themes. Students are expected to take an active role in identifying these themes and elucidating them through selected readings and project presentations. These themes are intended to outline research trajectories that students pursue collectively throughout the duration of the course in the form of in-class discussions and presentations.

CS 1399 | Urban Perspective: Piranesi through Pulp Fiction
Joe Day

This seminar explores the relationship between perspective and cinematography, and the roles of both in contemporary urban portrayal and architectonic generation. Examines how civic space has been envisioned in architecture, fine art and film, and chart a correlation between shifting perspectival systems, methods of pictorial resolution and architectural speculation. The seminar also considers a trajectory in American architectural practices reliant on alternative/invented perspectival structures, including HH Richardson, Frank Gehry, Diller+Scofidio+Renfro and Preston Scott Cohen, and look for examples in cinema that echo, amplify or challenge these developments.

CS 1453 | The Task of the Architect
Jonah Rowen

This course asks the question, How as an architect, can one engage with history in a way that transcends the superficiality of emulation and avoids the simplistic consumption of architecture? The course will approach this question by reading a variety of authors and architects who have grappled with these issues, with special emphasis given to Manfredo Tafuri, Peter Eisenman and the influence of French philosophy, specifically Michel Foucault and Jacques Derrida. The course will then focus on critiques of contemporary trends in architecture based on the issues identified in the readings, turning to five specific topics: "Abstraction/Emptiness," "Disciplinarity/Deferral," "PoMo/Historicism, Contextualism," "Following Function," and "Digital Form." Rather than providing answers to the question above, the required readings are intended to provoke further questions, such as, Can history be internalized? What is the relationship between the architect and the historian? Between the architect and the critic? What would it mean to engage with criticality as an architect today? This course aims to deny any myths

or ideologies and replace those with a rigorous and informed stance on history with regard to architecture.

CS2302 | Urban Planning and Development
David Bergman

This course provides a basic background in the planning and land use system in California as well as providing exposure to elements of the land development process. Students gain an understanding of the land use and regulatory environment in which architecture and urban design takes place. The course centers on a weekly lecture along with an assignment related to interpretation of a zoning code.

CS 2356 | Architecture and the Mexican Miracle
Christoph Korner

This course examines the time of the Mexican Miracle, roughly between 1920 and 1970, as a case study for the use of architecture as a political tool, used to create and define a national identity. Students study buildings, as well as art, film, music and vernacular culture, in order to understand the relationship between global and local influences.

CS 2545 | A Subjective Version of the Recent Fiction of Architecture Design
Hernan Diaz-Alonso

The goal of this seminar is to keep developing the notion of geometric variations at a level of sophistication so that questions towards beauty and relevance can begin to be understood in a contemporary setting, and emerging paradigms of esthetics, the grotesque and the horrific. The seminar forces you to operate within an expertise towards intuition through software and advancement of the discipline through a precise contemporary understanding of architecture's reliance on surface, performance, and emotion to expand its discourse.

APPLIED STUDIES

Architecture is about the way we make worlds, worlds populated with subjects and objects, the definitions of which are always mediated by their cultural significance. Embedded in that act of "making" as the transposition and materialization of abstract ideas into spatial form, is the conception of technology as the necessary means by which that complex process takes place. The continuous definition and challenge of the multiple ways we make the world and its physical environment constitute the fundamental motivation of the Applied Studies program at SCI-Arc. The program offers a range of courses that critically engage technology and its spatial and social consequences. Foundation courses are offered in Physics and other sciences, building systems, structural analysis, tectonics, material development, acoustics, lighting and environmental control. Advanced courses explore the design consequences of the continued material and technical development of architectural proposals in the physical world. Elective courses offer the unique opportunity to further research and experiment with highly specific

technologies that constantly redefine the conventions of architecture as a discipline and as a practice. Recent courses explore topics as diverse as parametric design, structural optimization, advanced geometry, composite tectonics, material research and development, complex assemblies, as well as ecology, biomimicry and solar performance.

Core Applied Studies seminars

Undergraduate

AS3020 | Environmental Systems 1
Context and environment are the two fundamental terms examined in this course. Beginning with an understanding of what constitutes the experience of place, the class develops a series of arguments with which to evaluate environments, the relationship between man and nature, and the architectural notion of what constitutes comfort. The course investigates to what extent the understanding of the environment is culturally and biologically determined. Students conduct their own research into a chosen area of climatology and develop schematic buildings proposals for various climactic conditions while making design decisions that conserve natural and built resources.

AS3021 | Structures 1
Beginning with a broad understanding of the ways in which materials work at the molecular level, this course introduces students to principles governing structure such as force and unit stress, equilibrium and span, stiffness, and the reasons materials change shape when subjected to loads. Through a number of assignments, which include exercises in shear and bending moment diagrams and the calculation of equilibrium and internal forces in trusses, students are provided with a practical basis for understanding structures and their behavior.

AS3030 | Structures 2
This course offers an insight into methods of lateral load resistance within structures. The class examines concepts and definitions of lateral loads and the structural systems used to resist those loads, as well as the influence of various load-resisting systems on architectural design projects. By focusing on loads caused by wind and seismic forces within long span buildings, the class introduces students to building-code requirements pertaining to loads, lateral load-resisting systems, and moment-resisting reinforced concrete structural systems.

AS3031 | Environmental Systems 2
This course introduces students to the basic physical principles, design implications and performance of environmental systems by focusing on the behavior of lighting, acoustical, and climate modification systems within the built environment. The course relies upon the assumption that a careful integration of these elements within an architectural project, especially in the impact these elements

have on building envelopes, can contribute significantly to improving the quality of our environment. Life-safety systems are also discussed, with a special emphasis on movement systems and egress. The class is divided into three independent modules, each of which addresses a single environmental system and is taught by a professional engineer specializing in the field.

AS3033 | Tectonics

This course explores the considerations and concepts that govern architecture within a tectonic tradition of craft, construction, detail, and assembly. The class examines the use of techniques and technologies and discusses them through contemporary precedents as well as by means of current designs and studio projects. By focusing on different construction principles, materials and their particular use, different methods of fabrication, assembly and detail, and the integration of mechanical and electric systems within the building envelope, the class focuses on their design impact in the overall conception and experience of a building. Exercises are carried out in model form both physically and digitally and simultaneously documented in CAD.

AS3040 | Design Development

This course investigates issues related to the implementation of design: technology, the use of materials, systems integration, and the archetypal analytical strategies of force, order, and character. The course includes a review of basic construction methods, analysis of building codes, design of structural and mechanical systems, development of building materials, and integration of building components and systems. Students are given the Emerging Professional's Companion and updated Intern Development Program (IDP) materials. Students develop a studio project from the previous semester, focusing on a detailed design of a single component of the building and the resolution of its structural system and building envelope as a whole.

AS3032 | Smart and Sustainable Systems

This class examines principles of sustainability by providing students with criteria for making decisions in architecture and urban design based on the preservation of natural and built resources—including important building and sites—and the creation of healthful communities. The course introduces a range of models and philosophies pertaining to a "sustainable" approach to architecture. Each session takes one notion of sustainability and explores it through a series of presentations, readings, and assignments. Case studies are used to examine the practical application of abstract ideals and more technical aspects such as water and sewage management, thermal transfer strategies in buildings, and embodied energy in materials and construction processes.

AS3041 | Construction Documents

The goal of this course is to provide students with a comprehensive knowledge of the perfectible craft of construction documentation, a standardized language

developed to clearly communicate complex designs to a third party and the architect's legal responsibilities, including the AIA Code of Ethics and Regulations Statutes. Students refine their skills through the production of a full construction documentation package, drawn in 2D and 3D CAD, for a small- to medium-scale single-story residence. In doing so, they also develop an understanding of what types of technically precise documents and outlined specifications need to be produced and in what sequence, and of the languages of other disciplines, such as mechanical, electrical, and acoustical engineering. Attention is placed on student's understanding of registration law, building codes and regulations, professional service contracts, zoning and sub-division ordinances, environmental regulations and other licensure concerns. This class also introduces students to the basics of cost analysis and construction management.

AS3050 | Practice Environments:
Contracts, Liabilities, and Business Models

This course critically examines the role of professional architectural practices in the development and direction of architectural design, production, and pedagogy. As its basis, the course comprises a survey of the architectural profession—its licensing and legal requirements, its adherence to the constraints of codes and budgets, and its place among competing professions and financial interests. Attention is placed on student's understanding of registration law, building codes and regulations, professional service contracts, zoning and sub-division ordinances, environmental regulations, and other licensure concerns. Students gain an understanding of the architect's administrative role, and of issues relating to obtaining commissions, selecting and coordinating consultants, negotiating contracts, project management and issues of egress, code compliance and principles of life safety. They also develop the skills necessary to effectively communicate to clients and user groups. Trends such as globalization and outsourcing are analyzed in their capacity to substantially affect the practice of an architect. Students also receive the Emerging Professionals Companion along with updated IDP information.

M.Arch 1

AS3100 | Materials and Tectonics

This class introduces students to fundamental structural principles with a strong emphasis on materials, material properties and industrial processes. This course is an investigation into the anatomy of material and its potential use in architecture. The goal of the class is to provide students with a thorough understanding of materials, and of the design methods, techniques, and industrial processes by which they acquire meaning in an architectural and building context. By means of direct testing and experimentation, the class explores technical and rational manipulations of traditional as well as novel materials, aiming to develop an expansive understanding of their physical nature, environmental impact and possible reuse.

AS3101 | Structures 1

Beginning with a broad understanding of the ways in which materials work at the molecular level, this course introduces students to principles governing structure such as force and unit stress, equilibrium and span, stiffness, and the reasons materials change shape when subjected to loads. Through a number of assignments which include exercises in shear and bending moment diagrams and the calculation of equilibrium and internal forces in trusses, students are provided with a practical basis for understanding structures and their behavior

AS3120 | Structures 2

Based on a series of lectures, this course aims to provide students with a comprehensive understanding of structural engineering and of the architect's role in the creative application of engineering principles. During the first part of the term, the class examines concepts and definitions of lateral loads and the structural systems used to resist those loads, and also considers the influence of various load resisting systems on architectural design projects. By focusing on loads caused by wind and seismic forces within long span buildings, the class introduces students to building code requirements pertaining to loads, lateral load-resisting systems and moment-resisting reinforced concrete structural systems.

AS3121 | Environment Systems 1: Light, Air and Sound

This course introduces students with the basic physical principles, design implications and performance of environmental systems by focusing on the behavior of lighting, acoustical and climate modification systems within the built environment. The course relies upon the assumption that a careful integration of these elements within an architectural project, especially in the impact these elements have on building envelopes, can contribute significantly to improving the quality of our environment. Life-safety systems are also discussed, with a special emphasis on movement systems and egress. The class is divided into three independent modules, each of which addresses a single environmental system and is taught by a professional engineer specializing in the field.

AS3122 | Design Development and Documentation

This course focuses on construction systems, building technology, the use of materials and system integration. The course includes a review of basic construction methods, analysis of building codes including occupancy and life-safety issues, the design of structural and mechanical systems and familiarizes students with basic principles of sustainable design. Studio projects from the previous semester are developed, focusing on the detailed design of a zone of the building in terms of the resolution of its structural system and building envelope using three-dimensional modeling as well as drafting. Drawings at various scales are produced to introduce students to the language and standards of details, wall sections and overall building representations, culminating in a comprehensive package of drawings. The course also introduces student to the basics of cost

control including life-cylce costs. Students receive the Emerging Professionals Companion along with updated Intern Development Program (IDP) information.

AS3123 | Environmental Systems 2: Sustainability and Complex Envelopes

This course focuses on advanced building systems and technologies. With a special emphasis on high rise construction, students investigate issues pertaining to vertical movement systems, advanced structures and their relation to surface and building envelopes. The course also covers other building services such as plumbing, electrical, security and fire protection systems and their effects on architectural design. Through a series of lectures, group presentations and individual assignments, current typologies and specific architectural precedents are researched and discussed, with a special focus on glass, curtain wall systems, sustainable, energy efficient systems, and technologies of construction and assembly.

AS3130 | Practice Environments: Contracts, Liabilities and Business Models

This course critically examines the role of professional architectural practices in the development and direction of architectural design, production, and pedagogy. As its basis, the course comprises a survey of the architectural profession—its licensing and legal requirements, its adherence to the constraints of codes and budgets, and its place among competing professions and financial interests. Attention is placed on student's understanding of registration law, building codes and regulations, professional service contracts, zoning and sub-division ordinances, environmental regulations, and other licensure concerns. Students gain an understanding of the architect's administrative role and of issues relating to obtaining commissions, selecting and coordinating consultants, negotiating contracts, providing project management, and overseeing issues of egress, code compliance, and principles of life safety. They also develop the skills necessary to effectively communicate to clients and user groups. Trends such as globalization and outsourcing are analyzed in their capacity to substantially affect the practice of an architect. Students also receive the Emerging Professional's Companion along with updated Intern Development Program (IDP) information.

AS3140 | Advanced Project Delivery / Construction Documents

The course focuses on an advanced methods of project delivery and construction documents incorporating digital technologies and investigating new models for linking design and construction processes. It introduces Building Information Modeling as one of the tools for realignment of the traditional relationships between the project stakeholders. Based on a range of relevant architectural case study projects students will learn how to develop a set of 2d and 3d construction documents specifically tailored for the design challenges of each project . Lectures and site visits to fabricators and construction sites will further inform students of technical documentation methods for projects that are operating on the forefront of design and construction technologies to date.

M.Arch 2

See M.Arch 1 section for other core seminar descriptions.

AS3200 | Advanced Tectonics

This course looks at the new ability of architects to design, develop and produce structural assemblies for highly specific performances and applications. The course explores new materials, as well as the integral manner in which building systems and structures are produced—from design idea to fabrication and erection—to precisely fit designers' specifications and to provide optimized performance.

AS3201 | Advanced Building Systems

This course introduces students to innovative methods of construction, fabrication, structuring and assembly enabled by the advent of new technologies. The class focuses on issues pertaining to structure and its relation to surface and building envelope, with an emphasis on the instrumental and conceptual shift from two-dimensional forms of representation and documentation, to three-dimensional systems based on material performance and force flow simulation and their consequent impact on architecture's relation to the building industry. Current typologies and specific precedents of architectural realization—and their integration of geometry and ordering systems with systems of construction and assembly—are discussed through a series of lectures, group presentations and individual assignments.

AS3222 | Design Development and Documentation

This course focuses on construction systems, building technology, the use of materials and system integration. The course includes a review of basic construction methods, analysis of building codes including occupancy and life-safety issues, the design of structural and mechanical systems and familiarizes students with basic principles of sustainable design. Studio projects from the previous semester are developed, focusing on the detailed design of a zone of the building in terms of the resolution of its structural system and building envelope using three-dimensional modeling as well as drafting. Drawings at various scales are produced to introduce students to the language and standards of details, wall sections and overall building representations, culminating in a comprehensive package of drawings. The course also introduces student to the basics of cost control including life-cylce costs. Students receive the Emerging Professionals Companion along with updated IDP information.

AS3230 | Practice Environments: Contracts, Liabilities and Business Models

This course examines critically the role of professional architectural practices in the development and direction of architectural design, production and pedagogy. As its basis, the course comprises a survey of the architectural profession—its licensing and legal requirements, its adherence to the constraints of codes and budgets, and its place among competing professions and financial inter-

ests. Attention is place on student's understanding of registration law, building codes and regulations, professional service contracts, zoning and sub-division ordnances, environmental regulations and other licensure concerns. Students gain an understanding of the architect's administrative role, and of issues relating to obtaining commissions, selecting and coordinating consultants, negotiating contracts, project management and issues of egress, code compliance and principles of life safety. They also develop the skills necessary to effectively communicate to clients and user groups. Trends such as globalization and outsourcing are analyzed in their capacity to substantially affect the practice of an architect. Students also receive the Emerging Professionals Companion along with updated IDP information.

AS3302 | Advanced Structural Systems

This c ourse is a lecture class in strutural engineering design of unconventional structures for architecture students. The course will examine how archiectural form can be derived from force flow and load path. The class content includes the modern history of structural engineering and architecture, structural models, structures in nature and demonstrations of analysis techniques. Established structural systems such as longspan trusses, arches, vaults, membranes, shells, tension structures, space frames, folded plates, diagrids, pneumatics and cable nets will be studied through evaluations of bu ilt projects, current designs and class assignments. Different structural materials will be examined with an emphasis on making appropriate material choices for different structural systems and methods of construction. The course will focus on engineering fundamentals for quick evaluations of structural concepts to develop schemes. Physical models and sketching will be used extensively.

Recurring Applied Studies electives

Please note that these courses are not offered every semester and are subject to change. Check the latest course schedule for current course offerings, and visit my.sciarc for each semester's course descriptions.

AS 2305 | Free Form Fabrication

Peter Testa

The Free Form Fabrication (FFF) seminar challenges specialization to posit design, engineering, material science, robotic fabrication, and construction as a continuous process open to radical recombination via reprogramming of process sequences, tools and practices. In this way authentic new developments in architecture may be affiliated to ongoing transformations in material culture and manufacturing that are coming to characterize the third industrial revolution

AS 2313 | Integrated Design Practices (BIM)
M. Zarmine Nigohos, Sarah E. David

As the level of expectation and complexity continues to increase in today's practical design world, the architectural designer must begin to explore new tools and techniques that allow him/her to develop innovative design solutions and methods. Critical to this development is an understanding of the interaction between various trade participants and the way in which project data is represented and exchanged. It is now mandatory that the designer understand and adopt a new paradigm in practice that transcends the two-dimensional and embraces three-dimensional and even four-dimensional representation. By becoming the leaders in shaping a building model that simulates design development, performance, trade coordination, construction scheduling, fabrication, erection sequencing and cost estimation, the architect can redefine the concept of the "mater-builder" and carve out a new place in today's design-build economy.

AS 2327 | Smooth Operator: Monolithicity Adventures in Composite Fabrication
Ramiro Diazgranados

This course is a hands-on fabrication seminar that focuses on the design and assemblies of advanced composites, specifically, moldless carbon-fiber assemblies. These material systems are inherently monolithic and potentially lightweight so the objective is twofold: 1) to investigate the tectonic potential of super-lightweight proto-structures and 2) to tap into the novel aesthetic regime intrinsic to these material systems. We will be working within a feedback looping protocol that includes digital and analog output.

AS 2328 | Materials Lab: From the Generative to the Tectonic
Thomas Wiscombe

This seminar takes on the question of the cantilever as an expression of design, engineering, properties of materials, and the conceptual context which supports it as a disciplinary invention. In particular, students will examine the potentials and limitations of contemporary generative engineering techniques and their relation to various possible material outcomes. The focus is on the sometimes contradictory impulses which shape this moment in history – the will to automate vs. the will to design. Using specific tectonic traditions as a point of departure, such as welded aluminum plate and profile, students design cantilevers which do not slavishly follow the results of optimization routines but rather rely heavily on individual interpretation. Ultimately, the seminar challenges deep-seated assumptions about minima, excess, and technology in structural thinking.

AS 2347 | Advanced Technologies in Contemporary Building Envelopes
Narineh Marzeian

This class focuses on the inherent complexity of the building envelope as the receptacle of architectural intricacy. Through lectures, guest presentations and

student research, the class addresses conventional and advanced building technologies for skin and envelope systems, from curtain walls to kinetic cladding and rain screens to current efforts in ventilated double skins for maximum environmental performance. By looking at different material assemblies, environmental performances, as well as building economies the course dives deep into the world of facades, not only from the aesthetic potential to produce iconic images, but from their latent functional performance as environmental filters for human activity.

AS 2348 | On the Surface: Materiality and Media
Todd Gannon

Although it took place over ten years ago, issues raised by the MoMA exhibition "Light Construction" maintain a lasting influence on the contemporary architectural scene. The exhibited projects precipitated a distinct shift in focus for much of the architectural avant-garde. Turning away from the academic musings of Postmodernism and the arcane formal gymnastics of Deconstruction, the architects of the exhibition display a renewed interest in the possibilities inherent in the visual encounter with the architectural surface. This seminar focuses on the production, evaluation and cultural significance of the visual effects generated by these surfaces. Chief among these effects is certainly transparency, a condition which, as pointed out by Anthony Vidler, "has haunted Modernity."

AS 2349 | F(x): The Farnsworth Formula – Functions, Parameters, Codomains
David Ross

The goals of this seminar are twofold; First: To leverage the design agency of parametric software (CATIA/Digital Project) through processing quantitative data and qualitative directives in a charged architectural environment – the Farnsworth House. Second: To augment and bind the host structure given contextual parameters of a new 'informational model' as well as with the introduction of additional program.

AS 2352 | AQUAME (m) brane w/ NASA Ames
Devyn Weiser

Working in collaboration with NASA Ames Research Center in Mountain View, California, the seminar explores technology transfer from space based on closed ecological systems to new models of terrestrial offshore infrastructure with a focus on the OMEGA system (offshore membrane enclosures for growing algae). This new technology will be a start point to develop a series of interconnected design, fabrication, deployment, recovery, and remediation scenarios of thin film membranes, and large scale construction logistics n both aquatic and aeronautic environments. Projects include researching, prototyping, and visualizing complex systems. This format offers the opportunity to participate in a real time project development and gain experience and expertise in making public one of the most ambitious alternative energy projects of recent times.

AS 2365 | Hydrophylic Morphology
Ramiro Diazgranados

As the sustainability movement gains social and political traction, and postures as a legitimate discursive movement within architecture, it is imperative that the discipline shift its role in the production of built form. This seminar focuses on "Rainwater Harvesting", one of the several energy systems under the umbrella of sustainability, through the lens of hydrophilic morphology (water loving form and structure). Rather than seeking to resolve problems of optimization or efficiency, the charge is to produce semi-tectonic forms that open up novel sensibilities grounded in hydrophilia. Issues related to affect, sensation, legibility, and phenomena will be central driving factors alongside more pragmatic issues related to performance. The class studies specific models from various fields such as botany, biology, medical, military, etc. in order to harvest useful principles, qualities, techniques, and effects.

AS 2366 | RoCoCo: Robotic Confections & Confabulations
Devyn Weiser

The seminar is in four parts, examining painting techniques from Rococo through contemporary art; scripting/animating in Maya Dynamics, Paint, Fluids, Expressions, and Processing; creating a palette of rheological/biorheological materials; and simulating material effects with the Staubli RX160 Paint Robot. Students experiment with and create new end arm effectuators for additive fabrication such as depositing, painting, spraying, and sputtering. The final project is a live demonstration of the experiment and documentation in a laboratory notebook. RoCoCo is the first class to use the groundbreaking SCI-Arc Robotics and Simulation Lab for purely aesthetic expression and in the context of an emerging post-digital material culture.

AS 2367 | Materials Lab 2
Thomas Wiscombe

Based on the design and research done during the Fall 2010 semester, this seminar focuses on the realization of 'Cantilever', located above the main entry of SCI-Arc. Cantilever is an advanced monocoque construction featuring complex force flows and responses, developed using generative structural software intersected with the material logics of fiber-composite construction. It involves research into surface-based structure and structural adhesives, borrowing heavily from nautical and aerospace construction logics. ANSYS, a digital engineering tool is explored, with emphasis on local evolution of structure rather than universal solutions.

AS 2384 | Eye, Robot: Intro to Robotics
Jonathan Proto, Brandon Kruysman

This Seminar focuses on the intersection of computation, robotic fabrication, and cinematography. The course explores robotic motion control as a creative medium for designers, mainly through the use of the custom robotic animation

software platform, designed specifically for the SCI-Arc Robot House. The platform has the unique ability for the designer not only to design motion, but also to program, simulate, and speculate all at the same time. This type of animation space suspends the distinction between simulation, speculation, and 'the real', making it very hard for one to determine which is which while questioning traditional notions of architectural representation.

AS 2388 | Machinating Manufacturing
Peter Testa

The seminar theorizes within contemporary material culture the recent shift in architectural research towards a new design paradigm at the convergence of Computation, Computational Materials, and Robotics. Architects and artists are only starting to consciously aestheticize the raw material of this half--- virtual world. This research seminar investigates this new aesthetic reality with particular attention to the transformation of conceptual frameworks, conventions of representation, and architecture's ontologies. The overarching goal of the seminar is to develop an entirely different notion of what it means to make something today. Students conduct research that creatively engages the digital and materials revolution with a focus on formal potentials, new workflows and the new aesthetics.

AS 2392 | Machine Networks
Jonathan Proto, Brandon Kruysman

This seminar focuses on the communication on and collaboration between multiple machines or devices while operating on 'live' material systems in advanced fabrication. The course investigates 'real-time' robotic fabrication scenarios, enabling a symmetrical, bidirectional relationship between designer and machine, rejecting the notion that the machine is purely an output device. This conceptual approach to robotic fabrication collapses the gap between designer and fabrication, and the virtual and the physical. In this new age of digital fabrication, traditional modes of architectural representation will be called into question. Machine-to-Machine solutions rely on the combination of hardware, networks (or communication protocol), and software applications. The course intensively engages scripting through a series of mini python workshops, developing algorithmic approaches to networking and communication protocol, sensor feedback, as well as real-time animation and robotic motion control.

AS 2393 | Squished and Embedded Skins
Tom Wiscombe

This seminar questions conventional 20th century assemblies, characterized by adjacency of systems and mineral-based hardware, in favor of polymer-based meta-assemblies produced through squishing, sedimenting, embedding, and inlaying. Underwriting this desire is the idea of multi-materiality, where the homogeneity of digital surfaces is replaced with complex depth, sectional, and compositional effects. The goal is to create building skins from a patchwork of materials as heterogeneous as a calico cat or a Korean seafood pancake. Ulti-

mately, the focus will be to create mysterious and alien assemblies which do not resemble known tectonic systems. The potentials of robotic manufacture will be explored in the form of workshops and regular support from the Robot House, especially in ZBrush-to-robot workflows involving marking, drawing, cutting, and depositing material onto complex surfaces.

AS3304 | Biomimicry: Innovation in Architecture Inspired by Nature
Ilaria Mazzoleni

This seminar takes inspiration from the animal world and, through the analysis and understanding of specific examples such as spider webs, termites, polar bears, bees, birds, etc., translates the learned principles to the built environment. The class positions the question of how the environment interferes with the behavior and physiological evolution of animals and human constructions by learning lessons from the analysis and observation of the animal world. Today, we design and engineer dynamic systems to mediate the interaction between man and nature. This course illustrates how, by learning from nature, we can greatly enhance our design abilities and interference with the environment in a more sophisticated and less invasive way, creating a more sustainable form of living.

AS 7170 | Biomimicry 2 – Building Envelopes
Ilaria Mazzoleni

The seminar traditionally finds inspiration from the animal world conducts analysis and translates the learned principles to the design of building envelopes and in their integration at a larger city scale. Part II of the seminar focuses its attention to materiality and building technologies that, while continuing to learn from nature, can be used to design and build architectural envelopes that use nature in a structural and perfomative way.

VISUAL STUDIES

The practice of architecture relies on systems of communication to conceive, develop, and subsequently represent and communicate architectural ideas, where the breadth of the work is reflected in the implied proficiencies of technical skills and visual culture.

The Visual Studies program takes a central role in the education of communications techniques and required skills sets offered across the SCI-Arc course curriculum. It includes drawing tools ranging from generative diagramming to representation, project communication and project production documents. Students become familiar with established and emergent technologies and fabrication processes. The program sets the foundation for understanding the implications of working within the framework of communication systems. It fosters excellence, precision and critical engagement, and encourages highly creative work in which working methods, tools and their interfaces are interlaced.

The Visual Studies curriculum responds to the constantly evolving paradigms of architectural communication, introducing new tools within a progressively structured program. New media instruments—ranging from advanced digital modeling and animation to the equipment for computer-controlled fabrication processes—complement established methods of drawing, such as planimetric and sectional representations, constructed perspective and freehand drawing and sketching.

Core Visual Studies seminars

Undergraduate

VS4011 | Fabrications and Delineations
Fabrications and Delineations emphasizes the conventions of architectural projection for the description of form and space. The exercises build on the understanding of the logic inherent to deployed techniques, digital modeling and constructed geometry. This includes the fundamentals of Euclidean and non-Euclidian geometric principles, the construction of plan/section/elevation, axonometric and perspective drawing.

VS4020 | Technologies of Description 1
This course introduces the principles of digital drawing tools essential to 2D architectural representation. Working with primary digital representation tools, students learn both the application of projective techniques for architectural subjects and the conventions of operation and interface. Of central importance is instilling in students a critical sensitivity for the inherent bias and nature of each deployed medium.

VS4021 | Technologies of Description 2
This course examines and extends the analytical techniques and strategies for the study of architecture evolving from programmatic and structural systems to external factors affecting site or building. Work is centered on advanced digital 3D drawing and modeling techniques for the construction and evaluation of spatial conditions. Students develop techniques for manipulating 3D data that include rapid modeling, texture mapping, lighting and rendering, and analog drawing.

VS4030 | Technologies of Description 3
The last course in the Technologies of Description sequence is an introduction to advanced techniques in digital modeling and processes of fabrication. The work focuses on digital tools that enable the development of complex surfaces, procedural and parametric forms, and basic animation. Projects include work and production of digital models and material output using computer numerical control (CNC) devices as integral tools for the development of architectural conceptions.

M.Arch 1

VS4100 | Techniques of Representation 1

The course examines the theories and practices of representation and analysis of architectural ideas. It is structured to introduce the primary and auxiliary tools necessary to analyze and translate spatial concepts into two-dimensional representations. Students generate descriptive work using planar, plan/section, and axonometric projections as well as free hand and digital drawing tools and develop an understanding of specific characteristics and application potentials.

VS4101 | Techniques of Representation 2

The course forms the continuation of Techniques of Representation 1 by expanding on the conceptions of representational tools, emphasizing diagramming and spatial representations, and incorporating site analysis, topography and three-dimensional realizations. The program focuses on developing precision of intentions in the production of architectural drawings and instilling a critical sensitivity for the inherent bias and interface of each deployed medium of representation.

VS4120 | Advanced Computation 1

This course provides an introduction to advanced techniques in modeling and fabrication processes by focusing on digital drawing and production tools that enable the development of complex and dynamic surfaces, procedural and parametric forms, and the development of the relationship between architecture and geometry. Projects include prints of digital models using CNC and laser-cutter devices.

VS4121 | Advanced Computation 2 (satisfied by choice offerings)

The course forms the continuation of Advanced Computation 1, furthering the knowledge of digital modeling and fabrication techniques by incorporating animation as a dynamic mechanism that extends the spectrum of representational tools. Students are encouraged to explore the sequencing of tools and interrelations between idea and fabrication and space/time-related architectural processes.

M.Arch 2

VS4200 | Modeling, Tooling, and Computation

This course explores new software technologies that allow variables of time, reproduction, variation and repetition. The intention is to question the relationship of architecture to geometry and the idea of representation as a static organization of concepts. Students are encouraged to search for the possibilities offered by tools of representation and simulation as active mechanisms for the

production of design, thought and products. Geometry is considered no longer as a static Cartesian system, but as encompassing an array of articulated geometrical variations, affected by new instrumental abilities.

Recurring Visual Studies electives

Please note that these courses are not offered every semester and are subject to change. Check the latest course schedule for current course offerings, and visit my.sciarc for each semester's course descriptions.

VS 2495| Visual Sonics
Aaron Bocanegra, Francisco Myles Sciotto

As a whole Visual Sonics is an exploration of ecologies through the process of research, visualization and responsive audio. Data can be experienced in a myriad of manners, all of which have the capability to reveal information that is aggregate. Research is a performance of intellect, curiosity and rigor. It is not enough to simply write your ideas down or bookmark them on the web. Instead, we will work to experiment with research in a multiplicity of techniques – to refine the concepts being dealt with – as well as to prototype the design of how the research will be implemented.

VS 2496 | Nonvisual Studies
Andrew Zago

Visual representation is constrained by the limits of the imagination. The nonvisual, on the other hand, exploits inherent structural potential within materials, geometries and logics while propelling work outside of what was previously conceivable. It orchestrates matter through the weaving and cross-weaving of rigorous techniques that lack a priori form. This seminar seeks new categories of form, realizable only through nonvisual, bottom-up means, and, consequently, new architectural possibilities for space, program, and tectonics.

VS 2497 | Visionary Landscapes
Elena Manferdini

This seminar explores current modes to represent utopian visions for contemporary architect ture. The class closely analyzes famous historical examples of visionary architecture, and unravels the underpinning strategies used in these drawings to trigger viewers' fascination. Utopian ideals have always relied on an engineered 'total design' in order to visualize their prescriptions, and this monistic reactionary approach to problems usually manifested itself through the production of fantastic images. The seminar focuses on the tactical elements that enabled this body of work to create utopian collective fantasies, rather than on the relative utopian contents.

VS 2533 | Kremlin Form

Anna Neimark

This seminar explores the concepts, theories, and representational techniques within the history of formalism, abstraction, and estrangement in order to argue for a theory of urban formalism. Texts by Victor Shklovsky, Rosalind Krauss, Colin Rowe, Peter Eisenman, and El Lissitzky form the basis for discussions and critiques. Students are asked to draw the existing urban condition of the Moscow Kremlin as pure form by describing it as a monumental object. Exercises focus on precise measured drawings based on available information that will allow students to lower the resolution of reality to a limited number of regulatory geometries.

VS 2534 | Deep Skins Light Bones

Jenny Wu

This seminar investigates two fundamental paradigms in architecture: surface and structure, through a specific lens of a Gothic vault. The choice of the Gothic vault is strategic in that it possesses an amazing balance of structural exuberance with detailed ornamentation. The seminar studys both, surface and structure, as integral elements of this specific architectural construction. Through the use of parametric modeling, students develop one unit of an existing Gothic vault and take it through various stages of transformations. The seminar looks to further evolve both the surface and structure through parametric modeling in developing a new ceiling system. The course is less interested in 2-D graphic patterning of the skin but more interested in a “deep” skin, one that incorporates three-dimensional patterns, as well as structure that moves from being purely indexical of its load paths to becoming more atmospheric and expressive.

VS 2535 | Tableau Vivant

Elena Manferdini

The basic aim of this seminar is to critically participate in the current debate about the state of technology for the representation of nature, and use the definition of Table Vivant as a point of departure to question the ideological and formal implications of various digital representational modes. In the past, “still life” has been the classical exercise of form and style that most artists had to perform to build their technical expertise. It was a pedagogical discipline that taught a student how to perfectly represent reality. In time “still life” has become the ground for critical differentiation of styles and for the exploration of new tools. As a timeless instrument, this exercise measures the ability of the young artists against the previous generations of masters and frames their original research. The “Living Picture” is considered successful in its element of theatrical engagement with the public. In other words a “tableau vivant” is about the relationship between the artistic production and the awareness of the beholder. This tableau vivant is not an act of duplication, but of appropriation.

VS 2537 | Drawing Things Together
Marcelyn Gow

Materializing the mathematical, the exact translation of virtual instructions in the form of drawings or codes to their material actualization, is a fundamental procedure in the production of architecture. This exchange between the mathematical realm, in the form of digital modeling, and the material realm, in the form of fabrication, is the essence of this seminar. The work will be focused on capturing qualities that lie outside the realm of computational control and would appear to be incongruous to the processes and tools used to generate them; pursuing the apparent and actual vagaries of matter in flux albeit through the use of highly controlled algorithmic and machinic processes. The seminar explores the influx of non-inert forms of matter into material assemblies. Iterative physical modeling and casting will exploit the transformation between states of fluidity and solidity germane to casting.

VS 2695 | Visualizing Urban Systems
Darin Johnstone

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VS 3345 | Computational Materials
Peter Testa

This course operates as an introduction to scripting computational geometry with an emphasis on performative, procedural, and generative design thinking. While the primary focus is on applying computational geometry to the early stages of architectural design, exercises will also introduce heuristics, readily accessible strategies, to assign 3D geometrical features informed by structural and environmental performance.

VS4319 | Visual Imagination
Michael Rotondi

This course explores the range of relations between the visual imagination and the built and natural environments. Through lectures, readings, short assignments and class participation, students are encouraged to adopt innovative methods of visually thinking about the world and to be cognizant of any biases or limitations in their current ways of thinking. Individual lectures are modular rather than chronological, yet each builds on information presented in previous lectures to progress in a cyclical fashion from ways of knowing to, ultimately, methods of creation. Repetition is used as a device to show all of the different

perspectives from which you can see the same things — all the different ways the same concept can be defined in words and images used to illustrate particular points.

VS 8505 | The Accident
Andrew Zago
To the extent that architecture must resonate with contemporary sensibilities, the accident becomes a relevant new field of inquiry. With the aim of refining experimental techniques in architectural geometry and material, this workshop studies the structure and form of accidents through analog experiments and their digital documentation.

VS 8520 | Synthetic
Elena Manferdini
The work of this seminar aims to extend the potential of architectural surfaces to produce effect through the invention of new breeds of artificial matter. Students investigate the potential of synthetic materiality, seeking out novel sensuality, tactility and visual effect. The work of the class as a whole will critically participate on the current debate about the state of technology for the production of architecture, and will question the ideological and formal implications of various digital representational modes, introducing 3d scanning as privileged procedure to implement a digital model with analog material computation.

VS 8525 | Figure / Figurine
Florencia Pita
Expelled from the land of 'reality' and rebuffed for being lavish, figuration rebounds with allure. Suited to the current times of intense formalism, and granted embellishments, figuration expands into a vocabulary of candy colored surfaces and pretty shapes. The sources of this genre illustrate the imagination and expand the vocabulary. This class creates a serious of 'characters' in Maya, which will be designed as small figurines; these figurines will be fabricated and photographed following the 'stop-motion' technique.

SCI-ARC COMMUNITY DESIGN PROGRAM

Since moving to downtown Los Angeles, SCI-Arc has sought opportunities to engage various local communities by spearheading a number of tactical, action-based projects, which enable students to collaborate directly with community agencies and undertake design/build projects. Each project deals with some form of practical and urgent problem solving circumstance. This might involve the creation of built structures or functional implements, or the imparting of vital skills to community members or at-risk groups.

Drawing upon the professional expertise of architects, urban planners, computer designers, visual artists, social scientists, cultural theorists, and others, SCI-Arc faculty and students have demonstrated a powerful capacity to impact specific social problems, working with intentionally short lead-times and reacting quickly to address immediate conditions. Whether coordinating with local government, city or community agencies, private industry, educational or philanthropic institutions, or local residents, SCI-Arc's Community Design Program is known for applying solutions that are at once uniquely innovative and personally felt.

SCI-Arc's Community Programs are made possible in part by a grant from the Los Angeles Department of Cultural Affairs.

Recent projects include:

Habitat for Humanity Building Project
Darin Johnstone

A collaboration between SCI-Arc, Habitat for Humanity of Greater Los Angeles, and the County of los Angeles, the SCI-Arc/Habitat LA Housing Project tackles innovative ways to redevelop neglected properties in Los Angeles and positively impact the communituies they exist within. Over the course of an academic year, students prtoposed cost-effective single-family home designs with a focus on innovation, affordability, home-healthy building materials, and sustainability. The Fall semester was devoted to the student designs of the home, while the Spring semester was devoted to design development, design documentation, and permitting. during the Summer semester, students joined Habitat LA's volunteer structure to help construct the project. Only completed, the home was transferred to a low-income family in Los Angeles through Habitat LA's established housing program.

Fledge: A Double Gateway
Alexis Rochas

SCI-Arc proposes a unique partnership with the L.A. City Bureau of Engineering, L.A. Care Health Plan, and The California Department of Transportation engineers [CALTRANS] to support an educational initiative leading to the design, planning and implementation of an Architectural Interface resolving railing and fence requirements for the 7th Street Bridge over the 110 Freeway. The project seeks to establish a strong visual identity to North-South motorists while providing East-West passerby with a unique and secure experience as they traverse the bridge connecting Downtown Los Angeles and Central City West.

U.S. Department of Energy Solar Decathlon 2011 & 2013 Competition
Wes Jones and Dwayne Oyler

A team of 70 students from the Southern California Institute of Architecture (SCI-Arc) and the California Institute of Technology (Caltech), has been selected by the U.S. Department of Energy to participate in the Solar Decathlon. Twenty collegiate teams will

participate in this competition to design, build, and operate solar-powered (non-carbon based energy generated) houses that are cost-effective, energy-efficient, and attractive. The Solar Decathlon attracts hundreds of thousands of people to the National Mall to tour the houses and learn about energy-efficient design, sustainable products, and available energy-saving technologies. The SCI-Arc/Caltech Solar Decathlon team is partnering with Southern California industries to research, test, and prototype new emergent technologies that address zero net energy building designs by competing in the US Department of Energy's Solar Decathlon Competition.

Re-Envisioning the Los Angeles Downtown Arts District & Little Tokyo Community (JACC)
Peter Zellner

SCI-Arc and METRO invited members of the Los Angeles community to a Neighborhood Design Workshop exploring a more livable future for Downtown via walking, biking and mass transit. The event was led and moderated by Peter Zellner, co-coordinator of the Future Initiatives post-graduate program at SCI-Arc. Attended by over forty members of the community the workshop focused on identifying key objectives for a more transit integrated community.

Watts Cooking: Imagining an Accessible Food Infrastructure
Michael Pinto

In July 2008, the Los Angeles City Council placed a moratorium on new fast food developments in a 32 square mile area of South Los Angeles. This was in response to disproportionately high levels of obesity and related health issues in the subject area. Though the Watts community was outside of the moratorium, the residents of this area face extreme challenges in accessing healthy food options. This project engaged the Watts community of Los Angeles and the need of healthier food choices. The class generated a renewed vision for a 2.5 acre farm in the community, owned by the Watts Labor Community Action Center.

Critical Mass
Ilaria Mazzoleni

A team of SCI-Arc students analyzed, dissected, and observed to find strategies of implementation for a bike sharing program in the Wilshire Center District: the most forward-looking LA district in terms of sustainability. The students were directly involved in the selection of the locations and of the pilot system preliminary design. A higher lifestyle standard is the qualitative aspect this partnership program is promoting and pursuing with the vision of nourishing Los Angelinos and tourists to seek a better quality of life in their urban environment and communality.

LARABA Student Design Competition: Downtown Los Angeles Dog park
Peter Zellner

SCI-Arc students Joseph Brown (MArch 1 '13) and Hope Pollonais (MArch 1 '13) won a competition organized by the Los Angeles River Artist and Business Association (LARABA) and SCI-Arc Faculty Peter Zellner to design a sculpture for Downtown LA's first doggy park. Located on an oddly-shaped 6,000-sq.ft. lot on the corner of Molino and 4th Streets, the Arts District Dog Park opened in summer 2010 and has since been a local success story.

A New Infrastructure: Innovative Transit Solutions for LA
Peter Zellner

An open ideas competition invited architects, engineers, urban planners and students to propose new ideas for LA County's transit infrastructure. The Future Initiatives competition, developed in partnership with The Architect's Newspaper, encouraged entrants to develop solutions that dramatically reconfigured the relationship between transit systems, public space and urban redevelopment. Competitors were encouraged to work within the parameters of LA County's Measure R, which provided major new funding for infrastructure. More than 70 entries from five countries were received.

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