The Rice School of Architecture (RSA) focuses on speculative practice – that is, the teaching and research of architecture and urban design as speculations that will advance professional practice as well as the built environment. Intimate student-faculty interaction, academic freedom, and unrestricted institutional cooperation within and outside the university are distinctive qualities of the architecture degree programs at Rice.

The School of Architecture’s undergraduate programs maintain a balance between a design-focused study of architecture and a broad general education. In addition to formal coursework, students benefit from lectures and presentations from distinguished practitioners and scholars, symposia and other cultural events, and the unique Rice Preceptorship program, which places students in an outstanding professional office for a nine-month internship.

The School of Architecture’s graduate programs offer a design education in combination with a thorough grounding in architectural history, theory, and technology. Rice’s graduate program culminates in an independent design thesis, on the principle that an architectural education provides a complete exposure to architecture’s breadth, from which the student establishes his or her depth, or expertise, through the independent thesis.

**Bachelor’s Programs**
- Bachelor of Arts (BA) Degree with a Major in Architecture ([ga.rice.edu/programs-study/departments-programs/architecture/architecture-ba](ga.rice.edu/programs-study/departments-programs/architecture/architecture-ba))
- Bachelor of Arts (BA) Degree with a Major in Architectural Studies ([ga.rice.edu/programs-study/departments-programs/architecture/architecture-architectural-studies-ba](ga.rice.edu/programs-study/departments-programs/architecture/architecture-architectural-studies-ba))

**Post-Bachelor’s Program**
- Bachelor of Architecture (BArch) Degree ([ga.rice.edu/programs-study/departments-programs/architecture/architecture-barch](ga.rice.edu/programs-study/departments-programs/architecture/architecture-barch))

**Master’s Programs**
- Master of Architecture (MArch) Degree ([ga.rice.edu/programs-study/departments-programs/architecture/architecture-march](ga.rice.edu/programs-study/departments-programs/architecture/architecture-march))
- Master of Arts (MA) Degree in the field of Architecture ([ga.rice.edu/programs-study/departments-programs/architecture/architecture/architecture-ma](ga.rice.edu/programs-study/departments-programs/architecture/architecture/architecture-ma))
- Master of Architecture in Urban Design (MAUD) Degree*

**Doctoral Programs**
- Doctor of Architecture (DArch) Degree*
  * The MAUD and DArch degree programs are currently inactive and are not accepting applications for admission.

**Dean and William Ward Watkin Professor**
Sarah Whiting

**Harry K. and Albert K. Smith Professors**
John Casbarian
Lars Lerup

**Gus Sessions Wortham Professor**
Albert Pope

**Professors**
William Cannady
Carlos Jimenez
Gordon Wittenberg
Ron Witte

**Associate Professors**
Dawn Finley
Christopher Hight

**Wortham Assistant Professor**
Reto Geiser

**Assistant Professors**
Michelle Chang
Andrew Colopy
Scott Colman
Troy Schaum
Jesús Vassallo

**Professors in the Practice**
Nonya Grenader
Douglas Oliver
Danny Samuels
Mark Wamble

**Senior Lecturers**
Alan Fleishacker
Stephen Fox
James Furr
Christof Spieler

**Lecturers**
Tom Lord
Jacki Schaefer
Technology Fellow
David Costanza

Wortham Fellows
Piergianna Mazzocca
Ajay Manthripragada

For Rice University degree-granting programs:
To view the list of official course offerings, please see Rice’s Course Catalog (https://courses.rice.edu/admweb/ISWKSCAT.cat?p_action=cata)
To view the most recent semester’s course schedule, please see Rice’s Course Schedule (https://courses.rice.edu/admweb/ISWKSCAT.cat)

Architecture (ARCH)
ARCH 100 - LAUNCH - RICE SCHOOL OF ARCHITECTURE SUMMER PROGRAM: INTRODUCTORY DESIGN STUDIO
Short Title: (LAUNCH) RICE SUMMER ARCH
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hour: 1
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Lower-Level
Description: Introduction to architectural design for current Rice students and summer visitors. Guided explorations introduce speculative ways of thinking about architecture and the city, using basic design tools and materials.

ARCH 101 - PRINCIPLES OF ARCHITECTURE I - ORDER
Short Title: PRINCIPLES OF ARCHITECTURE I
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 6
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Lower-Level
Description: This introductory studio frames architecture as a discipline through a set of short problems that examine the relationship between formal and spatial ordering, technical and material concepts, and issues of use and program, culminating in a small synthetic project. Permission Required by Director of Undergraduate Studies, Rice School of Architecture. Department Permission Required.

ARCH 102 - PRINCIPLES OF ARCHITECTURE II - REPRESENTATION
Short Title: PRINCIPLES OF ARCHITECTURE II
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 6
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Lower-Level
Prerequisite(s): ARCH 101
Description: What is the role of information and representation within the design process? This studio introduces and explores the tools and concepts of notation and representation in architecture and how they serve as instruments of inquiry in a design processes. The use of precedents is a focus early in the semester, in which students analyze a project and its formal concepts that inform the design of a small architectural project in the second part of the course.

ARCH 105 - ENVIRONMENT, CULTURE AND SOCIETY
Short Title: ENVIRONMENT, CULTURE & SOCIETY
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Distribution Group: Distribution Group II
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Lower-Level
Description: This introductory course in environmental studies helps students to better understand the complex interrelationship between human cultures and their social and physical environments. Lectures and assignments draw upon the methods and expertise of architecture, the humanities and the social sciences. This is a core course of Rice's Environmental Studies minor. Cross-list: ENST 100.

ARCH 110 - THE PARTHENON AND PERIKLEAN ATHENS
Short Title: THE PARTHENON
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Distribution Group: Distribution Group I
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Lower-Level
Description: In this course, we will trace the history and mythology of the Parthenon. We begin with the dawn of sacred tradition on the Acropolis, then explore the classical recreation of the city, the conversion of the Parthenon into a church, its subsequent destruction and the current debate over restoration. This course is limited to first-year students only, any others will be removed from this course. Cross-list: CLAS 103, FSEM 113, HART 110.
ARCH 207 - TECHNOLOGY I
Short Title: TECHNOLOGY I
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 6
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Lower-Level
Prerequisite(s): ARCH 102
Description: What is the relationship between diagrammatic organization systems and the tectonic systems of construction? What is the relationship between the internal organization of a building’s program and its immediate external context? The potentials of different structural systems in relationship to programmatic diagrams are foregrounded to develop an architectural proposal for a public program of medium size.

ARCH 202 - PRINCIPLES OF ARCHITECTURE IV - EFFECTS
Short Title: PRINCIPLES OF ARCHITECTURE IV
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 6
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Lower-Level
Prerequisite(s): ARCH 201
Description: What is the relationship between material, technique and spatial or formal effects? This studio focuses on developing a student's understanding and experimentation with material and tectonic systems, building envelopes, and issues of sustainability.

ARCH 207 - TECHNOLOGY I
Short Title: TECHNOLOGY I
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Distribution Group: Distribution Group III
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Lower-Level
Description: The course will introduce students to historical and contemporary structures through multi-media presentations, computer-based visualizations, field trips, and hands-on experiments with materials of construction and physical models of structures. This course also addresses sustainability issues specific to structural systems such as embodied energy, life-cycle cost, and material recycling. This is the introductory course on the art and science of designing engineered structures and is the first of four required courses in the architectural technology sequence. It is intended for first or second year students interested in both civil engineering and architecture. Graduate/Undergraduate Equivalency. ARCH 507. Mutually Exclusive: Credit cannot be earned for ARCH 207 and ARCH 507.

ARCH 225 - HISTORY & THEORY I (INTRO)
Short Title: HISTORY & THEORY I (INTRO)
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Distribution Group: Distribution Group I
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Lower-Level
Description: This introductory course exposes student's issues and debates that have driven architects and theorists from the early twentieth century to the present. The course is structured around a sequence of fourteen themes that have recurred as major issues throughout architectural history. Focusing on topics, ranging from representation, to media, to politics, urbanity, or the environment, teach theme is presented as a debate between differing viewpoints, in order to expose the positions that have motivated both theory and practice. In weekly discussion sections, we will be analyzing buildings and discussing canonical texts. These sections provide opportunities for students to develop their own positions on the issues debated, and to refine their ability to make arguments. Cross-list: HART 225. Graduate/Undergraduate Equivalency. ARCH 525. Mutually Exclusive: Credit cannot be earned for ARCH 225 and ARCH 525.

ARCH 235 - HISTORY OF ARCHITECTURAL THINKING I
Short Title: HISTORY OF ARCH THINKING I
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Graduate level students may not enroll.
Course Level: Undergraduate Lower-Level
Description: Introduction to architectural thought. Lectures and discussions focusing on ideas before 1850 that have exercised a significant influence on the subsequent discourse and production of architecture and urbanism. Graduate/Undergraduate Equivalency. ARCH 535. Mutually Exclusive: Credit cannot be earned for ARCH 235 and ARCH 345/ARCH 535/ARCH 645.

ARCH 301 - INTERMEDIATE PROBLEMS IN ARCHITECTURE I - SITUATION
Short Title: INTERMEDIATE PROBLEMS ARCH I
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 6
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Prerequisite(s): ARCH 202
Description: What is the relationship between the building and larger systems of the environment, constructed and natural, in which it sits and affects? This studio focuses on issues of architecture's relationship to site and landscape environmental considerations and the relationship between systems and processes across the scales of architecture, urban and infrastructure.
ARCH 302 - INTERMEDIATE PROBLEMS IN ARCHITECTURE II - LEGIBILITY
Short Title: INTERMEDIATE PROBLEMS ARCH II
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 6
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Prerequisite(s): ARCH 301
Description: How do questions of legibility in architecture engage a global milieu? This typically travel focused studio develops a large and complex architectural project in an urban context, examining through design the relationship between a specific locale and culture on the one hand and on the other a global economy and discipline.

ARCH 303 - COHERENCE
Short Title: COHERENCE
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: This seminar will construct a conversation about coherence. The opening salvo in this conversation: architects traffic entirely in greater or lesser degrees of coherence. A series of questions will start our discussion: How so? What structures underlie coherence in architecture? Is coherence necessarily overt? Latent? How is coherence fruitful today? Graduate/Undergraduate Equivalency: ARCH 603. Mutually Exclusive: Credit cannot be earned for ARCH 303 and ARCH 603.

ARCH 305 - ARCHITECTURE FOR NON-ARCHITECTS
Short Title: ARCH FOR NON-ARCHITECTS
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Distribution Group: Distribution Group I
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: This course is designed to increase awareness and appreciation of broad range of architectural issues through lectures, comparative building studies, design exercises, readings, and discussion. Intended for non-majors in architecture, the course will provide students the opportunity to understand the architectural design process through hands-on experience. Enrollment limited to 15 and requires instructor permission. Instructor Permission Required.

ARCH 307 - INTRODUCTION TO LANDSCAPE ARCHITECTURE: HISTORY & METHOD
Short Title: INTRODUCTION TO LANDSCAPE
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Students with a class of Freshman may not enroll.
Course Level: Undergraduate Upper-Level
Description: This course will provide an introduction to landscape architecture through a survey of its history, and through direct application to a studio project. From the historic gardens at Versailles to the current Millennium Park in Chicago, the direct manipulation and design of land has a long and complex set of rules, traditions and practices. The focus will be on the consideration of how architecture extends beyond the interior and its relationship to an equally important external fabric. The course is comprised of interactive lectures on landscape themes, and the application of specific concepts imparted into design exercises. Graduate/Undergraduate Equivalency: ARCH 607. Mutually Exclusive: Credit cannot be earned for ARCH 307 and ARCH 607.

ARCH 309 - TECHNOLOGY II
Short Title: TECHNOLOGY II
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Distribution Group: Distribution Group III
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: This course is the second part of the introduction to contemporary building structures. The topics covered are the design of concrete structures and design of specialized structures including tilt wall, long span, and high rise. Each structural type is explored in terms of overall performance, design of individual components, and the relation of structure to other building subsystems such as foundations, enclosure, and interiors. This course also addresses sustainability issues specific to structural systems and is the second of four required courses in the architectural technology sequence. Graduate/Undergraduate Equivalency: ARCH 509. Recommended Prerequisite(s): Prior completion of Technology I. Mutually Exclusive: Credit cannot be earned for ARCH 309 and ARCH 509.

ARCH 310 - VIRTUAL RECONSTRUCTION OF HISTORICAL CITIES
Short Title: VIRTL RECONSTR HISTORCL CITIES
Department: Architecture
Grade Mode: Standard Letter
Course Type: Research
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: This course, part of the HRC’s Digital Humanities Initiative, is devoted to the virtual reconstruction of ancient urban landscapes with focus on individual buildings in their urban settings. All course activities will be based around interdisciplinary student teams who will work together through the semesters to complete a virtual reconstruction project. Instructor Permission Required. Cross-list: ANTH 346, COMP 316, HART 316.
ARCH 311 - HOUSTON ARCHITECTURE
Short Title: HOUSTON ARCHITECTURE
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Distribution Group: Distribution Group I
Credit Hours: 3
Course Level: Undergraduate Upper-Level
Description: This course consists of a series of illustrated lectures and walking tours that describe and analyze the architecture of Houston from the city's founding in 1836 to the present. Characteristic building types and exceptional works of architecture are identified; tours stimulate an awareness of the historical dimension of urban sites. Graduate/Undergraduate Equivalency: ARCH 611. Mutually Exclusive: Credit cannot be earned for ARCH 311 and ARCH 611.

ARCH 313 - CASE STUDIES IN SUSTAINABLE DESIGN
Short Title: CASE STUDIES IN SUSTAIN DESIGN
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Course Level: Undergraduate Upper-Level
Description: This course will explore sustainable design from initial sustainable facility concepts and team organizations, to enlisting community support and process assessment. The course will develop into details about sustainable design, lessons learned, processes and outcomes. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Cross-list: ENST 313. Graduate/Undergraduate Equivalency: ARCH 613. Mutually Exclusive: Credit cannot be earned for ARCH 313 and ARCH 613.

ARCH 314 - TECHNOLOGY III
Short Title: TECHNOLOGY III
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: This course addresses building environmental systems including power, water, and wastewater with an emphasis on air condition systems. Through multimedia presentations and fieldtrips, students are taught to analyze the thermal environment in a variety of building types and select equipment to meet these needs. Sustainability issues related to environmental systems such as energy conservational and life cycle costs are also addressed. This is the fourth required course in the architectural technology sequence. Graduate/Undergraduate Equivalency: ARCH 516. Mutually Exclusive: Credit cannot be earned for ARCH 316 and ARCH 516.

Short Title: BRAZIL BUILT
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: From Brazil Builds, MOMA's 1943 celebrated exhibition to Brasilia, the supermodern capital created ex-nihilo in the middle of nowhere, to today's worldwide attention on Brazil, this seminar examines the built environment - natural and architectural - as the main transmitter of modernism in Brazil. This is a seminar on Brazilian modernism and its discontents. Cross-list: HART 310. Graduate/Undergraduate Equivalency: ARCH 515. Mutually Exclusive: Credit cannot be earned for ARCH 315 and ARCH 515.

ARCH 316 - TECHNOLOGY IV
Short Title: TECHNOLOGY IV
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Distribution Group: Distribution Group III
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: This course addresses building environmental systems including power, water, and wastewater with an emphasis on air condition systems. Through multimedia presentations and fieldtrips, students are taught to analyze the thermal environment in a variety of building types and select equipment to meet these needs. Sustainability issues related to environmental systems such as energy conservational and life cycle costs are also addressed. This is the fourth required course in the architectural technology sequence. Graduate/Undergraduate Equivalency: ARCH 516. Mutually Exclusive: Credit cannot be earned for ARCH 316 and ARCH 516.

ARCH 317 - LANDSCAPE AND SITE STRATEGIES FOR HOUSTON
Short Title: LANDSCAPE & SITE STRAT HOUSTON
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 3
Course Level: Undergraduate Upper-Level
Description: This course is a workshop in site planning, with Houston as its focus. It will allow students to gain practice assessing, cataloging, and communicating the many complex issues that go into plugging a building into a site. We will navigate the networks created by natural environments, the build and legal environments, and access. The final product of this course is a site plan. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Graduate/Undergraduate Equivalency: ARCH 617. Mutually Exclusive: Credit cannot be earned for ARCH 317 and ARCH 617.
ARCH 318 - LIVING IN THE CITY IN THE OTTOMAN EMPIRE
Short Title: LIVING IN THE CITY
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: Seminar combines primary and secondary sources to explore the urban experiences of Ottoman men and women in the 18th and early 19th centuries. Looking at several cities including Istanbul, Izmir, Salonika, Damascus, Aleppo and Alexandria, we will discuss such issues as neighborhood and community life, public spaces and recreational culture perceptions of space, urban institutions, Muslim and non-Muslim relations, migration and marginality, violence and death. Reading knowledge of French and/or Turkish helpful but not necessary. Cross-list: HART 308. Graduate/Undergraduate Equivalency: ARCH 518. Mutually Exclusive: Credit cannot be earned for ARCH 318 and ARCH 518.

ARCH 321 - CASE STUDIES IN SUSTAINABILITY: THE HIGH PERFORMANCE BUILDING
Short Title: SUSTAINABILITY CASE STUDIES
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: The project-based seminar will provide a means by which all those with an interest in the building science entailed in the design of commercial, institutional, and residential structures can investigate common issues, obtain information, discuss local strategies, and otherwise address subjects relating to building or campus performance over its lifecycle. To develop an approach of taking an existing Rice University building an optimizing its use via "repositioning" or redesign the class will create an interdisciplinary forum where students of architecture, engineering (structural, mechanical, etc.), and human sciences will potentially collaborate with professional building consultants, materials manufactures, contractors, developers, owners, and Rice campus facility managers Cross-list: ENST 321. Graduate/Undergraduate Equivalency: ARCH 621. Mutually Exclusive: Credit cannot be earned for ARCH 321 and ARCH 621.

ARCH 322 - CASE STUDIES IN SUSTAINABILITY: THE REGENERATIVE REPOSITIONING OF NEW OR EXISTING RICE CAMPUS BU
Short Title: CASE STUDIES IN SUSTAINABILITY
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Course Level: Undergraduate Upper-Level
Description: This course will explore application of high performance, sustainable design to specific Rice University campus and facility targets. In partnership with Rice University leadership, the team effort will develop "regenerative redesign" approaches based on investigation of other campuses' case study. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day of class by the individual instructor. Cross-list: ENST 322. Graduate/Undergraduate Equivalency: ARCH 622. Mutually Exclusive: Credit cannot be earned for ARCH 322 and ARCH 622.

ARCH 323 - SEMINAR IN ARCHITECTURE
Short Title: SEMINAR IN ARCHITECTURE
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: Small, focused, discussion, workshop and/or design based courses on topics of recent research in architecture, delivered by RSA full time or visiting faculty. Each section is a different seminar topic. This seminar series is open to RSA undergraduate and graduate students. Students from other departments may enroll in the course with instructor permission. See our website for more information: arch.rice.edu/courses. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Graduate/Undergraduate Equivalency: ARCH 523. Repeatable for Credit.

ARCH 326 - MATERIAL, FORM, SPACE, TIME: CONCRETE AND THE REVOLUTION OF SPACE IN ANCIENT ROME
Short Title: MATERIAL, FORM, SPACE, TIME
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: "Architectural Revolution" has been tied to Le Corbusier, the Eiffel Tower, the Louvre, Brunelleschi and to towering Gothic cathedrals. At the foundation of all these endeavors is the Concrete Revolution in Roman Architecture. In this course we'll look at the four essential elements of this revolution from the fourth century BCE to the fifth century CE, and we'll investigate how shifts in application and experience created a background that informs design to this day. Cross-list: CLAS 326, HART 326. Graduate/Undergraduate Equivalency: ARCH 626. Mutually Exclusive: Credit cannot be earned for ARCH 326 and ARCH 626.

ARCH 327 - RICE BUILDING WORKSHOP
Short Title: RICE BUILDING WORKSHOP
Department: Architecture
Grade Mode: Standard Letter
Course Type: Laboratory
Credit Hours: 3,4
Course Level: Undergraduate Upper-Level
Description: The Rice Building Workshop involves graduate and undergraduate students in the design and construction of real projects at various scales. Elective courses and course sequences will be formatted to address the specific requirements of each project as required. Please consult postings for further information. Space is limited, and registration does not guarantee a space in this course. The final course roster is formulated on the first day of class by the individual instructor. Mutually Exclusive: Credit cannot be earned for ARCH 327 and ARCH 627. Repeatable for Credit.
ARCH 331 - IMPERIAL CITY: ISTANBUL 1453-1922
Short Title: IMPERIAL CITY
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: Exploration of the street as a focus of urban life in 18th and 19th century. We will look at ways streets functioned as spaces of livelihood, sociability, and transgression in cities such as London, Paris, Istanbul, Amsterdam & Cairo. Cross-list: HART 329, HIST 329. Graduate/Undergraduate Equivalency: ARCH 529. Mutually Exclusive: Credit cannot be earned for ARCH 329 and ARCH 529.

ARCH 330 - RICE BUILDING WORKSHOP II
Short Title: RICE BUILDING WORKSHOP II
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Course Level: Undergraduate Upper-Level
Description: The Rice Building Workshop involves graduate and undergraduate students in the design and construction of real projects at various scales. Elective courses and course sequences will be formatted to address the specific requirements of each project as required. Please consult postings for further information. Space is limited, and registration does not guarantee a space in this course. The final roster is formulated on the first day of class by the individual instructor. Graduate/Undergraduate Equivalency: ARCH 630. Mutually Exclusive: Credit cannot be earned for ARCH 330 and ARCH 630. Repeatable for Credit.

ARCH 331 - IMPERIAL CITY: ISTANBUL 1453-1922
Short Title: IMPERIAL CITY
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: This thematic seminar examines significant historical moments in the architectural and urban cultural of the Ottoman imperial capital from the moment it was conquered until the demise of the Ottoman empire. Weekly readings and discussions will cover a range of topics including building patronage, architectural decorum, the Byzantine legacy, artistic relations with Persia, India and Europe, cultural pluralism, neighborhood and public life, law and urban order, modernity and modernization. Cross-list: HART 321. Graduate/Undergraduate Equivalency: ARCH 521. Mutually Exclusive: Credit cannot be earned for ARCH 331 and ARCH 521.

ARCH 332 - JERUSALEM TO ISFAHAN
Short Title: JERUSALEM TO ISFAHAN
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: A seminar on key topics of the study of visual cultures in the medieval and early modern Muslim world focused on specific works of art. Politics of architectural patronage, dissemination of visual languages, calligraphy, "ornament" and figural representation in Islam, cross-cultural exchanges and trans-religious iconographies are among the topics discussed. Cross-list: HART 322. Graduate/Undergraduate Equivalency: ARCH 522. Mutually Exclusive: Credit cannot be earned for ARCH 332 and ARCH 522.

ARCH 333 - BETWEEN INFORMATION AND SPACE
Short Title: BETWEEN INFORMATION AND SPACE
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: This course situates contemporary graphic methods (of inquiry and presentation) in architecture through an historical overview of information management techniques used by a range of architectural practices, from post-war to the present. A digital collection of architectural graphic formats and their building counterparts will be used to identify the synthetic, elastic, and pragmatic relationships between techniques of spatializing 2d information and the development of an architectural project. The course will distinguish and catalogue the various format types - how they are structure, how they are read, the technologies that facilitate them, and how they shape design procedures and effects. Organized through lecture prompts, discussions of readings, case studies, and graphic projects, the course is intended to advance a student’s understanding of an ability to position their own architectural projects relative to an historic lineage of graphic procedures. Graduate/Undergraduate Equivalency: ARCH 533. Mutually Exclusive: Credit cannot be earned for ARCH 333 and ARCH 533.

ARCH 336 - HISTORY OF ARCHITECTURAL THINKING II
Short Title: HISTORY OF ARCH THINKING II
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Graduate level students may not enroll.
Course Level: Undergraduate Upper-Level
Description: Lectures and discussions focusing on significant architectural and urban ideas formulated between 1850 and 1950. Graduate/Undergraduate Equivalency: ARCH 536. Mutually Exclusive: Credit cannot be earned for ARCH 336 and ARCH 346/ARCH 536/ARCH 646.
ARCH 337 - HISTORY OF ARCHITECTURE THINKING III
Short Title: HISTORY OF ARCH THINKING III
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Graduate level students may not enroll.
Course Level: Undergraduate Upper-Level
Description: Lectures and discussions focusing on significant architectural and urban ideas formulated between 1950 and 2000. Graduate/Undergraduate Equivalency: ARCH 537. Mutually Exclusive: Credit cannot be earned for ARCH 337 and ARCH 352/ARCH 537/ARCH 662.

ARCH 340 - LECTURE IN ARCHITECTURE
Short Title: LECTURE IN ARCHITECTURE
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Course Level: Undergraduate Upper-Level
Description: A seminar in which the relationship between the construction of an object and its usefulness is explored. The premise in the course is that the way things are made can be one credible point of departure for the architectural design process. Graduate/Undergraduate Equivalency: ARCH 644. Mutually Exclusive: Credit cannot be earned for ARCH 344 and ARCH 644.

ARCH 344 - CONSTRUCTION AND DESIGN
Short Title: CONSTRUCTION & DESIGN
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: Large, introductory-level course in lecture/discussion format on topics related to current research in architecture. Current offerings and enrollment eligibility are listed on the Rice Architecture website: www.arch.rice.edu. Repeatable for Credit.

ARCH 345 - HISTORY AND THEORY II - PRE 1890
Short Title: HISTORY & THEORY II - PRE 1890
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Distribution Group: Distribution Group I
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: An in-depth exploration as to why select monuments from Antiquity through the 19th century were ‘canonized’ in popular imagination and given referential status. Following a case study format, each week will focus on a particular building, built or unbuilt, from both Western and Eastern traditions. Cross-list: HART 345. Graduate/Undergraduate Equivalency: ARCH 645. Mutually Exclusive: Credit cannot be earned for ARCH 345 and ARCH 235/ARCH 535.

ARCH 346 - HISTORY AND THEORY III - 1890 to 1968
Short Title: HISTORY & THEORY III 1890-1968
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Distribution Group: Distribution Group I
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Prerequisite(s): ARCH 345 or ARCH 645 or HART 345 or HART 645
Description: This third course in the required History and Theory of Architecture sequence surveys the history and theory of architecture and urbanism between 1890 and 1968, tracing the critical shifts in architectural thought and practice that inaugurated, constituted, and questioned architectural modernism. Organized around a series of significant case studies considered particular designed responses to their material, intellectual, and sociopolitical context, the course elucidates the influence of contingent conditions on architectural design, but emphasizes the designer’s efforts to reinforce, reform, or transform those conditions. While non-majors are welcome, availability is determined by the instructor. Graduate/Undergraduate Equivalency: ARCH 646. Mutually Exclusive: Credit cannot be earned for ARCH 346 and ARCH 336/ARCH 536.

ARCH 350 - INTRODUCTORY ARCHITECTURE SEMINAR
Short Title: INTRODUCTORY ARCHITECTURE SEM
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Course Level: Undergraduate Upper-Level
Description: Small, focused, introductory-level course in discussion, workshop and/or design-based format on topics related to current research in architecture. Current offerings and enrollment eligibility are listed on the Rice Architecture website: arch.rice.edu. Space is limited and registration does not guarantee a space in this course. Repeatable for Credit.

ARCH 352 - HISTORY AND THEORY IV - 1968 TO THE PRESENT
Short Title: HISTORY & THEORY IV 1968-PRES
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Distribution Group: Distribution Group I
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Prerequisite(s): (ARCH 225 or ARCH 525) and (ARCH 345 or ARCH 645) and (ARCH 346 or ARCH 646)
Description: This final course in the History and Theory of Architecture core sequence provides an overview of key projects and concepts of contemporary architecture and related fields. Lectures on case-studies drawn from around the world from the late 20th century through the present are complimented by weekly discussions. This course is required for students in the undergraduate an undergraduate architecture programs. Enrollment of other students is welcomed but may be limited based on availability and approval of the instructor. Graduate/Undergraduate Equivalency: ARCH 652. Mutually Exclusive: Credit cannot be earned for ARCH 352 and ARCH 337/ARCH 537.
ARCHITECTURE

ARCH 353 - PHOTOGRAPHY FOR ARCHITECTS
Short Title: PHOTO FOR ARCHITECTS
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Course Level: Undergraduate Upper-Level
Description: Exploration of a variety of photographic techniques for architectural research, design, and presentation. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Graduate/Undergraduate Equivalency: ARCH 653. Mutually Exclusive: Credit cannot be earned for ARCH 353 and ARCH 653.

ARCH 358 - CAST MODERNITY
Short Title: CAST MODERNITY
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: This seminar will look at concrete's role as a facilitator of the conceptual and theoretical agendas of the architecture of the 20th century. Just as the Domino system enabled a new architecture at the beginning of the century, the current interests in topological and non-treated form are again arguing for concrete's unique properties. Graduate/Undergraduate Equivalency: ARCH 658. Mutually Exclusive: Credit cannot be earned for ARCH 358 and ARCH 658.

ARCH 359 - CINEMAS OF URBAN ALIENATION
Short Title: CINEMAS OF URBAN ALIENATION
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 4
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: This seminar examines cinematic engagements with urban spaces and experiences around the world spanning the last two centuries. Particular attention will be paid to issues of migration, marginality, colonialism, war and post-war, nostalgia and memory, race and gender. Cities of focus include Berlin, Istanbul, Moscow, Algiers, Beirut and Paris. Our weekly discussions of individual films will be grounded in critical writings of the cities' histories and theories of space and film. Cross-list: FILM 359, HART 359. Graduate/Undergraduate Equivalency: ARCH 654. Mutually Exclusive: Credit cannot be earned for ARCH 359 and ARCH 654.

ARCH 362 - PROBLEMATIZING THE PRACTICE OF MODERN ARCHITECTURE
Short Title: PRACTICE MODERN ARCHITECTURE
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: Seminar examines the problematics of modern architectural practice in the United States in the second half of the twentieth century by focusing on the career of the Houston architect Howard Barnstone (1923-87). Students will perform original research in the Howard Barnstone architectural archive, readings and seminar discussions leading to individual research papers on aspects of modern architectural practice. Graduate/Undergraduate Equivalency: ARCH 662. Mutually Exclusive: Credit cannot be earned for ARCH 362 and ARCH 662.

ARCH 363 - ARCHITECTURAL FREEHAND DRAWING WORKSHOP
Short Title: ARCH FREEHAND DRAWING WKSHOP
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 3
Course Level: Undergraduate Upper-Level
Description: The object of this workshop is to explore, practice and develop a series of drawing methods and techniques in the context of the architectural design process. Emphasis will be on the development of free-hand drawing skills that will enhance the ability the ability of the design in communicating conceptual ideas. The course will consist of a combination of lectures/demonstrations, in-class drawing exercises, and out-of-class assignments. Two sketch books (one at mid-term and one at the end of the semester) will also be required. Attendance is critical. Please come to the first class prepared to draw with pen and an 8 1/2 x 11 or 9 x 12 sketch pad. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Graduate/Undergraduate Equivalency: ARCH 663. Mutually Exclusive: Credit cannot be earned for ARCH 363 and ARCH 663. Repeatable for Credit.

ARCH 366 - RIO DE JANEIRO: A SOCIAL AND ARCHITECTURAL HISTORY
Short Title: RIO DE JANEIRO
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: The development of Rio de Janeiro from a colonial capital to an Olympic host with emphasis on the peoples of the city and evolution of the urban panorama. Cross-list: HIST 366. Graduate/Undergraduate Equivalency: ARCH 666. Mutually Exclusive: Credit cannot be earned for ARCH 366 and ARCH 666.
ARCH 367 - SCULPTURE STUDIO  
Short Title: SCULPTURE STUDIO  
Department: Architecture  
Grade Mode: Standard Letter  
Course Type: Studio  
Credit Hours: 3  
Restrictions: Enrollment is limited to Undergraduate level students.  
Course Level: Undergraduate Upper-Level  
Description: Study of advanced problems in various sculptural media. Limited enrollment. The roster is formulated on the first day of class by the instructor, who may allow additional registration for majors and under-classmen. It is necessary to attend the first class meeting to confirm your place on the class roster. Cross-list: ARTS 165.

ARCH 370 - DESIGNING THE SOCIAL: ARCHITECTURE & COLLECTIVE ASSOC. - 'COMRADES,' 'THE DUDE,' AND BEYOND  
Short Title: DESIGNING THE SOCIAL  
Department: Architecture  
Grade Mode: Standard Letter  
Course Type: Lecture  
Credit Hours: 3  
Restrictions: Enrollment is limited to Undergraduate level students.  
Course Level: Undergraduate Upper-Level  
Description: Although one can point to the New England town hall in Alexis de Tocqueville’s “Democracy in America” (1835/40) or the bowling alley in connection with Robert D. Putnam’s “Bowling Alone: The Collapse and Revival of American Community” (2000), architecture’s social agency has been notoriously and productively difficult to pin down and architectural relationship to the social sciences has been as tense as it has been constant. The course will focus its efforts on architecture’s past and potential contribution to what has historically been called ‘civic association’ - the realm of social activity outside the market and purview of the state. Each class will focus on a particular architectural mode of social projection through the close reading of a single architectural work. In the major assignment for the course, students will be asked to conceive alternate architectural modes of social engagement and to speculate on their potential implications. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Graduate/Undergraduate Equivalency: ARCH 670. Mutually Exclusive: Credit cannot be earned for ARCH 370 and ARCH 670.

ARCH 374 - THE JOY OF MATERIALS  
Short Title: THE JOY OF MATERIALS  
Department: Architecture  
Grade Mode: Standard Letter  
Course Type: Seminar  
Credit Hours: 3  
Restrictions: Enrollment limited to students with a class of Senior. Enrollment is limited to Undergraduate level students.  
Course Level: Undergraduate Upper-Level  
Description: An investigation of how materials influence and inspire the making of works of architecture. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Graduate/Undergraduate Equivalency: ARCH 674. Mutually Exclusive: Credit cannot be earned for ARCH 374 and ARCH 674.

ARCH 375 - LATIN-EUROPE/LATIN-AMERICA: THE AESTHETICS AND POLITICS OF MODERN CITIES  
Short Title: LATIN-EUROPE/LATIN-AMERICA  
Department: Architecture  
Grade Mode: Standard Letter  
Course Type: Seminar  
Credit Hours: 3  
Restrictions: Enrollment is limited to Undergraduate level students.  
Course Level: Undergraduate Upper-Level  
Description: This course challenges our pre-conceived maps of the world, highlighting Latin America’s place within our understanding of modernity as a product of transnational interconnections. Transversing the Atlantic, this course traces the interactions of capitalism and culture, science and aesthetics, and the ideologies that informed and formed the urban fabric and spatial politics of important cities in the modern Latin world - Paris, Rio de Janeiro, Rome, Buenos Aires, Barcelona, Havana, and Brasilia. Cross-list: HART 375. Graduate/Undergraduate Equivalency: ARCH 675. Mutually Exclusive: Credit cannot be earned for ARCH 375 and ARCH 675.

ARCH 376 - THE ARCHITECTURE OF BOOKS  
Short Title: THE ARCHITECTURE OF BOOKS  
Department: Architecture  
Grade Mode: Standard Letter  
Course Type: Seminar  
Credit Hours: 3  
Restrictions: Enrollment is limited to Undergraduate level students.  
Course Level: Undergraduate Upper-Level  
Description: Over the past decades, the conception of books has become an integral part of any architectural practice. This seminar aims to introduce students to the book as a means to think about the production of space, and as a critical vessel to discuss and disseminate architectural ideas. In the first part of the seminar students will engage in an in-depth analysis of seminal architectural publications, considering their historical background, conceptual background and introducing such topics as typography and layout- and in-class discussions of relevant literature. The second part will be dedicated to the actual "building" of a small architectural publication, which will reflect critical and editorial skills as well as the craft of bookmaking. Graduate/Undergraduate Equivalency: ARCH 676. Mutually Exclusive: Credit cannot be earned for ARCH 376 and ARCH 676.
ARCH 377 - ISLAND IRREDENTA: TAIWAN
Short Title: ISLAND IRREDENTA: TAIWAN
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: This seminar seeks to use Taiwan as a model to explore the implications of architectural engagement with a post-industrial operating across several scales, from the local to the global. The shift in Taiwan’s industrial base has spurred massive investment in new infrastructure and a series of extra-large public architectural projects by global practices such as UN Studio, Toyo Ito, Richard Rogers, OMA and RUR. Added to this economic re-alignment are Taiwan’s ambiguous, "unredeemed" international status and its island geography, which uniquely suit of restudying the role of architecture to simultaneously create a global identity and serve an splintered local constituency. The insistence on the architectural project situated in an increasingly precarious context will form sphere and better definitions of architecture's relationship to post-industrial infrastructure. The seminar is structured around weekly discussions of reading material paired with case studies of Taiwan’s infrastructural development and recent large-scale architectural interventions. Graduate/Undergraduate Equivalency: ARCH 673. Mutually Exclusive: Credit cannot be earned for ARCH 377 and ARCH 673. Repeatable for Credit.

ARCH 401 - ADVANCED TOPICS IN ARCHITECTURE - THE METROPOLIS
Short Title: ADVANCED TOPICS ARCHITECTURE
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 6
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Prerequisite(s): ARCH 302
Description: What is the agency of the architect as a public figure and the contributions of architecture to the emerging and existing public realms? This studio focuses on a very large building program or urban scaled design, engaging the complexity of the communities and shared spaces of the emerging metropolis/megalopolis.

ARCH 402 - ADVANCED TOPICS IN ARCHITECTURE - WILLIAM WARD WATKIN
Short Title: ADVANCED TOPICS ARCHITECTURE
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 6
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Prerequisite(s): ARCH 401 and ARCH 403
Description: The final design studio of the four year BA in Architecture is conducted as design research studio in which students pursue a topic and develop a brief under a conceptual umbrella provided by the instructor. The studio is linked to the ARCH 403 design research seminar taken the semester prior to the studio.

ARCH 403 - DEGREE PROJECT SEMINAR
Short Title: DEGREE PROJECT SEMINAR
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: A special-topics seminar establishing the intellectual/design foundation for the spring Watkin Studio (ARCH 402). Texts, case studies, and design methods will be used to investigate focused subjects of particular contemporary relevance as established by the instructor. Assignments can consist of written papers, analytical projects, elaborations of design techniques, and other forms of investigation. Students are approved for section and topic, taking their preference into account. Students enrolled in each section will continue to work with the same instructor in the spring studio. Instructor Permission Required.

ARCH 412 - ADVANCED SEMINAR IN ARCHITECTURE
Short Title: ADV SEMINAR IN ARCHITECTURE
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Course Level: Undergraduate Upper-Level
Description: Small, focused, advanced discussion, workshop and/or design based courses on topics of recent research in architecture, delivered by RSA full time or visiting faculty. This seminar is open to RSA undergraduate students junior-level and above, and RSA graduate students. Students from other departments may enroll in the course with instructor permission. See the RSA website for more information: arch.rice.edu/courses. Cross-list: HART 412. Graduate/Undergraduate Equivalency: ARCH 612. Mutually Exclusive: Credit cannot be earned for ARCH 412 and ARCH 612. Repeatable for Credit.

ARCH 416 - INNOVATION IN DESIGN AND CONSTRUCTION INDUSTRY
Short Title: INNOV.DESIGN & CONST. INDUSTRY
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: Process innovation in the design and construction industries is far too rare. Even with access to powerful tools such as CADD and the Internet, many opportunities for process improvement are overlooked and problems are repeatedly ignored. Within this course, cross-discipline project teams will use contemporary business tools to evaluate longstanding industry practices and develop ideas for process innovation. At the end of the semester, students will present innovation concepts to members of the Project Delivery Innovation Forum, a group of industry leaders that may select student ideas for further research on real projects. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Graduate/Undergraduate Equivalency: ARCH 616. Mutually Exclusive: Credit cannot be earned for ARCH 416 and ARCH 616.
ARCH 418 - ADVANCED TECHNOLOGY SEMINAR IN ARCHITECTURE  
Short Title: ADVANCED TECHNOLOGY SEMINAR  
Department: Architecture  
Grade Mode: Standard Letter  
Course Type: Seminar  
Credit Hours: 3  
Restrictions: Enrollment is limited to Undergraduate level students.  
Course Level: Undergraduate Upper-Level  
Description: This course is an advance seminar in specialized area of architectural technology (Structures, Acoustics, Lighting, Materials, and Energy) taught by RSA full-time or visiting faculty. This seminar series is open to RSA undergraduate students junior-level and above and RSA graduate students. Students from other departments may enroll in the course with instructor permission. Topics vary from semester to semester. See our website for more information. Space is limited, and registration does not guarantee a space in this course. The final course roster is formulated on the first day of class by the individual instructor. Graduate/Undergraduate Equivalency: ARCH 618. Mutually Exclusive: Credit cannot be earned for ARCH 418 and ARCH 618. Repeatable for Credit.  
Course URL: arch.rice.edu/courses

ARCH 423 - PROFESSIONALISM AND MANAGEMENT IN ARCHITECTURAL PRACTICE  
Short Title: PROF&MGMT IN ARCH PRACTICE  
Department: Architecture  
Grade Mode: Standard Letter  
Course Type: Lecture  
Credit Hours: 3  
Restrictions: Enrollment is limited to Undergraduate level students.  
Course Level: Undergraduate Upper-Level  
Prerequisite(s): ARCH 302  
Description: This course is required for the completion of the Bachelor of Architecture professional degree; students may take the course in their fourth year of architectural study in the BA program or in their final year of study in the BArch program. Graduate/Undergraduate Equivalency: ARCH 623. Mutually Exclusive: Credit cannot be earned for ARCH 423 and ARCH 623.

ARCH 431 - URBANISM: ARCHITECTURE AND THE CITY  
Short Title: URBANISM: ARCH & THE CITY  
Department: Architecture  
Grade Mode: Standard Letter  
Course Type: Seminar  
Credit Hours: 3  
Restrictions: Enrollment is limited to Undergraduate level students.  
Course Level: Undergraduate Upper-Level  
Description: The intention of a course on urbanism is to view architecture in light of the city. An assembly of theoretical considerations serves to construct a perspective that allows us to critically assess modern urbanization. The goal is to help students form their own perspective on the practice of architecture and to broaden their understanding of the relentless urbanization that dominates the modern world. Students are expected to read extensively, to be prepared to discuss topics of urbanism in class, to form two-person teams to read selected texts to be presented in class and to shape a term project that may take the form of a final paper or a design proposal dealing with suburban issues. Grades are based on class participation, the reading project and the term project. Graduate/Undergraduate Equivalency: ARCH 631. Mutually Exclusive: Credit cannot be earned for ARCH 431 and ARCH 631.

ARCH 433 - THE CULLINAN SEMINAR  
Short Title: THE CULLINAN SEMINAR  
Department: Architecture  
Grade Mode: Standard Letter  
Course Type: Seminar  
Credit Hours: 3  
Restrictions: Enrollment is limited to Undergraduate level students.  
Course Level: Undergraduate Upper-Level  
Description: This seminar for advanced undergraduate students and graduate students will focus on the writings and practice of the semester's four RSA Cullinan visitors: art historian David Joselit (Yale), architect Michael Maltzan (L.A.), architect Alejandro Zaera-Polo (London), and art historian Neil Levine (Harvard). The seminar will be a platform for researching these four topics, including additional background references, other writings by these four figures as well as writings about them and their own work. Additionally, the seminar will feature one seminar session each with the four speakers. Graduate/Undergraduate Equivalency: ARCH 633. Mutually Exclusive: Credit cannot be earned for ARCH 433 and ARCH 633. Repeatable for Credit.

ARCH 435 - PRACTICES OF ARCHITECTURAL THINKING I  
Short Title: PRACTICES OF ARCH THINKING I  
Department: Architecture  
Grade Mode: Satisfactory/Unsatisfactory  
Course Type: Seminar  
Credit Hour: 1  
Restrictions: Enrollment is limited to students with a major in Architecture. Graduate level students may not enroll.  
Course Level: Undergraduate Upper-Level  
Description: Presentations, workshops, and discussions on the interrelationship of history, theory, and design, focusing on significant modern and contemporary practices.

ARCH 436 - PRACTICES OF ARCHITECTURAL THINKING II  
Short Title: PRACTICES OF ARCH THINKING II  
Department: Architecture  
Grade Mode: Satisfactory/Unsatisfactory  
Course Type: Seminar  
Credit Hour: 1  
Restrictions: Graduate level students may not enroll.  
Course Level: Undergraduate Upper-Level  
Description: Presentations, workshops, and discussions on the interrelationship of history, theory, and design, focusing on the intentions and methods of architectural analysis.

ARCH 437 - PRACTICES OF ARCHITECTURAL THINKING III  
Short Title: PRACTICES OF ARCH THINKING III  
Department: Architecture  
Grade Mode: Satisfactory/Unsatisfactory  
Course Type: Seminar  
Credit Hour: 1  
Restrictions: Graduate level students may not enroll.  
Course Level: Undergraduate Upper-Level  
Description: Presentations, workshops, and discussions on the interrelationship of history, theory, and design, focusing on a special topic in discourse and practice.
ARCH 444 - WHOLE WORLDS
Short Title: WHOLE WORLDS
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: The seminar aims to conceptualize and project on the idea of architectural world-making, i.e. constructing alternative worlds through architecture. During the last two decades, architectural world-making has mostly been speculated as a social (participation) or a systemic (infrastructure) phenomenon, judged on the basis of its inclusiveness and performance within larger contingencies. On the other hand, the question of disciplinary specificity has by and large been limited to self-referential attributes of exclusive singularity. As part of outlining new directions in relation to these questions, the seminar will speculate and project on an alternative framework of architectural world-making, which both aims multiplicity and singularity while projecting unconventional associations between the two. Through focusing on a particular lineage of architectural ideas, projects and texts, the seminar aims to instigate further interplay between critical thinking and speculative work for future architectures. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Graduate/Undergraduate Equivalency: ARCH 642. Mutually Exclusive: Credit cannot be earned for ARCH 442 and ARCH 642.

ARCH 450 - INTERMEDIATE ARCHITECTURE SEMINAR
Short Title: INTERMEDIATE ARCH SEMINAR
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Course Level: Undergraduate Upper-Level
Description: Small, focused, intermediate-level course in discussion, workshop and/or design-based format on topics related to current research in architecture. Current offerings and enrollment eligibility are listed on the Rice Architecture website: arch.rice.edu. Space is limited and registration does not guarantee a space in this course. Repeatable for credit.

ARCH 451 - SPECIAL PROJECTS
Short Title: SPECIAL PROJECTS
Department: Architecture
Grade Mode: Standard Letter
Course Type: Research
Credit Hours: 1-9
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: Independent research or design arranged in consultation with a faculty member. Subject to approval of faculty advisor and director or undergraduate studies. Instructor Permission Required. Repeatable for Credit.

ARCH 456 - FUTURES OF THE BOOK
Short Title: FUTURES OF THE BOOK
Department: Architecture
Grade Mode: Satisfactory/Unsatisfactory
Course Type: Seminar
Credit Hour: 1
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: From an ongoing interest in the book as a physical object, to the exploration of its potentials expanding into a four-dimensional digital realm, to rapidly changing demands for the storage and retrieval of knowledge, this master class will provide a platform to engage experts from various disciplines in a debate on the shifting futures of the book. Instructor Permission Required. Cross-list: HURC 408. Graduate/Undergraduate Equivalency: ARCH 656. Mutually Exclusive: Credit cannot be earned for ARCH 456 and ARCH 656.

ARCH 457 - NATURE IN-VITRO: BODIES, GARDENS AND BUILT FORMS
Short Title: NATURE IN-VITRO
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: This seminar will explore the alliance between aesthetics, science, and ideology at the core of French and Latin American modernism. Focusing on early twentieth-century scientific and cultural dialogues between France and Latin America, this seminar will have as main territories of exploration: Paris, Rio de Janeiro, Buenos Aires, Havana, and Caracas. Cross-list: HART 463.
ARCH 469 - CASE STUDY IN URBAN DESIGN: BRASILIA
Short Title: CASE STDY URBN DESIGN:BRASILIA
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: Starting with two principal documents describing the city of Brasilia, the original hand drawn competition entry in 1957 and a digital survey of 1997, this seminar will study modern urban design in relation to the 1950’s project for a new Brazilian capital. The project of Brasilia, and its inevitable transformation over time, will be looked at historically, politically, culturally, formally and esthetically. Graduate/Undergraduate Equivalency: ARCH 669. Mutually Exclusive: Credit cannot be earned for ARCH 469 and ARCH 669.

ARCH 480 - INTRODUCTION TO BUILDING INFORMATION MANAGEMENT
Short Title: INTRODUCTION TO BIM
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: This is an introductory course in the use of Building Information Management (BIM) software. The course will utilize "Revit Architecture" by Autodesk, which is now installed on the PC's in RAVAL. Students will produce a complete drawing package including architectural, mechanical and structural drawings of a building they have previously designed in studio or a structure developed specifically for this exercise. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Graduate/Undergraduate Equivalency: ARCH 680. Mutually Exclusive: Credit cannot be earned for ARCH 480 and ARCH 680.

ARCH 489 - ARCHITECTURE EXPANDED: CONTEXT, SCALE, AGENCY
Short Title: ARCHITECTURE EXPANDED
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: For more than 2 decades, new scales of context have been a pervasive paradigm for Architecture. Suggesting infrastructural, ecological or political scale shifts for design, this paradigm has sparked a prevalent interest in emergent urban conditions, larger territories as well as interdisciplinary juxtapositions. In parallel, however, of paramount importance has been the accumulation of new questions in relation to architectural agency, disciplinary specificity and form. In an attempt to explore this proposition further, the seminar will concentrate on an alternative reading for the ideas of context and agency within 20th century architecture & urbanism. Graduate/Undergraduate Equivalency: ARCH 689. Mutually Exclusive: Credit cannot be earned for ARCH 489 and ARCH 689.

ARCH 491 - REAL ESTATE LAB: DEVELOP, DESIGN AND CONSTRUCTION
Short Title: RE LAB:DEVELOP DESIGN CONSTR
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Undergraduate Upper-Level
Description: Full time internship for nine to twelve months under guidance of appointed preceptor. Required for all students enrolled in the Bachelor or Architecture degree program. Instructor Permission Required. Repeatable for Credit.

ARCH 500 - PRECEPTORSHIP PROGRAM
Short Title: PRECEPTORSHIP PROGRAM
Department: Architecture
Grade Mode: Satisfactory/Unsatisfactory
Course Type: Internship/Practicum
Credit Hours: 1-15
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: The first in a sequence of four studios that foregrounds the relationship between form and program. By underscoring this pairing, the studio suggests that program and form amplify one another (rather than one superseding the other). The studio establishes a foundation in visual culture through examples in architecture and other design disciplines, art, and art history, as well as exercises in visual/spatial discrimination. The studio stresses the importance of iteration throughout the semester: individual projects emphasize a production/critique/refinement cycle, as does the overall sequence of projects that make up the entire studio.

ARCH 501 - CORE DESIGN STUDIO I
Short Title: CORE DESIGN STUDIO I
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 10
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: The first in a sequence of four studios that foregrounds the relationship between form and program. By underscoring this pairing, the studio suggests that program and form amplify one another (rather than one superseding the other). The studio establishes a foundation in visual culture through examples in architecture and other design disciplines, art, and art history, as well as exercises in visual/spatial discrimination. The studio stresses the importance of iteration throughout the semester: individual projects emphasize a production/critique/refinement cycle, as does the overall sequence of projects that make up the entire studio.

ARCH 502 - CORE DESIGN STUDIO II
Short Title: CORE DESIGN STUDIO II
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 10
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: The second in a sequence of four studios that foregrounds the relationship between form, program, and technology.

ARCH 503 - CORE DESIGN STUDIO III
Short Title: CORE DESIGN STUDIO III
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 10
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: The third in a sequence of four studios that foregrounds the relationship between form, program, and technology.
ARCH 507 - TECHNOLOGY I
Short Title: TECHNOLOGY I
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: The course will introduce students to historical and contemporary structures through multimedia presentations, computer-based visualizations, field trips, and hands-on experiments with materials of construction and physical models of structures. This course also addresses sustainability issues specific to structural systems such as embodied energy, life-cycle cost, and material recycling. This is the introductory course on the art and science of designing engineered structures and is the first of four required courses in the architectural technology sequence. It is intended for first year graduate students in architecture. Graduate/Undergraduate Equivalency: ARCH 207. Mutually Exclusive: Credit cannot be earned for ARCH 507 and ARCH 207.

ARCH 509 - TECHNOLOGY II
Short Title: TECHNOLOGY II
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: This course is the second part of the introduction to contemporary building structures. The topics covered are the design of concrete structures and design of specialized structures including tilt wall, long span, and high rise. Each structural type is explored in terms of overall performance, design of individual components, and the relation of structure to other building subsystems such as foundations, enclosure, and interiors. This course also addresses sustainability issues specific to structural systems and is the second of four required courses in the architectural technology sequence. Graduate/Undergraduate Equivalency: ARCH 309. Recommended Prerequisite(s): Prior completion of Technology I. Mutually Exclusive: Credit cannot be earned for ARCH 509 and ARCH 309.

ARCH 514 - TECHNOLOGY III
Short Title: TECHNOLOGY III
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: The building envelope is the collection of material assemblies that separate a building's interior from the exterior environment. This course examines the interaction of those assemblies with natural forces such as temperature, moisture, and solar radiation and the details of construction which have evolved to mitigate them. The subject matter includes both traditional building exterior wall and roof construction and newer technologies such as rainscreen, green roof, and building surface media systems. This course addresses sustainability issues related to enclosure systems through energy cost and carbon footprint analysis. It is the third of four required courses in the architectural technology sequence. Graduate/Undergraduate Equivalency: ARCH 314. Mutually Exclusive: Credit cannot be earned for ARCH 514 and ARCH 314.

ARCH 515 - BRAZIL BUILT: THE CLINIC, THE TROPICAL AND THE AESTHETIC
Short Title: BRAZIL BUILT
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: From Brazil Builds, MOMA's 1943 celebrated exhibition to Brasilia, the supermodern capital created ex-nihilo in the middle of nowhere, to today's worldwide attention on Brazil, this seminar examines the built environment - natural and architectural - as the main transmitter of modernism in Brazil. This is a seminar on Brazilian modernism and its discontents. Cross-list: HART 526. Graduate/Undergraduate Equivalency: ARCH 315. Mutually Exclusive: Credit cannot be earned for ARCH 515 and ARCH 315.

ARCH 516 - TECHNOLOGY IV
Short Title: TECHNOLOGY IV
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: This course addresses building environmental systems including power, water, and wastewater with an emphasis on air condition systems. Through multimedia presentations and field trips, students are taught to analyze the thermal environment in a variety of building types and select equipment to meet these needs. Sustainability issues related to environmental systems such as energy conservation and life cycle costs are also addressed. This is the fourth required course in the architectural technology sequence. Graduate/Undergraduate Equivalency: ARCH 316. Mutually Exclusive: Credit cannot be earned for ARCH 516 and ARCH 316.
ARCH 518 - LIVING IN THE CITY IN THE OTTOMAN EMPIRE
Short Title: LIVING IN THE CITY
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Seminar combines primary and secondary sources to explore the urban experiences of Ottoman men and women in the 18th and early 19th centuries. Looking at several cities including Istanbul, Izmir, Salonika, Damascus, Aleppo and Alexandria, we will discuss such issues as neighborhood and community life, public spaces and recreational culture perceptions of space, urban institutions, Muslim and non-Muslim relations, migration and marginality, violence and death. Reading knowledge of French and/or Turkish helpful but not necessary. For each lecture, Graduate Students will be assigned additional readings. They will write an annotated bibliography of all these readings to be turned in at the end of the semester. We will meet for an additional every two or three weeks to discuss interpretive and methodological problems and ideas associated with the readings. Graduate Students will be expected to complete all the requirements of the class in addition to writing a substantial research paper due at the end of the semester. Cross-list: HART 508. Graduate/Undergraduate Equivalency: ARCH 318. Mutually Exclusive: Credit cannot be earned for ARCH 518 and ARCH 318.

ARCH 520 - INSTANBUL - IMPERIAL CITY
Short Title: ISTANBUL: IMPERIAL CITY
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Graduate Equivalent of ARCH 220. Additional requirements will include 3 - 7 to 8 page papers. These will include limited research, based on bibliography. The 3 papers will be in lieu of the 1-hour midterm and 1 hour final tests required for the 200 level class. Cross-list: HART 520.

ARCH 521 - IMPERIAL CITY: ISTANBUL 1453-1922
Short Title: ISTANBUL IMPERIAL CITY
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: This thematic seminar examines significant historical moments in the architectural and urban cultural of the Ottoman imperial capital from the moment it was conquered until the demise of the Ottoman Empire. Weekly readings and discussions will cover a range of topics including building patronage, architectural decorum, the Byzantine legacy, artistic relations with Persia, India and Europe, cultural pluralism, neighborhood and public life, law and urban order, modernity and modernization. For each lecture, Graduate Students will be assigned additional readings. They will write an annotated bibliography of all these reading to be turned in at the end of the semester. We will meet at the end of the semester. We will meet for an additional every two or three weeks to discuss interpretive and methodological problems and ideas associated with the readings. Graduate Students will be expected to complete all the requirements of the class in addition to writing a substantial research paper due at the end of the semester. Cross-list: HART 521. Graduate/Undergraduate Equivalency: ARCH 331. Mutually Exclusive: Credit cannot be earned for ARCH 521 and ARCH 331.

ARCH 522 - JERUSALEM TO ISFAHAN
Short Title: JERUSALEM TO ISFAHAN
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: A seminar on key topics of the study of visual cultures in the medieval and early modern Muslim world focused on specific works of art. Politics of architectural patronage, dissemination of visual languages, calligraphy, "ornament" and figural representation in Islam, cross-cultural exchanges and trans-religious iconographies are among the topics discussed. For each lecture, Graduate Students will be assigned additional readings. They will write an annotated bibliography of all these reading to be turned in at the end of the semester. We will meet at the end of the semester. We will meet for an additional every two or three weeks to discuss interpretive and methodological problems and ideas associated with the readings. Graduate Students will be expected to complete all the requirements of the class in addition to writing a substantial research paper due at the end of the semester. Cross-list: HART 522. Graduate/Undergraduate Equivalency: ARCH 332. Mutually Exclusive: Credit cannot be earned for ARCH 522 and ARCH 332.
**ARCH 523 - SEMINAR IN ARCHITECTURE**  
*Short Title:* SEMINAR IN ARCHITECTURE  
*Department:* Architecture  
*Grade Mode:* Standard Letter  
*Course Type:* Seminar  
*Credit Hours:* 3  
*Restrictions:* Undergraduate level students may not enroll.  
*Course Level:* Graduate  
*Description:* Small, focused, discussion, workshop and/or design based courses on topics of recent research in architecture, delivered by RSA full time or visiting faculty. This seminar series is open to RSA undergraduate and graduate students. Students from other departments may enroll in the course with instructor permission. "See our website for more information: arch.rice.edu/courses." Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Graduate/Undergraduate Equivalency: ARCH 323. Repeatable for Credit.

**ARCH 525 - HISTORY & THEORY I (INTRODUCTION)**  
*Short Title:* HISTORY & THEORY I (INTRO)  
*Department:* Architecture  
*Grade Mode:* Standard Letter  
*Course Type:* Lecture  
*Credit Hours:* 3  
*Restrictions:* Undergraduate level students may not enroll.  
*Course Level:* Graduate  
*Description:* This introductory course exposes students issues and debates that have driven architects and theorists from the early twentieth century to the present. The course is structured around a sequence of fourteen themes that have recurring as major issues throughout architectural history. Focusing on topics, ranging from representation, to media, to politics, urbanity, or the environment, teach theme is presented as a debate between differing viewpoints, in order to expose the positions that have motivated both theory and practice. In weekly discussion sections, we will be analyzing buildings and discussing canonical texts. These sections provide opportunities for students to develop their own positions on the issues debated, and to refine their ability to make arguments. Cross-list: HART 545. Graduate/Undergraduate Equivalency: ARCH 225. Mutually Exclusive: Credit cannot be earned for ARCH 525 and ARCH 225.

**ARCH 528 - MIDDLE EASTERN CITIES - SPACE, MODERNITY AND MEMORY (1840-1945)**  
*Short Title:* MIDDLE EASTERN CITIES  
*Department:* Architecture  
*Grade Mode:* Standard Letter  
*Course Type:* Seminar  
*Credit Hours:* 3  
*Restrictions:* Undergraduate level students may not enroll.  
*Course Level:* Graduate  
*Description:* This seminar engages in debates about urban modernity focusing on three cities Istanbul, Cairo and Beirut. We examine these cities during the period of rapid modernization brought about by the Ottoman reforms of the 1840s and their post-Ottoman period. We will explore innovative methodologies to the study of Mediterranean cities by reflecting on the everyday life, the multiplicity of processes inherent to the shaping of urban space, questions of identities and concepts of citizenry, and the tensions playing out in the making of a modern urban order. Cross-list: HART 528.

**ARCH 529 - STREETS AND URBAN LIFE: PARIS TO ISTANBUL**  
*Short Title:* STREETS AND URBAN LIFE  
*Department:* Architecture  
*Grade Mode:* Standard Letter  
*Course Type:* Lecture  
*Credit Hours:* 3  
*Restrictions:* Undergraduate level students may not enroll.  
*Course Level:* Graduate  
*Description:* For each lecture, Graduate Students will be assigned additional readings. They will write an annotated bibliography of all these readings to be turned in at the end of the semester. We will meet for an additional every two or three weeks to discuss interpretive and methodological problems and ideas associated with the readings. Graduate Students will be expected to complete all the requirements of the class in addition to writing a substantial research paper due at the end of the semester. Cross-list: HART 529. Graduate/Undergraduate Equivalency: ARCH 329. Mutually Exclusive: Credit cannot be earned for ARCH 529 and ARCH 329.

**ARCH 533 - BETWEEN INFORMATION AND SPACE**  
*Short Title:* BETWEEN INFORMATION AND SPACE  
*Department:* Architecture  
*Grade Mode:* Standard Letter  
*Course Type:* Seminar  
*Credit Hours:* 3  
*Restrictions:* Undergraduate level students may not enroll.  
*Course Level:* Graduate  
*Description:* This course situates contemporary graphic methods (of inquiry and presentation) in architecture through an historical overview of information management techniques used by a range of architectural practices, from post-war to the present. A digital collection of architectural graphic formats and their building counterparts will be used to identify the synthetic, elastic, and pragmatic relationships between techniques of spatializing 2d information and the development of an architectural project. The course will distinguish and catalogue the various format types - how they are structure, how they are read, the technologies that facilitate them, and how they shape design procedures and effects. Organized through lecture prompts, discussions of readings, case studies, and graphic projects, the course is intended to advance a student’s understanding of an ability to position their own architectural projects relative to an historic lineage of graphic procedures. Graduate/Undergraduate Equivalency: ARCH 333. Mutually Exclusive: Credit cannot be earned for ARCH 533 and ARCH 333.

**ARCH 535 - HISTORY OF ARCHITECTURAL THINKING I**  
*Short Title:* HISTORY OF ARCH THINKING I  
*Department:* Architecture  
*Grade Mode:* Standard Letter  
*Course Type:* Lecture  
*Credit Hours:* 3  
*Restrictions:* Undergraduate level students may not enroll.  
*Course Level:* Graduate  
*Description:* Introduction to architectural thought. Lectures and discussions focusing on ideas before 1850 that have exercised a significant influence on the subsequent discourse and production of architecture and urbanism. Graduate/Undergraduate Equivalency: ARCH 235. Mutually Exclusive: Credit cannot be earned for ARCH 535 and ARCH 235/ARCH 345/ARCH 645.
ARCH 536 - HISTORY OF ARCHITECTURAL THINKING II
Short Title: HISTORY OF ARCH THINKING II
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Lectures and discussions focusing on significant architectural and urban ideas formulated between 1850 and 1950. Undergraduate/Graduate Equivalency: ARCH 336. Mutually Exclusive: Credit cannot be earned for ARCH 536 and ARCH 336/ARCH 346/ARCH 646.

ARCH 537 - HISTORY OF ARCHITECTURE THINKING III
Short Title: HISTORY OF ARCH THINKING III
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Lectures and discussions focusing on significant architectural and urban ideas formulated between 1950 and 2000. Undergraduate/Graduate Equivalency: ARCH 337. Mutually Exclusive: Credit cannot be earned for ARCH 537 and ARCH 337/ARCH 352/ARCH 652.

ARCH 550 - INTERMEDIATE/ADVANCED ARCHITECTUER SEMINAR
Short Title: INTER/ADVANCED ARCH SEMINAR
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Small, focused, intermediate/advanced-level course in discussion, workshop and/or design-based format on topics related to current research in architecture. Current offerings and enrollment eligibility are listed on the Rice Architecture website: arch.rice.edu. Space is limited and registration does not guarantee a space in this course. Repeatable for Credit.

ARCH 600 - M. ARCH. I INTERNSHIP
Short Title: M. ARCH. I INTERNSHIP
Department: Architecture
Grade Mode: Satisfactory/Unsatisfactory
Course Type: Internship/Practicum
Credit Hours: 1-15
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Practical work experience for students who have completed at least four semesters in the Option I Program prior to their entrance into the regular Master of Architecture studio sequence. Instructor Permission Required. Repeatable for Credit.

ARCH 601 - ARCHITECTURAL PROBLEMS: STUDIO
Short Title: ARCHITECTURAL PROBLEMS:STUDIO
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 10
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Emphasis on abstract thought and design capabilities relevant to systematic processes of designing specific buildings and facilities. Note: there are three separate sections for this course. The course is coordinated by RSA faculty Troy Schaum and Will Cannady. Repeatable for Credit.

ARCH 602 - ARCHITECTURAL PROBLEMS
Short Title: ARCHITECTURAL PROBLEMS
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 10,12
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Emphasis on abstract thought and design capabilities relevant to systematic processes of designing specific buildings and facilities. Repeatable for Credit.

ARCH 603 - COHERENCE
Short Title: COHERENCE
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: This seminar will construct a conversation about coherence. The opening salvo in this conversation: architects traffic entirely in greater or lesser degrees of coherence. A series of questions will start our discussion: How so? What structures underlie coherence in architecture? Is coherence necessarily overt? Latent? How is coherence fruitful today? Graduate/Undergraduate Equivalency: ARCH 303. Mutually Exclusive: Credit cannot be earned for ARCH 603 and ARCH 303.

ARCH 605 - ARCHITECTURE FOR NON-ARCHITECTS INSTRUCTION
Short Title: NON-ARCHITECTS INSTRUCTION
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: For selected graduate students only, this course will provide the opportunity for hands-on teaching experience by involvement in syllabus design and preparation of lectures, discussions, design exercises and other teaching methods, under the supervision of the course instructors. Enrollment limited to 6 and by permission only. Instructor Permission Required. Repeatable for Credit.
ARCH 607 - INTRODUCTION TO LANDSCAPE ARCHITECTURE: HISTORY & METHOD
Short Title: INTRODUCTION TO LANDSCAPE
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: This course will provide an introduction to landscape architecture through a survey of its history, and through direct application to a studio project. From the historic gardens at Versailles to the current Millennium Park in Chicago, the direct manipulation and design of land has a long and complex set of rules, traditions and practices. The focus will be on the consideration of how architecture extends beyond the interior and its relationship to an equally important external fabric. The course is comprised of interactive lectures on landscape themes, and the application of specific concepts imparted into design exercises.
Graduate/Undergraduate Equivalency: ARCH 307. Mutually Exclusive: Credit cannot be earned for ARCH 607 and ARCH 307.

ARCH 610 - HISTORY, THEORY AND STRUCTURE/ PARIS PROGRAM (RSAP)
Short Title: HIST, THEORY & STRUCTR: PARIS
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 6
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Seminar, comprised of separate modules, each addressing different issues of urban theory, historical evolution and structure of greater Paris, through lectures, discussions, research and site visits.

ARCH 611 - HOUSTON ARCHITECTURE
Short Title: HOUSTON ARCHITECTURE
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Graduate/Undergraduate Equivalency: ARCH 311. Mutually Exclusive: Credit cannot be earned for ARCH 611 and ARCH 311.

ARCH 612 - ADVANCED SEMINAR IN ARCHITECTURE
Short Title: ADV SEMINAR IN ARCHITECTURE
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Small, focused, advanced discussion, workshop and/or design based courses on topics of recent research in architecture, delivered by RSA full time or visiting faculty. This seminar is open to RSA undergraduate students junior-level and above, and RSA graduate students. Students from other departments may enroll in the course with instructor permission. See the RSA website for more information: arch.rice.edu/courses. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Cross-list: HART 612. Graduate/Undergraduate Equivalency: ARCH 412. Mutually Exclusive: Credit cannot be earned for ARCH 612 and ARCH 412. Repeatable for Credit.

ARCH 613 - CASE STUDIES IN SUSTAINABLE DESIGN
Short Title: SUSTAINABLE DESIGN
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Cross-list: ENST 613. Graduate/Undergraduate Equivalency: ARCH 313. Mutually Exclusive: Credit cannot be earned for ARCH 613 and ARCH 313.

ARCH 615 - WOODSHOP SAFETY
Short Title: WOODSHOP SAFETY
Department: Architecture
Grade Mode: Satisfactory/Unsatisfactory
Course Type: Laboratory
Credit Hour: 1
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: This course will cover all safety concerns in the model shop. Students will learn the proper set up and maintenance of the stationary tools as well as how to do basic fabrication. Students will learn basic material layout and produce objects using the tools as we cover them. Repeatable for Credit.
ARCH 616 - INNOVATION IN DESIGN AND CONSTRUCTION INDUSTRY
Short Title: INNOV.DESIGN & CONST. INDUSTRY
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Process innovation in the design and construction industries is far too rare. Even with access to powerful tools such as CADD and the Internet, many opportunities for process improvement are overlooked and problems are repeatedly ignored. Within this course, cross-discipline project teams will use contemporary business tools to evaluate long-standing industry practices and develop ideas for process innovation. At the end of the semester, students will present innovation concepts to members of the Project Delivery Innovation Forum, a group of industry leaders that may select student ideas for further research on real projects. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day of class by the individual instructor. Cross-list: MGMT 716. Graduate/Undergraduate Equivalency: ARCH 416. Mutually Exclusive: Credit cannot be earned for ARCH 616 and ARCH 416.

ARCH 617 - LANDSCAPE AND SITE STRATEGIES FOR HOUSTON
Short Title: LANDSCAPE & SITE STRAT HOUSTON
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: This course is a workshop in site planning, with Houston as its focus. It will allow students to gain practice assessing, cataloging, and communicating the many complex issues that go into plugging a building into a site. We will navigate the networks created by natural environments, the build and legal environments, and access. The final product of this course is a site plan. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Cross-list: MGMT 716. Graduate/Undergraduate Equivalency: ARCH 416. Mutually Exclusive: Credit cannot be earned for ARCH 616 and ARCH 416.

ARCH 618 - ADVANCED TECHNOLOGY SEMINAR
Short Title: ADVANCED TECHNOLOGY SEMINAR
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: This course is an advance seminar in specialized area of architectural technology (Structures, Acoustics, Lighting, Materials, and Energy) taught by RSA full-time or visiting faculty. This seminar series is open to RSA undergraduate students junior-level and above and RSA graduate students. Students from other departments may enroll in the course with instructor permission. Topics vary from semester to semester. See our website for more information. Space is limited, and registration does not guarantee a space in this course. The final course roster is formulated on the first day of class by the individual instructor. Graduate/Undergraduate Equivalency: ARCH 418. Mutually Exclusive: Credit cannot be earned for ARCH 618 and ARCH 418. Repeatable for Credit.

Course URL: arch.rice.edu/courses

ARCH 620 - ARCHITECTURAL PROBLEMS: STUDIO/PARIS PROGRAM (RSAP)
Short Title: ARCHITECTURAL PROBLEMS
Department: Architecture
Grade Mode: Standard Letter
Course Type: Studio
Credit Hours: 10
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Advanced issues in building design and urban infrastructure using greater Paris as context. Emphasis on abstract thought and design capabilities relevant to systematic processes of designing specific architectural interventions in the urban context.

ARCH 621 - CASE STUDIES IN SUSTAINABILITY: THE HIGH PERFORMANCE BUILDING
Short Title: SUSTAINABILITY CASE STUDIES
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: The project-based seminar will provide a means by which all those with an interest in the building science entailed in the design of commercial, institutional, and residential structures can investigate common issues, obtain information, discuss local strategies, and otherwise address subjects relating to building or campus performance over its lifecycle. To develop an approach of taking an existing Rice University building an optimizing its use via "repositioning" or redesign the class will create an interdisciplinary forum where students of architecture, engineering (structural, mechanical, etc.), and human sciences will potentially collaborate with professional building consultants, materials manufactures, contractors, developers, owners, and Rice campus facility managers Cross-list: ENST 621. Graduate/Undergraduate Equivalency: ARCH 321. Mutually Exclusive: Credit cannot be earned for ARCH 621 and ARCH 321.

ARCH 622 - CASE STUDIES IN SUSTAINABILITY: THE REGENERATIVE REPOSITIONING OF NEW OR EXISING RICE CAMPUS BU
Short Title: CASE STUDIES IN SUSTAINABILITY
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: This course will explore application of high performance, sustainable design to specific Rice University campus and facility targets. In partnership with Rice University leadership, the team effort will develop "regenerative redesign" approaches based on investigation of other campuses' case study. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day of class by the individual instructor. Cross-list: ENST 622. Graduate/Undergraduate Equivalency: ARCH 322. Mutually Exclusive: Credit cannot be earned for ARCH 622 and ARCH 322.
ARCH 631 - URBANISM I: THE CITY THEORETICALLY CONSIDERED
Short Title: URBANISM I
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: The intention of a course on urbanism is to view architecture in light of the city. An assembly of theoretical considerations serves to construct a perspective that allows us to critically assess modern urbanization. The goal is to help students form their own perspective on the practice of architecture and to broaden their understanding of the relentless urbanization that dominates the modern world. Students are expected to read extensively, to be prepared to discuss topics of urbanism in class, to form two-person teams to read selected texts to be presented in class and to shape a term project that may take the form of a final paper or a design proposal dealing with suburban issues. Grades are based on class participation, the reading project and the term project.
Graduate/Undergraduate Equivalency: ARCH 431. Mutually Exclusive: Credit cannot be earned for ARCH 631 and ARCH 431.

ARCH 633 - THE CULLINAN SEMINAR
Short Title: THE CULLINAN SEMINAR
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: This seminar for advanced undergraduate students and graduate students will focus on the writings and practice of the semester's four RSA Cullinan visitors: art historian David Joselit (Yale), architect Michael Maltzan (L.A.), architect Alejandro Zaera-Polo (London), and art historian Neil Levine (Harvard). The seminar will be a platform for researching these four topics, including additional background references, other writings by these four figures as well as writings about them and their own work. Additionally, the seminar will feature one seminar session each with the four speakers. Graduate/Undergraduate Equivalency: ARCH 433. Mutually Exclusive: Credit cannot be earned for ARCH 633 and ARCH 433. Repeatable for Credit.

ARCH 638 - HISTORY OF ARCHITECTURAL THINKING IV
Short Title: HISTORY OF ARCH THINKING IV
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Lectures and discussions focusing on issues and approaches central to current discourse and practice. Mutually Exclusive: Credit cannot be earned for ARCH 638 and ARCH 702.
ARCH 642 - WHOLE WORLDS
Short Title: WHOLE WORLDS
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: The seminar aims to conceptualize and project on the idea of architectural world-making, i.e. constructing alternative worlds through architecture. During the last two decades, architectural world-making has mostly been speculated as a social (participation) or a systemic (infrastructure) phenomenon, judged on the basis of its inclusiveness and performance within larger contingencies. On the other hand, the question of disciplinary specificity has by and large been limited to self-referential attributes of exclusive singularity. As part of outlining new directions in relation to these questions, the seminar will speculate and project on an alternative framework of architectural world-making, which both aims multiplicity and singularity while projecting unconventional associations between the two. Through focusing on a particular lineage of architectural ideas, projects and texts, the seminar aims to instigate further interplay between critical thinking and speculative work for future architectures. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Graduate/Undergraduate Equivalency: ARCH 442. Mutually Exclusive: Credit cannot be earned for ARCH 642 and ARCH 442.

ARCH 644 - CONSTRUCTION AND DESIGN
Short Title: CONSTRUCTION & DESIGN
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Graduate/Undergraduate Equivalency: ARCH 344. Mutually Exclusive: Credit cannot be earned for ARCH 644 and ARCH 344.

ARCH 645 - HISTORY AND THEORY II - PRE 1890
Short Title: HISTORY & THEORY II - PRE 1890
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: This course will trace the development of Renaissance and Baroque architecture in Italy and France with reference to the dialectic of license and rule. The first part, which covers the period from 1400-1600, will focus on the civil, domestic, and ecclesiastical architecture of the chief protagonists of the Italian Renaissance: Brunelleschi, Alberti, Bramante, Giulio Romano, Michelangelo and Palladio. Their buildings and urban initiatives will be interpreted in terms of continuities & discontinuities between an emerging theoretical tradition and the demands of actual practice. Cross-list: HART 645. Graduate/Undergraduate Equivalency: ARCH 345. Mutually Exclusive: Credit cannot be earned for ARCH 645 and ARCH 235/ARCH 535.

ARCH 646 - HISTORY AND THEORY III - 1890-1968
Short Title: HISTORY & THEORY III 1890-1968
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Prerequisite(s): ARCH 345 or ARCH 645 or HART 345 or HART 645
Description: This third course in the required History and Theory of Architecture sequence surveys the history and theory of architecture and urbanism between 1890 and 1968, tracing the critical shifts in architectural thought and practice that inaugurated, constituted, and questioned architectural modernism. Organized around a series of significant case studies considered particular designed responses to their material, intellectual, and sociopolitical context, the course elucidates the influence of contingent conditions on architectural design, but emphasizes the designer’s efforts to reinforce, reform, or transform those conditions. While non-majors are welcome, availability is determined by the instructor. Cross-list: HART 506. Graduate/Undergraduate Equivalency: ARCH 346. Mutually Exclusive: Credit cannot be earned for ARCH 646 and ARCH 336/ARCH 536.

ARCH 650 - ADVANCED ARCHITECTURE SEMINAR
Short Title: ADVANCED ARCH SEMINAR
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Course Level: Graduate
Description: Small, focused, advanced-level course in discussion, workshop and/or design-based format on topics related to current research in architecture. Current offerings and enrollment eligibility are listed on the Rice Architecture website: arch.rice.edu. Space is limited and registration does not guarantee a space in this course. Repeatable for Credit.

ARCH 651 - PRESENT FUTURE SEMINAR
Short Title: PRESENT FUTURE SEMINAR
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Course Level: Graduate
Description: This present Future seminar will examine the history of future projection as it came to dominate modern architecture and urbanism in the period of 1914-2014. The realization of such a large number of future projections over the preceding century allows us to examine their effects as they have now come to constitute our present. Focusing on modern urbanism, will trace both the historical and the contemporary effects of the future as it was imagined so long ago. Given the volatile historical moment that we are presently passing through, an effort will be made to understand the logic as well as the remaining potential of future projection as a design strategy today.
ARCH 652 - HISTORY AND THEORY IV - 1968 TO PRESENT  
Short Title: HISTORY & THEORY IV 1968-PRES  
Department: Architecture  
Grade Mode: Standard Letter  
Course Type: Seminar  
Credit Hours: 3  
Restrictions: Undergraduate level students may not enroll.  
Course Level: Graduate  
Prerequisite(s): (ARCH 225 or ARCH 525) and (ARCH 345 or ARCH 645) and (ARCH 346 or ARCH 646)  
Description: This final course in the History and Theory of Architecture core sequence provides an overview of key projects and concepts of contemporary architecture and related fields. Lectures on case-studies drawn from around the world from the late 20th century through the present are complimented by weekly discussions. This course is required for students in the undergraduate and graduate architecture programs. Enrollment of other students is welcomed but may be limited based on availability and approval of the instructor. Graduate/Undergraduate Equivalency: ARCH 352. Mutually Exclusive: Credit cannot be earned for ARCH 652 and ARCH 537.  

ARCH 653 - PHOTOGRAPHY FOR ARCHITECTS  
Short Title: PHOTO FOR ARCHITECTS  
Department: Architecture  
Grade Mode: Standard Letter  
Course Type: Lecture  
Credit Hours: 3  
Restrictions: Undergraduate level students may not enroll.  
Course Level: Graduate  
Description: Exploration of a variety of photographic techniques for architectural research, design, and presentation. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Graduate/Undergraduate Equivalency: ARCH 352. Mutually Exclusive: Credit cannot be earned for ARCH 652 and ARCH 353.  

ARCH 654 - CINEMAS OF URBAN ALIENATION  
Short Title: CINEMAS OF URBAN ALIENATION  
Department: Architecture  
Grade Mode: Standard Letter  
Course Type: Seminar  
Credit Hours: 4  
Restrictions: Undergraduate level students may not enroll.  
Course Level: Graduate  
Description: This seminar examines cinematic engagements with urban spaces and experiences around the world spanning the last two centuries. Particular attention will be paid to issues of migration, marginality, colonialism, war and post-war, nostalgia and memory, race and gender. Cities of focus include Berlin, Istanbul, Moscow, Algiers, Beirut and Paris. Our weekly discussions of individual films will be grounded in critical writings of the cities’ histories and theories of space and film. Cross-list: HART 659. Graduate/Undergraduate Equivalency: ARCH 359. Mutually Exclusive: Credit cannot be earned for ARCH 654 and ARCH 359.  

ARCH 656 - FUTURES OF THE BOOK  
Short Title: FUTURES OF THE BOOK  
Department: Architecture  
Grade Mode: Satisfactory/Unsatisfactory  
Course Type: Seminar  
Credit Hour: 1  
Restrictions: Undergraduate level students may not enroll.  
Course Level: Graduate  
Description: From an ongoing interest in the book as a physical object, to the exploration of its potentials expanding into a four-dimensional digital realm, to rapidly changing demands for the storage and retrieval of knowledge, this master class will provide a platform to engage experts from various disciplines in a debate on the shifting futures of the book. Instructor Permission Required. Cross-list: HURC 608. Graduate/Undergraduate Equivalency: ARCH 456. Mutually Exclusive: Credit cannot be earned for ARCH 656 and ARCH 456.  

ARCH 658 - CAST MODERNITY  
Short Title: CAST MODERNITY  
Department: Architecture  
Grade Mode: Standard Letter  
Course Type: Seminar  
Credit Hours: 3  
Restrictions: Undergraduate level students may not enroll.  
Course Level: Graduate  
Description: From an ongoing interest in the book as a physical object, to the exploration of its potentials expanding into a four-dimensional digital realm, to rapidly changing demands for the storage and retrieval of knowledge, this master class will provide a platform to engage experts from various disciplines in a debate on the shifting futures of the book. Instructor Permission Required. Cross-list: HURC 608. Graduate/Undergraduate Equivalency: ARCH 358. Mutually Exclusive: Credit cannot be earned for ARCH 658 and ARCH 358.  

ARCH 662 - PROBLEMATIZING THE PRACTICE OF MODERN ARCHITECTURE  
Short Title: PRACTICE MODERN ARCHITECTURE  
Department: Architecture  
Grade Mode: Standard Letter  
Course Type: Seminar  
Credit Hours: 3  
Restrictions: Undergraduate level students may not enroll.  
Course Level: Graduate  
Description: . Graduate/Undergraduate Equivalency: ARCH 352. Mutually Exclusive: Credit cannot be earned for ARCH 658 and ARCH 358.  

ARCH 663 - ARCHITECTURAL REPRESENTATION  
Short Title: ARCH FREEHAND DRAWING WKSHOP  
Department: Architecture  
Grade Mode: Standard Letter  
Course Type: Lecture/Laboratory  
Credit Hours: 3  
Restrictions: Undergraduate level students may not enroll.  
Course Level: Graduate  
Description: The object of this workshop is to explore, practice and develop a series of drawing methods and techniques in the context of the architectural design process. Emphasis will be on the development of free-hand drawing skills that will enhance the ability of the design in communicating conceptual ideas. The course will consist of a combination of lectures/demonstrations, in-class drawing exercises, and out-of-class assignments. Two sketch books (one at mid-term and one at the end of the semester) will also be required. Attendance is critical. Please come to the first class prepared to draw with pen and an 8 1/2 x 11 or 9 x 12 sketch pad. Graduate/Undergraduate Equivalency: ARCH 363. Mutually Exclusive: Credit cannot be earned for ARCH 663 and ARCH 363. Repeatable for Credit.
ARCH 666 - RIO DE JANEIRO
Short Title: RIO DE JANEIRO
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: An investigation of how materials influence and inspire architecture’s past and potential contribution to what has historically been called ‘civic association’ - the realm of social activity outside the market and purview of the state. Each class will focus on a particular architectural mode of social projection through the close reading of a single architectural work. In the major assignment for the course, students will be asked to conceive alternate architectural modes of social engagement and to speculate on their potential implications. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Graduate/Undergraduate Equivalency: ARCH 375. Mutually Exclusive: Credit cannot be earned for ARCH 670 and ARCH 370.

ARCH 673 - ISLAND IRREDENTA: TAIWAN
Short Title: ISLAND IRREDENTA: TAIWAN
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: This course seeks to use Taiwan as a model to explore the implications of architectural engagement with a post-industrial operating across several scales, from the local to the global. The shift in Taiwan’s industrial base has spurred massive investment in new infrastructure and a series of extra-large public architectural projects by global practices such as UN Studio, Toyo Ito, Richard Rogers, OMA and RUR. Added to this economic re-alignment are Taiwan’s ambiguous, "unredeemed" international status and its island geography, which uniquely suit of restudying the role of architecture to simultaneously crate a global identity and serve an splintered local constituency. The insistence on the architectural project situated in an increasingly precarious context will form sphere and better definitions of architecture’s relationship to post-industrial infrastructure. The seminar is structured around weekly discussions of reading material paired with case studies of Taiwan’s infrastructural development and recent large-scale architectural interventions. Graduate/Undergraduate Equivalency: ARCH 377. Mutually Exclusive: Credit cannot be earned for ARCH 673 and ARCH 377. Repeatable for Credit.

ARCH 674 - THE JOY OF MATERIALS
Short Title: THE JOY OF MATERIALS
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: An investigation of how materials influence and inspire the making of works of architecture. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Graduate/Undergraduate Equivalency: ARCH 374. Mutually Exclusive: Credit cannot be earned for ARCH 674 and ARCH 374.

ARCH 675 - LATIN-EUROPE/LATIN-AMERICA: THE AESTHETICS AND POLITICS OF MODERN CITIES
Short Title: LATIN-EUROPE/LATIN-AMERICA
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: This course challenges our pre-conceived maps of the world, highlighting Latin America’s place within our understanding of modernity as a product of transnational interconnections. Transversing the Atlantic, this course traces the interactions of capitalism and culture, science and aesthetics, and the ideologies that informed and formed the urban fabric and spatial politics of important cities in the modern Latin world - Paris, Rio de Janeiro, Rome, Buenos Aires, Barcelona, Havana, and Brasilia. Cross-list: HART 675. Graduate/Undergraduate Equivalency: ARCH 375. Mutually Exclusive: Credit cannot be earned for ARCH 675 and ARCH 375.
ARCH 676 - THE ARCHITECTURE OF BOOKS
Short Title: THE ARCHITECTURE OF BOOKS
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Over the past decades, the conception of books has become an integral part of any architectural practice. This seminar aims to introduce students to the book as a means to think about the production of space, and as a critical vessel to discuss and disseminate architectural ideas. In the first part of the seminar students will engage in an in-depth analysis of seminal architectural publications, considering their historical background, conceptual background and introducing such topics as typography and layout- and in-class discussions of relevant literature. The second part will be dedicated to the actual "building" of a small architectural publication, which will reflect critical and editorial skills as well as the craft of bookmaking. Graduate/Undergraduate Equivalency: ARCH 376. Mutually Exclusive: Credit cannot be earned for ARCH 676 and ARCH 376.

ARCH 680 - INTRODUCTION TO BUILDING INFORMATION MANAGEMENT
Short Title: INTRODUCTION TO BIM
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: This is an introductory course in the use of Building Information Management (BIM) software. The course will utilize "Revit Architecture" by Autodesk, which is now installed on the PC's in RAVL. Students will produce a complete drawing package including architectural, mechanical and structural drawings of a building they have previously designed in studio or a structure developed specifically for this exercise. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Graduate/Undergraduate Equivalency: ARCH 480. Mutually Exclusive: Credit cannot be earned for ARCH 680 and ARCH 480.

ARCH 688 - NONLINEAR HISTORY AND THE EVOLUTION OF CITIES
Short Title: NONLINEAR HISTORY & EVOLUTION
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Using Manuel DeLanda’s "A Thousand Years of Nonlinear History" as the framework the seminar will explore the evolution of three types of cities from three different times. The intent is to use DeLanda’s work diachronically while looking at the cities synchronically.

ARCH 689 - ARCHITECTURE EXPANDED: CONTEXT, SCALE, AGENCY
Short Title: ARCHITECTURE EXPANDED
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: For more than 2 decades, new scales of context have been a pervasive paradigm for Architecture. Suggesting infrastructural, ecological or political scale shifts for design, this paradigm has sparked a prevalent interest in emergent urban conditions, larger territories as well as interdisciplinary juxtapositions. In parallel, however, of paramount importance has been the accumulation of new questions in relation to architectural agency, disciplinary specificities and form. In an attempt to explore this proposition further, the seminar will concentrate on an alternative reading for the ideas of context and agency within 20th century architecture & urbanism. Graduate/Undergraduate Equivalency: ARCH 489. Mutually Exclusive: Credit cannot be earned for ARCH 689 and ARCH 489.

ARCH 690 - PEDAGOGY PRACTICUM
Short Title: PEDAGOGY PRACTICUM
Department: Architecture
Grade Mode: Satisfactory/Unsatisfactory
Course Type: Internship/Practicum
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: This course addresses the development of skills for the teaching of History & Technology core courses. Weekly meetings will be held and supervised by faculty in the teaching of whose courses practicum students are involved. Department Permission Required. Repeatable for Credit.

ARCH 691 - REAL ESTATE LAB: DEVELOP, DESIGN AND CONSTRUCTION
Short Title: RE LAB: DEVELOP DESIGN CONSTR
Department: Architecture
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Cross-list: MGMT 757. Graduate/Undergraduate Equivalency: ARCH 491. Mutually Exclusive: Credit cannot be earned for ARCH 691 and ARCH 491. Repeatable for Credit.

ARCH 693 - THE SPATIAL DOMINANT
Short Title: THE SPATIAL DOMINANT
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: This seminar will analyze the essential quality of contemporary built environments - architectural and urban space. The analysis will look at the texts and projects that are indispensable to an understanding of what contemporary space actually is and how it came to dominate the contemporary city over the course of the past century. The second half of the seminar will focus on the unexpected origins of that space in the natural world. Driven by a powerful organic ideal, space emerges as the engine of badly needed reforms in Megalopolis today.
ARCH 696 - RETHINKING SUBURBAN LIVING
Short Title: RETHINKING SUBURBAN LIVING
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: A major portion of urbanized America is in areas loosely referred to as sprawl. Here the subdivision is the dominant living unit. Although New Urbanism has provided adjustments to this common model, few truly innovative models of suburban living exist. The reason for this conservatism is manifold. This seminar will challenge the status quo through a series of unusual strategies, motivated by a series of assumptions drawn from the French philosopher Alain Badiou’s "The Century" - a highly polemical view of the 20th century. Registration limited to graduate and 5th year Architecture students. Repeatable for Credit.

ARCH 702 - PRE-THESIS PREPARATION
Short Title: PRE-THESIS PREPARATION
Department: Architecture
Grade Mode: Standard Letter
Course Type: Research
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: The aim of this course is to locate potential thesis topics and hone those topics by situating them within a lineage of architectural and urban paradigms. The aim is also to develop and rehearse a focused argument for your particular approach to the topic. The thesis design project tests this approach in a project, the underpinnings of which seek a synthesis of intellectual and design objectives. Thesis concludes with a public final review, where the project is evaluated both on its own terms and within the broader field of contemporary architectural discourse. Mutually Exclusive: Credit cannot be earned for ARCH 702 and ARCH 638.

ARCH 703 - DESIGN THESIS STUDIO
Short Title: DESIGN THESIS STUDIO
Department: Architecture
Grade Mode: Satisfactory/Unsatisfactory
Course Type: Lecture
Credit Hours: 10
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: A major portion of urbanized America is in areas loosely referred to as sprawl. Here the subdivision is the dominant living unit. Although New Urbanism has provided adjustments to this common model, few truly innovative models of suburban living exist. The reason for this conservatism is manifold. This seminar will challenge the status quo through a series of unusual strategies, motivated by a series of assumptions drawn from the French philosopher Alain Badiou’s "The Century" - a highly polemical view of the 20th century. Registration limited to graduate and 5th year Architecture students. Repeatable for Credit.

ARCH 792 - THESIS WRITTEN DOCUMENT (FALL)
Short Title: FALL WRITTEN THESIS
Department: Architecture
Grade Mode: Satisfactory/Unsatisfactory
Course Type: Independent Study
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: All architecture thesis students are required to provide a written document to the university on completion of their thesis as a requirement for graduation. This document, prepared in consultation with the thesis director and the director of the thesis program, should include a written and graphic description of the project and conform to the university requirements for thesis documents.

ARCH 738 - PRACTICES OF ARCHITECTURAL THINKING IV
Short Title: PRACTICES OF ARCH THINKING IV
Department: Architecture
Grade Mode: Satisfactory/Unsatisfactory
Course Type: Seminar
Credit Hour: 1
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: Presentations, workshops, and discussions on the interrelationship of history, theory, and design, focusing on metacritical and methodological issues in the formation of design theses.
ARCH 751 - PRESENT FUTURE II
Short Title: PRESENT FUTURE II
Department: Architecture
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Undergraduate level students may not enroll.
Course Level: Graduate
Description: ARCH 751 is the third core course of the Master of Arts degree program. It is the concluding semester of the three semester research project, the subject of which changes with each class. The purpose of the semester is to draw the conclusions of the project and produce and package the results. The formats vary with each project.

Description and Code Legend
Note: Internally, the university uses the following descriptions, codes, and abbreviations for this academic program. The following is a quick reference:

Course Catalog/Schedule
• Course offerings/subject code: ARCH

School/Department Description and Code
• Architecture: ARCH

Undergraduate Degree Descriptions and Codes
• Bachelor of Arts degree: BA
• Bachelor of Architecture degree: BArch

Undergraduate Major Descriptions and Codes
• Major in Architecture (attached to the BA and BArch degrees): ARCH
• Major in Architectural Studies (attached to the BA degree): ARST

Graduate Degree Descriptions and Codes
• Master of Architecture degree: MArch
• Master of Arts degree: MA

Graduate Degree Program Description and Code
• Degree Program in Architecture: ARCH