DEPARTMENT OF ARCHITECTURE

(Applicable to candidates admitted to the first year of bachelor degree curricula, except BA(ArchStud), in 2019-20 and thereafter)

MAJOR AND MINOR IN ARCHITECTURAL STUDIES

The major and minor in Architectural Studies provides students with a broad overview and introduction to the skills, methodologies and discourses of architectural design. Combining insights, theory, research, methods and practices related to Architecture, the major and minor in Architectural Studies provides students with a blend of design-thinking tools that will equip them for the challenges architecture faces in today’s society.

Students pursuing a major should take two design studio courses (ARCH1079 and ARCH1080), three required courses ((ARCH2058 or ARCH3058), ARCH2056, and ARCH2055), one 6-credit capstone experience course (ARCH4603 or ARCH4602 or ARCH3060) and two Faculty Interdisciplinary Courses (AFIC1003 and AFIC1004). Students pursuing a minor should take one design studio course (ARCH1079) and two required courses ((ARCH2058 or ARCH3058) and ARCH2055). The remaining credits that are required to fulfil the total number of credits of major or minor will be taken from courses in Faculty Interdisciplinary, Architectural Design Studio, Architectural History and Theory, Technology, Visual Communication, or Disciplinary Electives offered in the Bachelor of Arts in Architectural Studies (BA[ArchStud]) curriculum.

Major (72 credits)

In order to ensure reasonable coverage and interdisciplinary understanding, students who intend to pursue a major in Architectural Studies must take a minimum of 72 credits from the list below. Only in exceptional cases may a waiver be granted for a core course.

Double counting of credits is not permissible for major in Architectural Studies. When a course is used to satisfy the requirements of another curriculum or programme, it shall not be counted towards the fulfilment of the requirements of this major.

- **Faculty Interdisciplinary Courses (12 credits)**
  - AFIC1003 On Agendas (6 credits); and
  - AFIC1004 On Methods (6 credits).

- **Core Courses (30 credits)**
  - ARCH1079 Design 1 (6 credits);
  - ARCH1080 Design 2 (6 credits);
  - ARCH2058 Architectural History and Theory 1 – Modern Architecture (6 credits) or
  - ARCH3058 Architectural History and Theory 2 – Global Perspectives I (6 credits);
  - ARCH2055 Visual Communication 1 – Drawing (6 credits); and
  - ARCH2056 Building Technology 1 - Building Principles (6 credits).
• **Capstone Experience Course (6 credits)**
  
  ARCH4603  Architectural History and Theory 4 – The City (6 credits) or
  ARCH4602  Building Technology 4 – Building Construction and Practice (6 credits) or
  ARCH3060  Visual Communication 3 – Animate Systems (6 credits).

• **Elective courses (24 credits)**
  
  A further 24 credits accumulated from courses in Architectural Design Studio, Architectural History and Theory, Technology, Visual Communication, or Disciplinary Electives in the BA(ArchStud) curriculum.

**Minor (36 credits)**

Students may take Architectural Studies as a minor by completing 36 credits of courses as listed below. Double counting of credits is not permissible for minor in Architectural Studies. When a course is used to satisfy the requirements of another curriculum or programme, it shall not be counted towards the fulfilment of the requirements of this minor.

• **Core Courses (18 credits)**
  
  ARCH1079  Design 1 (6 credits);
  ARCH2058  Architectural History and Theory 1 – Modern Architecture (6 credits) or
  ARCH3058  Architectural History and Theory 2 – Global Perspectives I (6 credits); and
  ARCH2055  Visual Communication 1 – Drawing (6 credits).

• **Elective courses (18 credits)**
  
  A further 18 credits accumulated from courses in Faculty Interdisciplinary, Architectural Design Studio, Architectural History and Theory, Technology, Visual Communication, or Disciplinary Electives in the BA(ArchStud) curriculum.

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**Faculty Interdisciplinary courses**

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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AFIC1003</td>
<td>On Agendas</td>
<td>(6 credits)</td>
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<tr>
<td>AFIC1004</td>
<td>On Methods</td>
<td>(6 credits)</td>
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**Architectural Design Studio courses**

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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ARCH1079</td>
<td>Design 1</td>
<td>(6 credits)</td>
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<tr>
<td>ARCH1080</td>
<td>Design 2</td>
<td>(6 credits)</td>
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<tr>
<td></td>
<td><em>(Pre-requisite: ARCH1079 Design 1)</em></td>
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<tr>
<td>ARCH2079</td>
<td>Design 3</td>
<td>(12 credits)</td>
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<tr>
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<td><em>(Pre-requisite: ARCH1080 Design 2)</em></td>
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<tr>
<td>ARCH2080</td>
<td>Design 4</td>
<td>(12 credits)</td>
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<td><em>(Pre-requisite: ARCH2079 Design 3)</em></td>
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**Architectural History and Theory courses**

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ARCH2058</td>
<td>Architectural History and Theory 1 – Modern Architecture</td>
<td>(6 credits)</td>
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<tr>
<td>ARCH3058</td>
<td>Architectural History and Theory 2 – Global Perspectives I</td>
<td>(6 credits)</td>
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</tbody>
</table>
ARCH3062 Architectural History and Theory 3 – Global Perspectives II (6 credits)
(Pre-requisite: ARCH2058 Architectural History and Theory 1 – Modern Architecture or
ARCH3058 Architectural History and Theory 2 – Global Perspectives I)
ARCH4603 Architectural History and Theory 4 – The City (Capstone Experience) (6 credits)
(Pre-requisite: ARCH3062 Architectural History and Theory 3 – Global Perspectives II)

Technology courses
ARCH2056 Building Technology 1 – Building Principles (6 credits)
ARCH3064 Building Technology 2 – Building Structures (6 credits)
(Pre-requisite: ARCH2056 Building Technology 1 – Building Principles)
ARCH3065 Building Technology 3 – Building Sustainability (6 credits)
ARCH4602 Building Technology 4 – Building Construction and Practice (Capstone Experience) (6 credits)
(Pre-requisite: ARCH3064 Building Technology 2 – Building Structures)

Visual Communication courses
ARCH2055 Visual Communication 1 – Drawing (6 credits)
ARCH3056 Visual Communication 2 – Visual Content (6 credits)
ARCH3060 Visual Communication 3 – Animate Systems (Capstone Experience) (6 credits)
(Pre-requisite: ARCH3056 Visual Communication 2 – Visual Content or DESN1002 Representation)

Disciplinary Electives in the BA(ArchStud) curriculum
Disciplinary electives offer students the opportunity to gain advanced knowledge in a chosen
ahead of study, this may be taken in either the first or the second semester in the final year, or as
an optional summer semester in the third year of study. Students pursuing a major and minor in
Architectural Studies are required to obtain the BA(ArchStud) Programme Director’s approval
prior to enrolment into the disciplinary electives courses, to ensure that they have sufficient
background to take these advanced courses. There are five categories of elective courses available
for selection by candidates.

CATEGORY I: HISTORY AND THEORY
ARCH7118 Buddhism, Architecture and Buddhist Architecture (6 credits)
ARCH7119 Politics of / Space / of Performance (6 credits)
ARCH7124 Utopian Architecture and the French Revolution (6 credits)
ARCH7161 Vernacular Architecture of Asia (6 credits)
ARCH7269 Architecture and the City (cross-listed under Category II: Urbanisation and Habitation) (6 credits)
ARCH7179 Architects and Politics: Exhibiting Politics (6 credits)
ARCH7406 Architects and their Chairs (cross-listed under Category IV: Digital Media and Fabrication) (6 credits)

CATEGORY II: URBANISATION AND HABITATION
ARCH7260 Housing in Urban Development (6 credits)
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<tr>
<th>Course Code</th>
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<tr>
<td>ARCH7264</td>
<td>Contemporary Urbanism</td>
<td>(6 credits)</td>
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<td>ARCH7265</td>
<td>Inter Cities</td>
<td>(6 credits)</td>
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<tr>
<td>ARCH7269</td>
<td>Architecture and the City (cross-listed under Category I: History and Theory)</td>
<td>(6 credits)</td>
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<tr>
<td>ARCH7277</td>
<td>Refugee Camp Design</td>
<td>(6 credits)</td>
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<tr>
<td>ARCH7278</td>
<td>Open Building in Transition</td>
<td>(6 credits)</td>
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**CATEGORY III: TECHNOLOGY AND SUSTAINABILITY**

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<tr>
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<tr>
<td>ARCH7355</td>
<td>Designing Care in the Commons</td>
<td>(6 credits)</td>
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<tr>
<td>ARCH7365</td>
<td>Design Research on Architecture and the Environment</td>
<td>(6 credits)</td>
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<tr>
<td>ARCH7376</td>
<td>Inhabitable Territories</td>
<td>(6 credits)</td>
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<tr>
<td>ARCH7382</td>
<td>Floating Marine Laboratory</td>
<td>(6 credits)</td>
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<tr>
<td>ARCH7384</td>
<td>Deep Drawing</td>
<td>(6 credits)</td>
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<tr>
<td>ARCH7476</td>
<td>Generative Design in Architecture (cross-listed under Category IV: Digital Media and Fabrication)</td>
<td>(6 credits)</td>
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**CATEGORY IV: DIGITAL MEDIA AND FABRICATION**

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<tr>
<td>ARCH7406</td>
<td>Architects and their Chairs (cross-listed under Category I: History and Theory)</td>
<td>(6 credits)</td>
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<tr>
<td>ARCH7462</td>
<td>Computer-aided Architectural Design Methods (CAAD Methods)</td>
<td>(6 credits)</td>
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<td>ARCH7467</td>
<td>Making Ways and Ways of Making</td>
<td>(6 credits)</td>
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<tr>
<td>ARCH7474</td>
<td>Structural Research – Gridshells</td>
<td>(6 credits)</td>
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<tr>
<td>ARCH7475</td>
<td>Visual Practices</td>
<td>(6 credits)</td>
</tr>
<tr>
<td>ARCH7476</td>
<td>Generative Design in Architecture (cross-listed under Category III: Technology and Sustainability)</td>
<td>(6 credits)</td>
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<tr>
<td>ARCH7477</td>
<td>3D Printed Matter</td>
<td>(6 credits)</td>
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<tr>
<td>ARCH7478</td>
<td>Bending Bamboo Rules</td>
<td>(6 credits)</td>
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<tr>
<td>ARCH7479</td>
<td>Temporary Site-Specific Installation</td>
<td>(6 credits)</td>
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<tr>
<td>ARCH7480</td>
<td>Transfer – Structural Transformations</td>
<td>(6 credits)</td>
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**CATEGORY V: PRACTICE AND MANAGEMENT**

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<tr>
<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>ARCH7405</td>
<td>Research on Participatory Design in Architecture</td>
<td>(6 credits)</td>
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<tr>
<td>ARCH7568</td>
<td>Design Practice Field Workshop</td>
<td>(6 credits)</td>
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**Course Descriptions**

**Faculty Interdisciplinary courses**

**AFIC1003 On Agendas (6 credits)**

This course introduces students through mixed-disciplinary group work to the challenge of creating a research proposal (a strategy for conducting research) to answer a specific research question. We start by asking you to think about an urban crisis triggered by sudden loss of a resource crucial to sustaining urban systems. Then with the help of a mentor, you get to work on
a professional-standard research strategy to address a research question of your choosing that helps society prepare for the urban crisis.
Assessment: 100% continuous coursework assessment

**AFIC1004 On Methods (6 credits)**
This course introduces the steps that are generally involved in creating new academic knowledge and testing existing knowledge. It introduces built environment students to the basic ideas needed to become a professional researcher, whether coming with a design, science, social science or arts background and interests. It helps you think more expertly about the questions you will have discovered in the research problematising and design exercise in AFIC1003.

Assessment: 100% continuous coursework assessment

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**Design Studios**

**ARCH1079 Design 1 (6 credits)**
This course serves as an introduction to the skills and concepts that are further developed in the design studio sequence. The focus of the course will be the design process itself, outside of the constraints and complexity of a building program. In addition the course will include a series of workshop introductions to the tools and techniques of casting, woodworking and hand drawing. The goal of the course is to familiarize students with the principles of creative work.

Assessment: 100% continuous coursework assessment

**ARCH1080 Design 2 (6 credits)**
This course includes the concept of architectonics, section and plan, and the basic design process involving drawing and model making. The course will culminate in a final design project, supported by lectures on diverse set of figures in architecture, science and art, examining the creative processes that enable their work and understanding it through methodology and execution.

Assessment: 100% continuous coursework assessment
Pre-requisite: ARCH1079 Design 1

**ARCH2079 Design 3 (12 credits)**
Design 3 is the first in a two-course sequence forming a comprehensive introduction to the foundation studies of architecture, addressing the core and related issues essential to the training of an architect. The course aims to teach architectural literacy, to develop critical and analytical skills, to enhance visual, spatial and ideological sensibilities with certain emphasis on the presentation of ideas, concepts, and design both in the visual and verbal format. Field trips form an integral part of the course.

Assessment: 100% continuous coursework assessment
Pre-requisite: ARCH1080 Design 2

**ARCH2080 Design 4 (12 credits)**
Design 4 is the second in a two-course sequence forming a comprehensive introduction to the foundation studies of architecture, addressing the core and related issues essential to the training of an architect. The course aims to teach architectural literacy, to develop critical and analytical skills, to enhance visual, spatial and ideological sensibilities with certain emphasis on the presentation of ideas, concepts, and design both in the visual and verbal format. Field trips form an integral part of the course.

Assessment: 100% continuous coursework assessment
Pre-requisite: ARCH2079 Design 3

Architectural History and Theory Courses

ARCH2058 Architectural History and Theory 1 – Modern Architecture (6 credits)
This course examines the history of modern architecture, from the apex of the Industrial Revolution to the emergence of post-modernism in the late 1960s. Students will explore modern architecture not as a cohesive or isolated product of any formal school of thought but rather as a complex and contradictory history bound by key formal, theoretical, social, cultural, technological, economic, as well as political moments in time. Throughout the course, students will touch upon two key influences in the development of modern architecture: the key material changes brought about by technology and industrialization as well as received ideas of progress stemming from the utopian legacy of the Enlightenment. This course raises major disciplinary questions, themes, and issues that will reverberate throughout the subsequent Architectural History and Theory curriculum. Content will focus primarily upon the European avant-garde, though parallel architectural developments in both North America and Asia will also be covered.

Assessment: 100% continuous coursework assessment

ARCH3058 Architectural History and Theory 2 – Global Perspectives I (6 credits)
The purpose of this course is two-fold: to introduce students to the development of major architectural ideas and a selected group of significant architectural monuments in Europe, from ancient times to the nineteenth century, and the unique aesthetic, cultural, and historical issues that frame them; and to present the main issues in the study of architecture and the various methods used to analyze and interpret buildings in various spatial and temporal contexts. Lectures and course content will emphasize key themes of cultural, economic, and political interconnectivity and their impact upon architectural production, not only within Europe, but around the world.

Assessment: 100% continuous coursework assessment

ARCH3062 Architectural History and Theory 3 – Global Perspectives II (6 credits)
The purpose of this course is two-fold: to introduce students the development of major architectural ideas and a selected group of significant architectural monuments in East, South, and Southeast Asia, from ancient times to the nineteenth century, and the unique aesthetic, social-cultural, technological and historical issues that frame them; and to present the main issues in the study of architecture and the various methods used to analyze and interpret buildings in various spatial and temporal contexts. Lectures and course content will emphasize key themes of cultural,
economic, and political interconnectivity and their impact upon architectural production, not only within Asia, but around the world.

Assessment: 100% continuous coursework assessment
Pre-requisite: ARCH2058 Architectural History and Theory 1 – Modern Architecture or ARCH3058 Architectural History and Theory 2 – Global Perspectives I

ARCH4603 Architectural History and Theory 4 – The City (6 credits)
(Capstone Experience)
This course is intended to introduce students to the scholarly study of the city, from ancient Greece to the Shenzhen Special Economic Zone. Understanding the city as a global entity shaped by dynamic and ever-changing cultural, industrial, political and social processes forms a major goal of the course. Each lecture will be devoted to the examination of several key case-studies in coordination with an important concept or methodological concern in the study of the built environment. Recognizing how these processes manifest themselves spatially, and how they impact both architectural and urban form and development over time, constitutes another major course objective. Students will be expected to complete a final research project on a topic related to a city of their own choosing.

Assessment: 100% continuous coursework assessment
Pre-requisite: ARCH3062 Architectural History and Theory 3 – Global Perspectives II

Technology Courses

ARCH2056 Building Technology 1 – Building Principles (6 credits)
This course addresses the elemental aspects of building and the fundamental principles of structure. It will present building structures in masonry, timber, concrete, steel, glass and composite and examine the constructional possibilities and limitations of these materials. Furthermore it will seek a broad based understanding of how material and constructional choices are determined by its physical site, program, culture, era and environment. The course presents the historical culture of building technology and how material, structural, construction and detail decisions influence the overall architectural project. It will be further demonstrated how the importance of well-articulated geometries and proper means of measurements in drawing and modeling are an essential and integral part of construction methods and processes. The course material will be presented through a series of lectures specific to a material and through analyses of relevant case studies.

Assessment: 100% continuous coursework assessment

ARCH3064 Building Technology 2 – Building Structures (6 credits)
The course aims provide students with an appreciation and understanding of the behavior of both horizontal spanning as well as vertical structures. The relationships between load carrying mechanisms and various structural and architectural forms will be explored and case studies of significant structures of these types will be discussed and analyzed in relation to architectural planning and design processes. Structural aspects of site investigation, foundations and retaining structures will also discussed within the context of relevant case studies.
Assessment: 100% continuous coursework assessment
Pre-requisite: ARCH2056 Building Technology 1 – Building Principles

ARCH3065  Building Technology 3 – Building Sustainability (6 credits)
This course introduces the ideas of sustainability through the underlying ecological principle of whole systems. Ecological systems by nature are dynamic. Therefore, a critical understanding of the functioning, limitations and requirements of the system are fundamental. Lectures and projects will explore the latent potential of these different systems (whether natural or artifice) and how they effect and are affected by the built environment.

Assessment: 100% continuous coursework assessment

ARCH4602  Building Technology 4 – Building Construction and Practice (6 credits)  
(Capstone Experience)
This course has its focus on the connection of building technology with architectural design and practices. From the perspective of technology, it covers an overview of historical buildings, modern architecture, sustainability and professional practices such as stages of work, design drawings for contract documentation and control of details through building code. Various design principles as reflected in general conceptual design and detailing are explained with various reference to local and international examples.

Assessment: 100% continuous coursework assessment
Pre-requisite: ARCH3064 Building Technology 2 – Building Structures

Visual Communication Courses

ARCH2055  Visual Communication 1 – Drawing (6 credits)
Visual Communication 1 relates the study of architecture to the study of representational forms and methods. Taught through lectures that introduce fundamentals of visual communication including: grid, line, perspective, movement studies, projection, and composition, the course is a preliminary immersion in the culture of visual studies. Visual Communication 1 also provides students with basic skills and techniques (in freehand drawing, 2D and 3D CAD drawing, laser cutting, model making, Illustrator and Photoshop software) which allow the students to experiment with many of the issues and ideas introduced. Students will be responsible for individual projects which exhibit their grasp of the lecture topics.  [Note: Software involved will be Photoshop, Illustrator, InDesign and AutoCad]

Assessment: 100% continuous coursework assessment

ARCH3056  Visual Communication 2 – Visual Content (6 credits)
Visual Communication 2 focuses on producing visual content through digital modeling and the communication among a variety of associated digital tools for drafts, analysis, diagrams and fabrication. Based upon the knowledge in geometry and computational logic, this course will construct a series of digital and physical models alongside the design studio projects including
topography models out of the information available to the public domain, parametric massing and envelop models with a high degree of precision, communicative models for visualizing information through different format of the visual content, analytical models for design evaluation feedback, and the production models from a series of computer controlled fabrication devices, including the CNC milling machine, the large-format laser cutter, and a three-dimensional printer.

**Assessment:** 100% continuous coursework assessment

**ARCH3060 Visual Communication 3 – Animate Systems (6 credits)**

(*Capstone Experience*)

Visual Communication 3 examines techniques associated with forming narratives in architecture. Beginning with modeling complex spaces, the focus will be on producing images and presentation line drawings. The course will introduce the concept of digital analysis for environmental and structural systems. The final project consists of an animated series of drawings which will utilize motion studies as a tool of design and discourse. [Note: Software involved will be Rhino, Grasshopper, Vray, Keyshot, Ecotect, Photoshop, and Illustrator]

**Assessment:** 100% continuous coursework assessment

Pre-requisite: ARCH3056 Visual Communication 2 – Visual Content or DESN1002 Representation

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**BA(ArchStud) Disciplinary Electives**

**CATEGORY I: HISTORY AND THEORY**

**ARCH7118 Buddhism, Architecture and Buddhist Architecture (6 credits)**

This course explores the philosophies of Buddhism as applicable to Architecture and various forms of Buddhist Architecture. Students will learn the overview of Buddhist Architecture including the historical origin, meaning and cultural background of different building typologies of Buddhism in various regions including India, Sri Lanka, Han China, Japan and Tibet etc. This is also an introduction to the understanding of Oriental culture where Buddhism is an important basis. The course will cover the basic forms and symbolic meaning of Buddhist Architecture in the Theravada, Mahayana, Vajrayana and Zen schools of Buddhism with reference to the architectural examples in the appropriate regions. The architecture of Buddhism will cover monasteries, rock-hewn caves, stupas, temples as well as the Asoka pillar. The course will explore some important architectural icons such as the four holiest sites in India, Samye monastery in Tibet, Ryoanji Temple, Horyuji and Kenninji Temples in Japan, Famen Temple in China, Borobudur in Indonesia, Cave temples of Dambulla in Sri Lanka etc. Also, the influence of Buddhist philosophy on Modern Architecture will also be explained.

**Assessment:** 100% continuous assessment

**ARCH7119 Politics of / Space / of Performance (6 credits)**

The course will be of interest for students interested in discovering intersections between space, politics, architecture and performance. These themes will be developed through a parallel survey: of contemporary thinking about space and the political; and of performative architecture.
The “spatial turn” in the humanities and social sciences has meant that discourses about space have proliferated in diverse disciplines: from geography, sociology, economics and cultural studies. How disciplines outside of architecture take apart and think about space can help inform and situate our own positions. While a deep, disciplinary knowledge of any of the thinkers we will be looking at is not possible, the course objective is to provide students with a framework for further investigation and the capacity to relate ideas to their own architectural project or position.

While “architectural performance” is commonly used to describe how a building responds or behaves in relation to changes in the environment, performative architecture uses elements from theatre, dance, music and the occupation of public space, for example, to expand architecture’s domain. Performative architecture crosses disciplinary and creative boundaries and has been an important part of architecture’s repertoire throughout its history.

We will look at contemporary thinking by reading interviews and watching lectures by selected figures and at performative architecture through student presentations of contemporary and modern case studies. Close and active reading, in-class discussion and a critical engagement with all of the material that we have the chance to encounter will be a pre-requisite to successful completion of the course. Students will be encouraged to draw connections to the way readings and case studies relate to studio or thesis work.

Assessment: 100% continuous coursework assessment

ARCH7124 Utopian Architecture and the French Revolution (6 credits)
The French Revolution that occurred from 1789 to 1799 was a historical rupture that shook the foundations of Enlightenment Europe. For many historians and writers, the Revolution and its subsequent Terror signalled the birth of modernity and the rise of the contemporary nation state. Its legacy has been felt globally, as it inspired (or caused resistance to) successive waves of revolution in various geographies that sought to recapture its utopian spirit. We study this utopian ideal through the lens of architecture, beginning with the work of the radical monument-makers of late-eighteenth century France, continuing with the theatrical and dreamlike architecture of the Hegelian Idealists in Germany, and finding ourselves ultimately in the twentieth century, examining the architecture of the Russian revolution and of 1930s Italy. In each case, we will carefully unpick the complex relationship between architecture and ideology, including the moments this uneasy marriage succeeded in its utopian aims, as well as the many accounts of its abject failure.

Assessment: 100% continuous coursework assessment

ARCH7161 Vernacular Architecture of Asia (6 credits)
Vernacular built-form is the most obvious and direct means of expression of a people and their culture. Through the examination of different indigenous building types in different parts of Asia, viz. China, Japan, Indonesia, Malaysia and Thailand, students are able to develop a broader sense of understanding of the relationship between architecture, climate and culture.

Assessment: 100% continuous assessment
ARCH7269 Architecture and the City (6 credits)
(cross-listed under Category II: Urbanisation and Habitation)
This contemporary urbanism seminar will investigate urban spatial production processes through selected case studies of ‘culture-led urban developments’ in the cities of Hong Kong and Singapore. Weekly sessions will thematically introduce the issues of urbanism, from land ownership, public-private partnerships, governance structures, gentrification, etc. that have direct impact on architecture and the built environment in the city. Guest experts from Hong Kong and the region will also give input lectures on selected themes throughout the semester. Students, working in teams, will analyze the case studies using the tools learned in these sessions. Each team will produce a clearly narrated compendium of analytic drawings and diagrams that assesses each of the case studies, which together highlight the comparative analysis built into the duo-city multiple case study.

Assessment: 100% continuous assessment

ARCH7179 Architects and Politics: Exhibiting Politics (6 credits)
This course will examine architectural exhibitions as an important tool for architects practicing politics, where architecture and politics are considered to be two separated worlds. The research seminar will introduce the internationally recognized exhibition platform from Biennales, World Expo, and other large site-specific cultural events enable to produce for those interested in understanding architecture beside building alone.

Assessment: 100% continuous assessment

ARCH7406 Architects and their Chairs (6 credits)
(cross-listed under Category IV: Digital Media and Fabrication)
“The chair is a very difficult object... There are endless possibilities and many problems – the chair has to be light, it has to be strong, it has to be comfortable. It is almost easier to build a skyscraper than a chair.”- Mies van der Rohe

The chair materializes the way of living. From a ceremonial object symbolizing power before enlightenment, to a mundane utilitarian object associated with work in the industrial age, and eventually to what represents the contemporary lifestyle and personal identity, the chair provides a sectional view of the modern life. Architects’ chairs particularly, charged with ideas also manifested in their houses, are statements of their vision toward domestic living.

Yet such statements are achieved through evolution, not revolution. Looking back at the lineage of Danish tradition in furniture design, whose many components grew out of Chinese Ming chairs, one may be able to understand how a classical form that originated in one culture could be altered and adapted to another. The perspective toward design as an evolutionary process constitutes the methodology of this workshop, believing that innovation is not to break up with history, but accomplished through exhaustive and iterative development from a precedent.

CATEGORY II: URBANISATION AND HABITATION
ARCH7260 Housing in Urban Development (6 credits)
The course investigates the production of housing within the social, political and spatial conditions in urban development. Topics include social and economic determinants of housing location, standards and quality of design; impact on urban development; analysis of housing production including site and infrastructure, provisions; constraints and innovations in the housing industry; and case studies by field trip.

Assessment: 100% continuous assessment

ARCH7264 Contemporary Urbanism (6 credits)
This course integrates urban analysis research and architectural design methodologies to examine relationships between architecture and urbanism through the development of a working understanding of urban and architectural form in the context of the Contemporary City. The course examines the contemporary urban condition through readings of critical theories, analysis of developmental models, as well as empirical investigation of urban sites. In conjunction with physical, historical, social and economic research, alternative design strategies are explored to challenge existing presumptions and models of the contemporary urbanism.

Assessment: 100% continuous assessment

ARCH7265 Inter Cities (6 credits)
Inter Cities will explore transitional areas that are about to undergo significant urban transformation either in terms of massive growth or shrinkage. Usually occupying peripheral territories on the edge of cities these areas display unique characteristics – they are anomalies, estranged and contradictory to normative planning methods. Their condition is patchy and often incoherent mixing landscapes, industrial wastelands, and pockets of residential enclaves. Their governance and control is often contested involving overlapping political and individual desires. As they are emergent they display conditions of urbanism that are un-tested and somehow prototypical providing clues to how the future of our cities may evolve. To this extent Inter Cities are at the forefront of contemporary urbanism. The course will examine the conflicting forces that shape these unique urban landscapes including economy, politics, globalisation, industry, environmental conditions and shifting cultural values. Classes will discuss theoretical texts, examine case study examples, debate key issues and introduce methodological research tools.

Assessment: 100% continuous assessment

ARCH7269 Architecture and the City (6 credits)
(cross-listed under Category I: History and Theory)
This contemporary urbanism seminar will investigate urban spatial production processes through selected case studies of ‘culture-led urban developments’ in the cities of Hong Kong and Singapore. Weekly sessions will thematically introduce the issues of urbanism, from land ownership, public-private partnerships, governance structures, gentrification, etc. that have direct impact on architecture and the built environment in the city. Guest experts from Hong Kong and the region will also give input lectures on selected themes throughout the semester. Students, working in teams, will analyze the case studies using the tools learned in these sessions. Each team will produce a clearly narrated compendium of analytic drawings and diagrams that assesses each
of the case studies, which together highlight the comparative analysis built into the duo-city multiple case study.

Assessment: 100% continuous assessment

ARCH7277  Refugee Camp Design (6 credits)
In 1961, in opposition to the "war games" and cold war logic, Buckminster Fuller proposed the "World Peace Game" and instructed players to “Make the world work, for 100% of humanity, in the shortest possible time, through spontaneous cooperation, without ecological offense or the disadvantage of anyone.” In 2020, we have "At least 79.5 million people around the world that have been forced to flee their homes. Among them are nearly 26 million refugees, around half of whom are under the age of 18."

Our field of study is the world’s largest refugee camp: Cox's Bazar in Bangladesh. About 1 million Rohingya was forced to flee genocide in Myanmar since 2017. In Cox’s Bazar, the Rohingya face a complex number of challenges: access to drinking water, food, fragile shelter on land-slide prone terrain, sanitation, hygiene, and essential health and education services.

Based on existing need studies, students will work on: Gardening, Composting, Sustainable Toilets, Aquaponics, Rainwater harvesting (and synergy with land sliding in refugee camps), Cartography. Working in small groups, students will produce device prototype, instruments, and educational material. It is not about solving refugees’ challenges, but bringing a new perspective and proposing ideas, design, and educational materials.

The course is being developed with and for actual refugees and experts - many of which will engage in live dialog with the students. Students will be supported to apply for grants to test the designs in Cox’s Bazar during summer 2021 with our partners.

Assessment: 100% continuous assessment

ARCH7278  Open Building in Transition (6 credits)
Open building is about architecture that connects to the pulse of life. It also the changes of design methodology in the request for sustainable future for the built environment. Open building is about an architecture that explicitly addresses – and meets with solutions - the challenges of change and continuity, and of individual and community responsibilities. This course investigates the concept and design strategies for everyday built environment characterized by changes and participatory in design. If change of use in stable form is normal – therefore let us distinguish which technical parts and spaces last longer, and which will change or be replaced by parts performing the same function, to meet life in all its varieties and nuance. If no open designs everything – therefore let us understand and work with distributed design. This course consists of lectures, international forums, and workshops.

Assessment: 100% continuous coursework assessment

CATEGORY III: TECHNOLOGY AND SUSTAINABILITY
**ARCH7355  Designing Care in the Commons (6 credits)**
From cattle overgrazing to climate change, rational economic individuals habitually act to maximize personal gain, consciously ignore the consequential depletion of shared resources, causing great harm to the entire community - evolution biologist Garrett Hardin (1968) elaborated on this phenomenon in his profoundly influential paper, the Tragedy of the Commons. The objective of this studio is to design a series of temporal-spatial interventions that could rescript these types of tragedy away from the commons. What needs to be in place to disrupt catastrophic externalities caused by individuals’ endless self-serving interests, and to trigger a gearshift in momentum to foster community well-being towards an equitable and sustainable future? Can citizen-architect design site-specific-situational encounters that could generate ripple effects of mutual care in the commons?

Assessment: 100% continuous coursework assessment

**ARCH7365  Design Research on Architecture and the Environment (6 credits)**
This course focuses on case studies and design experiments related to architecture and the environment. It foregrounds an understanding of the effects of architecture on its immediate environment, literally the environments that buildings create. This course will be conducted as a research seminar, the predominate mode of thinking, intellectual development and idea formation for the course is physical modeling and diagramming. Each week students will be required to do a series of readings and will work in teams to analyze two precedents through sectional models, drawings and diagrams. Students will study two precedents over the course of the entire semester devoting approximately a half a semester to each. Students will be asked to cull out specific design ideas from readings and associate them with sectional models and drawings for in class discussions and pin ups. Case studies, model making and prototypical modes of research will be used as a vehicle to discern specific disciplinary design techniques and strategies.

Assessment: 100% continuous assessment

**ARCH7376  Inhabitable Territories (6 credits)**
Located on the ambiguous limits between the artificial and natural world, ski resorts and beaches inform us about human’s contemporary relationships to the environment. With a series of territorial installations, a wide range of specialists has been articulating natural spaces in order to enable sensorial experience for the sake of leisure and fun. They have deeply modified the original settings and produced new forms of geography and landscape. The aim of this course is to reveal the underlying system at work by highlighting experiential, programmatic and infrastructural continuities. From an architectural point of view, we will interrogate the way these spaces are generated and the behavior they produce.

Assessment: 100% continuous assessment

**ARCH7382  Floating Marine Laboratory (6 credits)**
In this course, we will design innovative ocean science and entrepreneurship infrastructures. A floating laboratory for research and development to study the ocean and develop sustainable solutions for Hong Kong waters and the world.
The ocean is where all life comes from and our future depends on it. The ocean covers more than 70% of our planet’s surface and absorbs most of the heat from the sun, therefore controlling earth’s climate. But our oceans are mostly unexplored while being overfished, polluted with plastic, industrial and agricultural run-offs and radioactive substances. The ocean is suffering a rapid biodiversity decline without much general public awareness and more so lacking significant action to reverse this deadly trend.

Assessment: 100% continuous assessment

ARCH738  Deep Drawing (6 credits)
Based around the ambition of developing new tools to examine and plan the territory, students will engage with the transformative role of drawing as a way to investigate topographical and architectural conditions. The drawing will operate at a variety of scales, from the territorial, involving displaced and constructed geographies, to the intimate, looking at the processes of fabrication and manipulation of raw materials into building components. This methodology of drawing as a form of research puts forward the importance of assessing architecture through multiple scales beyond that of the building and various tangibilities. This approach will develop the student’s capacity to be both a maker and a territorial agent, triggering an awareness of the designer's social and environmental responsibilities in relation to resources, past and living histories within the design process.

Survey drawing is our primary tool of investigation and the relationships between representational techniques, technology and the reading of the built environment are at the heart of our discussions. The survey encompasses many forms of drawing, from the technical to the speculative or the imaginary. The survey is not an illustration but a construct. The drawer builds on the knowledge gleaned from the survey to reveal what is hitherto unseen to the curious eye. To survey a condition is to reveal its essence, provoking a transformation that renders the first act of design. Each drawing evolves beyond the mere representation of a condition to become the repository of the drawer’s findings. By making a survey the drawer ‘draws oneself into place’ finding points of departure to act and taking an active part in the future of a city or a territory.

Assessment: 100% continuous assessment

ARCH7476  Generative Design in Architecture (6 credits)
(cross-listed under Category IV: Digital Media and Fabrication)
Generative Design in Architecture is a research seminar concentrating on the discoveries, applications, and critiques of emerging digital design technologies in finding architectural design solutions. In this course, different programming methods will be introduced as the drivers to navigate through five interdisciplinary fields that are increasingly entwined with architectural design. These fields include computational geometry, digital fabrication, simulation and analysis, sensing and 3D scanning, and artificial intelligence (AI). The goal of understanding these emerging technologies is to develop new design models that are transformed from human-centered solution describing processes to machine-centered solution searching processes. With the advances in today’s computing technologies, such change will enable us to explore a broader solution space beyond the constraints of our empirical knowledge regarding geometries, materials, structures, and aesthetics. However, besides the enlarged solution space, it is more important to examine whether generative design processes could stimulate us to think efficiently, think
differently, and think more creatively. Because in generative design processes, instead of being occupied by manipulating forms, designers have more freedom in defining and redefining design goals and criteria.

Assessment: 100% continuous coursework assessment

**CATEGORY IV: DIGITAL MEDIA AND FABRICATION**

**ARCH7406**  Architects and their Chairs (6 credits)
(cross-listed under Category I: History and Theory)

“The chair is a very difficult object... There are endless possibilities and many problems – the chair has to be light, it has to be strong, it has to be comfortable. It is almost easier to build a skyscraper than a chair.” - Mies van der Rohe

The chair materializes the way of living. From a ceremonial object symbolizing power before enlightenment, to a mundane utilitarian object associated with work in the industrial age, and eventually to what represents the contemporary lifestyle and personal identity, the chair provides a sectional view of the modern life. Architects’ chairs particularly, charged with ideas also manifested in their houses, are statements of their vision toward domestic living.

Yet such statements are achieved through evolution, not revolution. Looking back at the lineage of Danish tradition in furniture design, whose many components grew out of Chinese Ming chairs, one may be able to understand how a classical form that originated in one culture could be altered and adapted to another. The perspective toward design as an evolutionary process constitutes the methodology of this workshop, believing that innovation is not to break up with history, but accomplished through exhaustive and iterative development from a precedent.

Assessment: 100% continuous coursework assessment

**ARCH7462**  Computer-aided Architectural Design Methods (CAAD Methods) (6 credits)

A study of current computer techniques and technologies which can be used by architects to develop design methods that fully exploit contemporary computers as design aids.

Assessment: 100% continuous assessment

**ARCH7467**  Making Ways and Ways of Making (6 credits)

One to one design is not an issue of how large a physical output becomes but rather how the properties of real materials are vigorously experimented with at any particular scale. The seminar will strive to bring forward inventive means of making that engage material behaviours in response to external forces at work while remaining receptive to its investigated scale. Making ways for such prototypes will address the necessity to construct intermediary frameworks which will become an integral part of the making process. This workshop based seminar, supported by a series of lectures, will encourage students to explore procedural logics of making that expand on and revisit initial design premises from a series of physical explorations at incrementing scales. Each scale of investigation will have its own design focus and will inform the overall conception of a collective design-built project realized by the students near the end of the course. The core
ideology is to influence the process of architectural design in reverse; that is by synthesizing an architectural proposal from the findings emerging out of a succession of well crafted experiments.

Assessment: 100% continuous assessment

**ARCH7474  Structural Research – Gridshells (6 credits)**

This course specialises in the design and construction of doubly curved grid structures. Through analysis of existing structures and innovative research of independent hypothesis, students will become experts in the field of strained gridshells, discovering new potentials for digital design and fabrication.

The course aims to install a methodology of research-by-design, fostering self-responsible, creative research based on well-founded scientific principles. These principles will be taught through theoretical inputs, hands on workshops, model making and digital modelling of reference structures. The class will acquire the ability to use Rhinoceros, Grasshopper as a digital 3D environment to explore and design complex structures, and Kangaroo and Karamba, to conduct form finding and structural analysis tasks, and digital manufacturing to fabricate and construct meaningful prototypes.

Assessment: 100% continuous assessment

**ARCH7475  Visual Practices (6 credits)**

The course will explore the use of drawing and visualization as a critical tool for design. Students will experiment with a range of illustrative media and techniques representative of both traditional and emerging design approaches and expand on their ability to work across digital and analogue media. Tutorials will be given in a range of techniques and applications. In-class lectures and tutorials will be supplemented by discussions inspecting relevant drawings and visualizations, their authors and if applicable, the issues that defined their work. A series of iterative drawing and visualization exercises will structure the course. These will be shared and discussed during class. Students are expected to have basic drawing and visualization skills, be able to undertake visual research and produce visual narratives.

Assessment: 100% continuous assessment

**ARCH7476  Generative Design in Architecture (6 credits)**

*cross-listed under Category III: Technology and Sustainability*

Generative Design in Architecture is a research seminar concentrating on the discoveries, applications, and critiques of emerging digital design technologies in finding architectural design solutions. In this course, different programming methods will be introduced as the drivers to navigate through five interdisciplinary fields that are increasingly entwined with architectural design. These fields include computational geometry, digital fabrication, simulation and analysis, sensing and 3D scanning, and artificial intelligence (AI). The goal of understanding these emerging technologies is to develop new design models that are transformed from human-centered solution describing processes to machine-centered solution searching processes. With the advances in today’s computing technologies, such change will enable us to explore a broader solution space beyond the constraints of our empirical knowledge regarding geometries, materials, structures, and aesthetics. However, besides the enlarged solution space, it is more important to examine whether generative design processes could stimulate us to think efficiently, think
differently, and think more creatively. Because in generative design processes, instead of being occupied by manipulating forms, designers have more freedom in defining and redefining design goals and criteria.

Assessment: 100% continuous coursework assessment

ARCH7477 3D Printed Matter (6 credits)
In recent years 3D printing has made its way into the building industry. While the technology is still in its infancy, the profession has witnessed the first prototypes in different parts of the world. As the city of Dubai alone expects to utilize the technology for more than 25% of all buildings built by 2030, some players within the profession anticipate that the technology will revolutionize the production of architecture. Technology in the building industry is often driven by efficiency and economic factors but rarely by creativity. At the beginning of the 2020s, the world is confronted with pressing issues. As architects, we must ask, what are the advantages of these new ways of making? Can the technology solve issues we could not address previously? Are we merely replacing old ways of making with new ones without asking the right questions? The course will address these questions and will introduce students to the technologies related to 3D printing in the Robotic Fabrication Lab at HKU.

Assessment: 100% continuous coursework assessment

ARCH7478 Bending Bamboo Rules (6 credits)
The combination of bamboo construction and digital design technology enables radically unique and spatially versatile architectural solutions rooted in local culture and sustainable building practices.

Design research course “Bending Bamboo Rules” builds on earlier fundamental research on the digital design and implementation of bending-active bamboo shell structures and expands its concept design methods, leading to more diverse design outcomes. The course combines research in architectural design with digital physics-simulation engines and prototyping for low-tech, lightweight construction systems and uses demonstrator design studies as proof of concept.

Bamboo is a material of high environmental and socio-cultural importance. It is one of the fastest growing, widely available, low-cost, carbon-sequestering natural resources suitable for direct implementation in construction. It has globally been part of vernacular construction for centuries. Expanding its design solution space with contemporary answers will positively impact the development of the built environment.

Bending-active shells are amongst the most material-efficient, hyper-lightweight structures. They rely for strength and construction implementation on the overall geometrical double curvature and elastic bending properties of their components. Their nonstandard geometries provide unique spatial design opportunities, and their material efficiency results in a reduced need for natural resources. This course’s outcome will illustrate that a wider and spatially more versatile and practically applicable solution space exists for this eco-friendly mode of construction.

Assessment: 100% continuous coursework assessment
ARCH7479 Temporary Site-Specific Installation (6 credits)
This class will involve thinking with materials, mixed-media exercises, and the formation of large-scale creative concepts through small-scale experiments and temporary constructs. We will explore ways in which traditional handwork, and material knowledge can be extrapolated into site-specific installations, spatial interventions and physical interactions with place and matter. This course merges the history of craft and technology, with hands-on making and archival research to create a series of projects designed to build deeper structural understanding of the materials and what is possible.

Assessment: 100% continuous coursework assessment

ARCH7480 Transfer – Structural Transformations (6 credits)
The course adopts an experimental approach to physical models and structural understanding, exploring how we use models in architecture as a tool to test and innovate on structural principles. This course is giving the students an opportunity to deepen their understanding of high-rise structures, structural design and structural load transfer.

Students will learn about the general principles that underlie in high rise buildings and the major challenges that lie within structural load transfer. The course will give plenty opportunities to analyse existing buildings, experiment with structural principle and apply the knowledge to design solutions.

Assessment: 100% continuous coursework assessment

CATEGORY V: PRACTICE AND MANAGEMENT

ARCH7405 Research on Participatory Design in Architecture (6 credits)
Although “Participatory Design” and “Public Engagement” are terms which appear more and more often in contemporary architectural discourse, little research has been done regarding to this methodology. While related fields like urban planning and social studies have substantial literature and theories on wider social participation. This course is an action-research on the topic of participatory design in architecture. By collaborating with a local NGO, students are invited to design a mobile street kiosk in Kowloon City with the engagement of local communities. The methodology and effectiveness of participatory design will be the main focus and how architects can use different engagement tools to achieve a more comprehensive design outcome will be explored in this course.

Assessment: 100% continuous assessment

ARCH7568 Design Practice Field Workshop (6 credits)
This course is an intensive workshop involving in depth field research in the topic of design practice.

Assessment: 100% continuous assessment