This course frames architects within the building industry now and in the future. Case examples show how design responds to present economic, ethical and contractual forces and how these might project forward to the future. Lectures and exercises encourage students to develop understanding of current practices and question where they can be transformed.

§ **Context**
History and tradition are contrasted with rapidly changing contemporary practice. Topics include the future of architectural practice to achieve Architecture 2030 goals, Integrated Project Delivery (IPD), and data-based technology such as Building Information Modeling (BIM).

§ **Research**
The relationship between academic and professional research is becoming ever more critical as the level of complexity in practice has grown. Topics include the nature of research, research typologies, and practice-based research.

§ **Law and the Flow of Responsibilities**
Tracking the responsibilities of a professional architect throughout a project from request for proposals (RFP) to construction administration. Lectures will cover challenges in understanding the legal role of the architect in light of changing project delivery methods, building production and performance criteria.

§ **Collaboration, Leadership and the Flow of Relationships**
Collaborative practices and their implications on interdisciplinary work, authorship and other possible areas of negotiation and tension. Case examples will be used to illustrate how stakeholders communicate and resolve issues.

§ **Data and the Flow of Information**
Case examples will illustrate how information is formed, tracked and communicated in the form of construction documents and management of changes over time, particularly in the context of data-driven technology and digital media.

§ **Finances and the Flow of Money**
Economic forces shape building development at multiple scales. Topics include basic mechanisms of financing and relate their effects to patterns of development, cost management in traditional and integrated project delivery methods.
Title: Arch 5621: Professional Practice required fall semester course for graduate professional students. For those student with non-pre-professional degrees, course is taken in the second year of the three year M.Arch. For students with B.S. degrees, course taken in the first year of the two year M.Arch program
TEACHING NEXT GENERATION PRACTICE, NEXT

SIGNIFICANCE

Schools today are educating the architects who will reach their prime in 2030. Professional practice classes must address the fluid state of current practice and anticipate future change. This course weaves themes of change in each element of its structure. New practices are constantly postured with established methods and students challenged to anticipate what might likely evolve in the future. Most importantly, the course demands that students project forward their ideal profession, articulating their best ideas for the future. By asking students to understand their individual practice goals in context with their ideas for the whole of architecture, we teach future architects to lead better practices.

ABSTRACT

Undergoing profound change and pursuing experimental innovation, the profession has come to lead the academic. Practice education has not fully grappled with data-based technology, collaborative project delivery methods, performance-based directives and shifts in stakeholder relationships within the building industry.

POTENTIAL TO BE A MODEL

Considering how rapidly the profession is changing, it would be irresponsible to teach students only about practices of the past. Most schools have a required professional practice class but few have been able to address current topics affecting architecture. Unfortunately, the course material and structure of most professional practice classes today burden all too much similarity to those of courses from many decades ago. This course provides a model for a contemporary professional practice class, respectful of the past but facing to the future and demanding students take ownership of their roles in shaping it. Many aspects of the course can be easily implemented in other schools or expanded to continue education; however, the greatest value of the course can be found in its manner of embracing change and orientation towards creating future architect/leaders.

COURSE DESCRIPTION

In this course, practice issues are grouped into four main areas or “flows”: flow of responsibilities, flow of money, flow of information, and flow of management. Setting up these flows with broad components, one providing context of past and future practice and the other on research. Course material is largely presented through case studies, using primary source project documentation. Similarly, student work is case-based, completed after interviewing practitioners about the firm’s philosophy, business structure and documenting a case study project. Within each flow is a set of lectures covering case study examples, readings and a panel discussion. Students complete one small exercise for each topic and then choose one for in-depth study. The chosen focus area becomes the basis for students’ case study project.

ADDRESSING KNOWLEDGE AND SKILLS

Flow of responsibilities: covers many areas of collaboration, including copyright ownership, communication, work with consultants and client negotiation. Case studies include international projects with multiple related contracts requiring sophisticated communication skills and politically contentious projects such as Freedom Tower. Collaboration in integrated project delivery (IPD) is a theme covered through several lectures and readings within this segment. The increasing use of observing expertise, particularly for energy/sustainability is another overlap.

Flow of responsibility: covers legal responsibilities of each stakeholder in building industry, risk management, ethical issues in practice, contracts, marketing and insurance principles. Case studies cover what to do when things go wrong – such as reaching construction failures, managing risk in the IPD context, how to get work and keep it, and how typical architect’s responsibilities like liability issues can be leveraged to improve design. Shifts in responsibility with IPD and performance-based measures such as LEED are discussed.

Flow of information: lectures and panels highlight digital and analog project communication. Issues include: construction documentation, BIM, and model protocols such as AIA E220. Case studies illustrate the general sequence of construction documentation and typical points in a variety of delivery models, including use of BIM model data and changes due to IPD.

Flow of money: covers a range of financial issues from fee structuring principles, quantity surveying processes, reading developer proforma business management within a firm, use of risk/reward incentives in IPD, and project financing. This section has the largest number of guest lecturers providing specific expertise areas. Course material in this topic area has changed rapidly in the past year, reflecting the effects of the financial crisis on the building industry.

Additionally, critical areas are covered in research-based practice and practice-based research which contribute to an understanding of entrepreneurship and alternatives to traditional practice.

CONNECTING PRACTICE AND ACADEMY

The school’s strong ties to an active practice community make contact intensive student exercises possible. One course goal was to structure direct connection between students and architects, notwithstanding the logistical challenges of engaging a large number of architects. There was also important to promote their interaction in both classroom settings and office settings. The overall number of registered architected participating ranges from 30-50 each year, including lecturers, panels, and interviews. A few play multiple roles, serve only as interviewees. Many architects repeat involvement each year. Though there is some rotation so firms can adjust internal workload. A few of these architects also teach for most practitioners this is the only point of contact with the school. Approximately 35 firms have at least one architect involved with the course.

NON-FACULTY PRACTITIONERS

Non-faculty practitioners serve in critical roles in the classroom as guest lecturers and panelists as well as in the office providing material for the two major student projects: firm interview and case study. For these two reports, students work in pairs, requiring collaboration and providing richer student interaction with practitioners. Some of the participating firms provide contact only with one person (usually the firm principal), while others give the students access to the entire firm leadership and/or project team. For the firm interview, students are specifically asked to go beyond the marketing or promotional view presented by the firms’ websites by asking respectful but pointed questions to the practitioners. This interview is structured to take about 30 minutes of the architect’s time, with the students spending additional hours preparing and synthesizing the interview for their report. Students write narrative and create diagrams of the firm’s structure as they understand it. Report is shared with the firm, who are also invited to attend a class discussion on the cases.

All participating firms agree to a second interview documenting a mini-case study. This is a short case study requiring months of preparation; instead it is a highly focused 30 minute interview on a particular aspect of a project illustrating a decision moment related to one of the four major course topics: collaboration, contract/ownership, information or money. Students tie the mini-cases with what they have learned in lectures and readings and with knowledge gained from firm interviews.

CASE-BASED LECTURE SERIES 1

One set of lectures, delivered by practitioner faculty, crossovers several topics, covering multiple aspects of the same complex high-profile building. Spread over the semester, these lectures use one project repeatedly to illustrate issues in each topic area, also revealing differences and continuity between topics. Other lectures complement this thread by providing general information and additional case examples for each topic.

By being both reflective and projective, this course provides perspective on architecture to those who will form its future. Students understand that roles an architect will be different than those of the past. Pressured by forces such as BIM, LEED, global practices and sustainable design imperatives, architects must be skillful in collaboration and entrepreneurship while maintaining their professional values.
project delivery methods, performance-based directives, and data-based technology. Grappled with new collaborative and digital tools. Undergoing profound change and pursuing new marketing and insurance principles. Case studies illustrate the flow of money. Setting up these flows are two broad imperatives, architects must address: one is the necessity to illustrate issues in each topic area, also revealing contributions to the whole of architecture, we teach future architects to lead better practices.

Schools today are educating the architects who will lead the profession in the future, but looking to the future and demanding too much similarity to those of courses from many years ago. Most professional practice classes today bear all the marks of corporate oneness, without substance. The rushed nature of the schedule for this project was the driving force behind the selection of this particular project. Under this partnering agreement the six primary stakeholders involved with the project were brought together as a core team. This core team functioned similarly to an architect and contractor at the beginning of the project and a collaborator at the end of the project. Delays were inevitable and construction failures, managing risk in the project delivery process.

DELIVERY METHOD: CONSTRUCTION MANAGER AT RISK

Eric managed all design decisions and acted as a constant mediator between the architect and contractor on choosing partners and making changes. Eric went over and above his contract to service the client and the project, ensuring success, while mutual trust and complementarity between the architect and contractor on choosing partners and making changes. Eric went over and above his contract to service the client and the project. Their collaboration is seen as a true partnership.

One course goal was to structure direct communication and provide richer student interaction in the classroom settings and office settings. This was structured to take 90 minutes of the architects' time, including use of BIM model data and changes due to protocols such as AIA E202. Case studies illustrate how to leverage BIM model data and changes, and how to use it to improve design. Shifts in the design process can be leveraged to improve design. Shifts in the design process can be leveraged to improve design.

The firm interview and case study are heavily illustrated with diagrams that show relationships, decision-making sequence and business strategies. Narratives complement the diagrams and together they demonstrate students' grasp of the many practice issues embedded within each topic. The case study illustrates an example of a specific project decision directly related to one of the four topic areas. Students work in teams of two for firm interview and case study facilitating team work and professional communication.
Overall Diagram of How the Professional Practice Course Fits Within the M.Arch Curriculum

SCHOOL OF ARCHITECTURE - UNIVERSITY OF MINNESOTA
CURRICULUM PRACTICE CONTENT AND EVOLUTION

PROFESSIONAL PRACTICE COURSE

PROFESSIONAL PRACTICE MODULE

PRACTICE EXPERIENCE MODEL (INTERNSHIP)

PROFESSIONAL PRACTICE CATALYST

Curriculum Practice Content and Evolution

Overall Diagram of How the Professional Practice Course Fits Within the M.Arch Curriculum

School of Architecture - University of Minnesota

Curriculum Practice Content and Evolution

PROFESSIONAL PRACTICE COURSE

PROFESSIONAL PRACTICE MODULE

PRACTICE EXPERIENCE MODEL (INTERNSHIP)

PROFESSIONAL PRACTICE CATALYST

ACSA Awards Practice and Leadership: Professional Practice

Professional Practice Class, School of Architecture, University of Minnesota
MINI CASE STUDY
PROJECT NAME: UNIVERSITY HOSPITAL
PROJECT LOCATION: DUBAI, UNITED ARAB EMIRATES
CLIENT: DUBAI HEALTHCARE CITY [DHCC]
BUILDING TYPE: INPATIENT+OUTPATIENT HOSPITAL
BUDGET AND PROJECT COST: $700 MILLION [TOTAL PROJECT] DESIGN FEES: $35 MILLION
SIZE: 1,450,000 SQ. FT.
SCOPE OF SERVICES: MASTER PLANNING+MEDICAL PLANNING/ARCHITECTURAL DESIGN/INTERIOR DESIGN/MECHANICAL+ELECTRICAL ENGINEERING DESIGN
COMPENSATION TYPE: MONETARY VIA CONTRACTUAL OBLIGATION
PROJECT DELIVERY METHOD: PARTNERING AGREEMENT + FAST TRACKING PACKAGE DELIVERY

CASE STUDY: ELLERBE BECKET
CASE FOCUS: RESPONSIBILITIES
INTERVIEWERS: ANDREW MOEDING, PETRO MEGITS
INTERVIEWEES: JEFF FRUSH, AIA, NCARB, PRINCIPAL + PROJECT DIRECTOR
SUBMIT DATE: 11/18/2008

Example of Student Work, Mini Case Study with Focus on the Flow of Responsibilities
The delivery method for this project took the form of a “partnering agreement.” Under this partnering agreement the six primary stake holders involved with the project were brought together as equal partners who shared risk and responsibility for its development. These six stake holders included the owner, general contractor, MEP contractor, project manager, architect, and quantity surveyor. This group of partners formed what was referred to as the “core team.” This core team functioned similarly to an architect and contractor working within a joint venture on a design-build project. This is because all disputes were settled within the core team in order to reduce the risk of possible litigation. Additionally, all of the major decisions relating to the project were made collectively by the core team.

The rushed nature of the schedule for this project was the driving force behind the selection of this particular project delivery method. This is primarily because the partnering agreement model allowed for a design-build-like process where construction could begin prior to the completion of design work. In this end, the project was broken down into five primary packages that could be issued according to their construction sequence. This has allowed the project to move along fairly rapidly. The partnering agreement model was also chosen in part because the involvement of all the major stakeholders in the decision making process allowed critical information about this incredibly large project to be shared almost immediately. Generally speaking, the benefits of this project delivery method are the ability to “fast track” construction, increase communication between stakeholders and, as a result, reduce the number of changes needed to be made during construction and the likelihood of messy disputes. On the other hand, the primary liability of this project delivery method is that it is can be fairly vague about the distribution of responsibilities. If a dispute were to arise within the partnering agreement, depending on the exact nature of the dispute, it could be difficult to identify the specific party who was responsible for its cause. These liabilities and the lessons to be learned from the use of this project delivery method will be explored in our examination of a specific decision making moment.
Example of Student Work, Mini Case Study with Focus on the Flow of Relationships
The beginning stages of the MPS Headquarters project delivery method was conceived as design-build, which meant that all decisions for the design would be routed through a single entity, Mortenson M.A.. After the change to a design-bid-build project delivery method, UrbanWorks signed a separate contract that granted them a larger stake in the decision making process. Gaining a larger stake in project decisions allowed UrbanWorks to have greater control over the design of the project but also added extra levels of communication, liability and responsibility to the project. Internally, the UrbanWorks hierarchy of decision making changed. The project architect, project manager, and project designer still reported to the project principal directly, however external consultants were now overseen by UrbanWorks as well.
contracts the client has less contractual obligations and both the architect and contractor can have full control of their scheduling. In a way both UrbanWorks and Mortenson Development recognized the requirements imposed by the state, which maximized the communication potential of all parties involved in the project. However, the line of communication creation put Mortenson at the top of all design and monetary decisions for the project. Liability and contractual obligation fell solely on Mortenson, while all subsidiary agencies reported through them to MPS.

In the early stages of the project (under design-build), each team had clear understanding of the chain of command worked collaboratively on the project and other sub-contracts were handled in a way that reflects the principles of design-build. In this case, the state's restriction forced the client, architect, and contractor to separate their contracts and follow design-bid-build guidelines once the project was officially engaged. Though this was the case, all parties involved still attempted to work together to make good use of these dynamic teams. Arguably, the most effective delivery method for this scale of project would be design-build as it allows for a single contract to envelope all entities involved in the design and construction of the project.

In this case, the project is quite large (around 200,000 square feet of office and adult learning space), it requires the collaboration of many professionals from a wide range of disciplines throughout the term of the project. Meetings, processes and lines of communication must be well organized and work together to make good use of these dynamic teams. Arguably, the most effective delivery method for this scale of project would be design-build as it allows for a single contract to envelope all entities involved in the design and construction of the project.
American University in Beirut was designed by VJAA and has won major design awards. There are many aspects of the building worthy of study. In this professional practice class, VJAA partners talk about the project repeatedly. The repetition is intentionally woven into the course, using AUB as a constant among the many case study examples that the students see over the course of the semester. AUB is used to illustrate practice based research, flow of responsibilities, flow of relationships, flow of data, and flow of money.

Images here are from lectures discussing practice-based research and introducing the project.
VJAA’s team was drawn from a global network of consultants, some with previous relationships and others new. Issues around the contract, fees and responsibilities are explained in a series of lectures. The client was complex with several stakeholders and decision making layers.
To fully understand how research and the flows of responsibilities, relationships, data and money worked in this project, original design documents are used to illustrate the range of analysis, inclusion of the consultants and decision making by the client.
Syllabus

Instructors
Renée Cheng, FAIA, Professor
Nathan Knutson, AIA, Professor in Practice
Jessica Horstkotte, Instructor, (support for Firm Interview and Mini-cases)
Lucas Glissendorf, Teaching Assistant

Looking forward, what can we anticipate? Like every burgeoning epoch, the twenty-first century will contour research and practice with its own unique signature. The interdependence between practice and applied research will surely intensify in the future, as we have already witnessed by the recent advances in digital imaging, virtual construction, and information design; accelerating developments in building science and sustainability; greater understanding of rapidly changing global economics; and new paradigms in architectural theory with new significance for practice. Undoubtedly, as research in architecture stimulates greater degrees of precision in our design, production, and management of the constructed world, it will increasingly influence our evolving professional identity.

Daniel Friedman, Reflections on Research, 2006

What we are really doing is changing the conversation.

Ed Mazria (founder Architecture 2030), Interview

If you want to survive, you’re going to have to change. If you don’t change you’re going to perish….since [1986] architecture has been eviscerated. We’re cake decorators, we’re stylists. If you’re not dealing in direct performance of a work and you’re not building it and taking responsibility for it, and standing behind your product, you will not exist as a profession.

Thom Mayne, Change or Perish, 2006

COURSE OBJECTIVES
The objective of this course is to make clear the connection between design and the building production industry now and in the future. Climate change and data-driven technology are transforming practice, creating a new relationship between architectural design and research and new roles for architects in multidisciplinary teams. Case examples will show how design choices are made in the context of present economic, ethical and contractual forces and how these might project forward to the future. Course material will cover issues related to design and construction documentation, sequence, coordination, and communication, as well as financial and legal responsibilities and how such concerns impact the design. Exercises are intended to encourage students to develop understanding of current practices and question where they can be transformed.
COURSE STRUCTURE
Lectures
Class sessions will include lectures, panels and in class exercises. Prompt attendance for every session is required, if only as a courtesy to our many guest lecturers. Following each session, students will use Twitter to state a question that advances the topic of discussion. These reflections are not graded but used for continuous course improvement as well as NAAB accreditation documentation, showing evidence of student engagement with specific course material. Additionally it records attendance.

Lectures are divided into the following sections:

Context
The introduction will place the history and traditions of practice in contrast to the rapid changes occurring in contemporary practice. Lectures will cover recent projections on the future of architectural practice through Sustainable Design described in the Architecture 2030 goals, Integrated Project Delivery (IPD), and data-based technology such as Building Information Modeling (BIM).

Research
The relationship between academic and professional research is becoming ever more critical as the level of complexity in practice has grown. These lectures will examine the nature of research, research typologies, and practice-based research.

Law and the Flow of Responsibilities
Lectures will focus on the responsibilities of a professional architect throughout a project from request for proposals (RFP) to construction administration. Lectures will cover challenges in understanding the legal role of the architect in light of changing project delivery methods, building production and performance criteria.

Collaboration, Leadership and the Flow of Relationships
Lectures will describe various modes of collaborative practices and their implications on interdisciplinary work, authorship and other possible areas of negotiation and tension. Case examples will be used to illustrate how stakeholders communicate and resolve issues.

Data and the Flow of Information
Case examples will illustrate how information is formed, tracked and communicated in the form of construction documents and management of changes over time, particularly in the context of data-driven technology and digital media.

Finances and the Flow of Money
This section will concentrate on economic forces that shape building development at multiple scales. Lectures will cover the basic mechanisms of financing and relate their effects to patterns of development. Cost management in traditional and integrated project delivery methods will be discussed.
ASSIGNMENTS

Student projects will be assigned to complement the lecture sequence, readings and panel presentations. Assignments are to be treated as absolute deadlines, no extensions or make-ups will be given except in extenuating circumstances. Note deadlines are heavily front loaded in the semester to avoid conflict with final studio charrette, this requires you to stay on top of deadlines starting on the first day of class.

Context: Local Firm Interview 15%
A list of firms in the Twin Cities will be the source for interviews by teams of two students. Interviews will cover the firm’s profile, organization and business structure. A comprehensive graphic and written report is required, forming the basis for a second meeting with the firm later in the practice section of the course.

Research: Research-based Practice Futures 15%
A list of national and international practices will serve as a basis for analyzing research-based practices and understanding how they frame effective research questions. Work will be done individually.

Practice Exercises: Section Synthesis 24%
There are four practice sections: Responsibilities, Collaboration, Data, and Finance. Individual students are required to produce a 500 word essay for each section, synthesizing lectures, readings and panel discussions. This is not an objective report but a critical reflection on the topic that advances the class dialogue and draws connections between in-class material and outside sources where appropriate.

Practice Exercise: Twitter/Convention 6%
AIA Minnesota Convention is the third largest AIA component event in the US. World-class speakers participate and there are knowledge-rich exhibits. Students are required to demonstrate active engagement with at least one speaker and one exhibit through Twitter activity. Additional activity relevant to the course is required through the semester. Criteria for this segment are quantity and relevance.

Practice Exercises: Mini-case Study 35%
This is a continuation of the Firm Interview. Complete a mini-case study highlighting any one of the four practice sections. Case studies are intended to provide an orientation to the complexity of practice by recording the interrelationships of people, contracts, information and money. The mini-case study explores the decision-making process and examines the consequences of a critical moment within a project. Mini-cases produced by students are part of a class-wide dialogue with professionals, selected studies will be presented in class and may be shared beyond the class to firm or others.
WRITING

High-quality, clear and jargon-free writing is expected for all student work. Quality of writing will be consistently used as grading criteria for each exercise, poorly written exercises will be required to revise and resubmit with late penalty. The University Center for Writing <http://writing.umn.edu/sws/index.htm> provides excellent support. We recommend you use this resource before you submit work.

REQUIRED MEMBERSHIPS/ACCOUNTS
The following course requirements are intended to facilitate engagement with important organizations in the broad architectural community. If any of the following requirements poses undue hardship, see the instructor during the first week of class.

It is a course requirement that all students register in one or both of the following organizations: American Institute of Architecture Students (AIAS) Minnesota Chapter, Internship Development Program (IDP)

Students are required to have Twitter accounts and are encouraged to use this medium to share articles or thoughts relevant to the topics in the class. The instructor and TA should be added to your “follow” list.

GRADING

Grades will be on a hundred point system. Points will be determined by how well the objectives of the exercise are met and the quality of the execution of those objectives. It is extremely important that you ask questions to clarify the intentions and ground rules for each assignment. Late submissions and revisions are accepted at the discretion of the instructor and are subject to a 20% grade reduction. Team projects will be graded by team, and it is important that work is coordinated between individuals and that each team member participates fully. Peer grading will be factored into the evaluation of team exercises.

The grading for the course is broken down as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance and participation</td>
<td>5%</td>
</tr>
<tr>
<td>Context: Firms Interview (team of two)</td>
<td>15%</td>
</tr>
<tr>
<td>Research: Research-based Practice</td>
<td>15%</td>
</tr>
<tr>
<td>Practice: Section Syntheses (4 @ 6% each)</td>
<td>24%</td>
</tr>
<tr>
<td>Practice: Convention/Twitter Activities</td>
<td>6%</td>
</tr>
<tr>
<td>Practice: Mini-case Study (team of two)</td>
<td>35%</td>
</tr>
</tbody>
</table>
5621: Professional Practice 2017 Fall Schedule

<table>
<thead>
<tr>
<th>Week #</th>
<th>Tuesday 1:00-2:15</th>
<th>Thursday 1:00-2:15</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sept 5/7</td>
<td><strong>Context</strong>: Introduction/ Past and Present Professional Practice (rc)</td>
<td><strong>Context</strong>: Emerging Practices (rc)</td>
</tr>
<tr>
<td></td>
<td>Firm interviews issued</td>
<td>Reading Friedman, Bernstein</td>
</tr>
<tr>
<td><strong>Week 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sept 12/14</td>
<td><strong>Context</strong>: AXP, EPC, ARE. Internship and beyond (andrea, meg parsons)</td>
<td><strong>Research</strong>: Research in Practice Panel (stefnee and adam)</td>
</tr>
<tr>
<td></td>
<td>Reading Fisher</td>
<td></td>
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<tr>
<td><strong>Week 3</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sept 19/21</td>
<td><strong>Research</strong>: The Nature of Research (rc),</td>
<td><strong>Research</strong>: Emerging Research Topics (rc)</td>
</tr>
<tr>
<td></td>
<td>Firm interviews due</td>
<td>Research critique issued</td>
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<tr>
<td><strong>Week 4</strong></td>
<td></td>
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<tr>
<td>Sept 26/28</td>
<td><strong>Responsibilities</strong>: Case Beirut 1 (nk)</td>
<td><strong>Responsibilities</strong>: Beirut exercise (nk), IN CLASS EXERCISE</td>
</tr>
<tr>
<td><strong>Week 5</strong></td>
<td></td>
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<tr>
<td>Oct 3/5</td>
<td><strong>Responsibilities</strong>: Architect Do's and Don'ts (o'connor)</td>
<td><strong>Responsibilities</strong>: Programming (rc)</td>
</tr>
<tr>
<td></td>
<td>Mini-cases issued</td>
<td>Research critique due</td>
</tr>
<tr>
<td><strong>Week 6</strong></td>
<td></td>
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<tr>
<td>Oct 10/12</td>
<td><strong>Responsibilities</strong>: Programming exercise: SJU (nk)</td>
<td><strong>Responsibilities</strong>: Ethical Dilemmas in Practice (tom fisher)</td>
</tr>
<tr>
<td><strong>Week 7</strong></td>
<td></td>
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<tr>
<td>Oct 17/19</td>
<td><strong>Responsibilities</strong>: RFP's and RFQ's (ed kodet)</td>
<td><strong>Responsibilities</strong>: Failures: Cases _ Citicorp Hancock (rc)</td>
</tr>
<tr>
<td><strong>Week 8</strong></td>
<td></td>
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<tr>
<td>Oct 24/26</td>
<td><strong>Collaboration</strong>: Case Studies Engineers (rc)</td>
<td><strong>Collaboration</strong>: Behavioral/Cultural (rc)</td>
</tr>
<tr>
<td></td>
<td>Section Synthesis due (Responsibilities)</td>
<td></td>
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<tr>
<td><strong>Week 9</strong></td>
<td></td>
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<tr>
<td>Oct 31/Nov 2</td>
<td><strong>Collaboration</strong>: Intellectual Property and Copyright (nk)</td>
<td><strong>Collaboration</strong>: Case _Beirut 2 (nk)</td>
</tr>
<tr>
<td></td>
<td>Mini-cases due</td>
<td></td>
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<tr>
<td><strong>Week 10</strong></td>
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<tr>
<td>Nov 7/9</td>
<td><strong>Data</strong>: Emerging Issues of Data Transfer Panel</td>
<td><strong>Data</strong>: Construction Sequence &amp; Critical Path: Case Tokyo Forum (rc)</td>
</tr>
<tr>
<td></td>
<td>Section Synthesis due (Collaboration)</td>
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<tr>
<td><strong>Week 11</strong></td>
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<tr>
<td>Nov 14/16</td>
<td><strong>Data</strong>: Case _EMP (rc)</td>
<td>No class: required attendance at one convention session (your choice)</td>
</tr>
<tr>
<td></td>
<td>AIA MN convention ongoing</td>
<td>AIA MN convention ongoing</td>
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<tr>
<td><strong>Week 12</strong></td>
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<tr>
<td>Nov 21/23</td>
<td><strong>Finance</strong>: Client Role (Tom LaSalle)</td>
<td>Thanksgiving Holiday, No class</td>
</tr>
<tr>
<td></td>
<td>Section Synthesis due (Data)</td>
<td></td>
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<tr>
<td><strong>Week 13</strong></td>
<td></td>
<td></td>
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<tr>
<td>Nov 28/30</td>
<td><strong>Finance</strong>: Public v Private Development (Chris Wilson, PPL, Kit Richardson)</td>
<td><strong>Finance</strong>: Entrepreneurial financial models</td>
</tr>
<tr>
<td><strong>Week 14</strong></td>
<td></td>
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<tr>
<td>Dec 5/7</td>
<td><strong>Finance</strong>: Cost Control/Life Cycle Costing (Faithful/Gould)</td>
<td>Mini case discussion with firms</td>
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<td><strong>Week 15</strong></td>
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<tr>
<td>Dec 12</td>
<td><strong>Finance</strong>: Running a Practice Panel</td>
<td>Exam week, No class: Thurs DEC 15 Final Due Date</td>
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<td>Section Synthesis due (Finance), Revisions on any previous exercises due</td>
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