

SUPPLEMENTAL INFORMATION | Appendix 1: Course Descriptions

ARCH 500 Architectural Design I (6 credits)

Course Description:

Introduces students to the fundamental architectural issues—form, program, site, materials, and structure—through projects that emphasize the exploration and conceptual dimensions of architectural design and research.

Course Goals & Objectives:

1. Understand the relationship between human behavior, and the natural environment and the built environment in order to apply the exploration of form, composition, historic referents and generative concepts, to an architectural problem. 2. Recognize, observe and express a dialogue between the definition of space and the multivalent condition of the limit/enclosure. 3. Conceptualize and design one architectural object of moderate complexity such as a minimal habitation unit or an exhibition pavilion.

Student Performance Criterion/a addressed:

Ability:

A.5 Ordering Systems: *Ability* to apply the fundamentals of both natural and formal ordering systems and the capacity of each to inform two- and three-dimensional design.

A.6 Use of Precedents: *Ability* to examine and comprehend the fundamental principles present in relevant precedents and to make informed choices about the incorporation of such principles into architecture and urban design projects.

Understanding

C.1 Research: *Understanding* of the theoretical and applied research methodologies and practices used during the design process.

Topical Outline:

Lectures/Discussion 10%, Programming 10%, Site Analysis 10%, Conceptual Design 40%, Design Development 20%, Presentation 10%

Prerequisites: Admission to the Architecture Program.

Textbooks/Learning Resources:

F. Ching. **Architecture Form Space and Order**. Wiley and Sons. Hoboken. 2007.

F. Ching. **Architectural Graphics**. Van Nostrand Reinhold. New York. 2009.

P. V. Meiss. **Elements of Architecture. From Form to Place**. Spon Press. 1990.

Ramsey & Sleeper. **Architectural Graphics Standards**. Wiley & Sons. New York. 2007.

Wilson Atrion, William. **Architectural Presentation Techniques**. Van

Nostrand Reinhold. New York. 1982. (Classic text)

Offered: First Semester only; annually

Faculty assigned: See Faculty Matrix

ARCH 501 Introduction to History and Theory (3 credits)**Course Description:**

This course is an introductory survey of the history and theory of the western architectural tradition. The course intends to help the student develop an understanding of the social, cultural, political and economic context in which architecture is produced and interpreted. The students will also become familiar with basic terminology and theoretical approaches.

Course Goals & Objectives:

1. Recognize, observe and be able to discuss the principles of architectural production, political developments, aesthetics and the texts that served as foundation for western architectural production. 2. Identify concepts in order to establish a dialogue, relate, and understand architecture as a discursive device and how the discipline was directly related to notions of decorum, power and representation.

Student Performance Criterion/a addressed:

Understanding:

A.7 History and Global Culture: *Understanding* of the parallel and divergent histories of architecture and the cultural norms of a variety of indigenous, vernacular, local, and regional settings in terms of their political, economic, social, ecological, and technological factors.

Topical Outline:

Lectures 40%, Class Discussions 20%, Written Essays 20%, Exams 20%

Prerequisites: Admission to the Architecture Program.

Textbooks/Learning Resources:

Roth, Leland M. *Entender La Arquitectura: Sus Elementos, Historia Y Significado*. Barcelona: Gustavo Gili, 1999. Print.

Ching, Frank. *A Global History of Architecture*. New York: John Wiley & Sons, 2010. Print

Ching, Frank. *Architecture--form, Space, & Order*. Hoboken, NJ: John Wiley & Sons, 2007. Print.

Offered: First Semester only; annually

Faculty assigned: See Faculty Matrix

ARCH 505 Visual Thinking and Communication (3 credits)**Course Description:**

This course cultivates the ability to communicate through drawing enhancing visual, perceptual, and simultaneous thinking while developing student's representational skills.

Course Goals & Objectives:

1. Represent emotion and abstract ideas into forms of expression. 2. Communicate ideas using the appropriate representational media. 3. Use different techniques of architectural representation. 4. Identify concepts in order to think, draw, and analyze critically.

Student Performance Criterion/a addressed (list number and title):

Ability:

A.1 Professional Communication Skills: Ability to write and speak effectively and use representational media appropriate for both within the profession and with the general public.

Topical Outline:

Lectures/Discussion 30%, Projects 70%

Prerequisites: Admission to the Architecture Program.

Textbooks/Learning Resources:

Paul Lasaeu. **Graphic Thinking for Architects and Designers**, Wiley; 3 edition (January 15, 2000).
 Rudolf Arnheim. **Visual Thinking**, University of California Press; 1 edition (April 16, 2004).
 Paul Lasaeu. **Architectural Representation Handbook: Traditional and Digital Techniques for Graphic Communication**, McGraw-Hill Inc., US (1 May 2000).
 Thomas C. Wang. **Pencil Sketching**. Van Nostrand Reinhold. New York. 2002.
 F. Ching. **Architectural Graphics**. Van Nostrand Reinhold. New York. 2009.
 Wilson Atrion, William. **Architectural Presentation Techniques**. Van Nostrand Reinhold. New York. 1982. (Classic text)

Offered: First Semester only; annually

Faculty assigned: See Faculty Matrix

ARCH 510 Architectural Design II (6 credits)**Course Description:**

This course addresses the role of architecture in constructing social relations by creating innovative proposals for contemporary dwellings and site that explore the impact of new technological and social developments.

Course Goals & Objectives:

1. Analyze, interpret and produce context by means of the architectural object.
2. Apply concepts onto the investigation of the residential typology by defining contemporary conditions of domesticity.
3. Identify and examine the problem of the house in its different dimensions including: privacy, domesticity, social composition, programmatic requirements, cultural constructs and environmental sensibility.
4. Relate the discussions of sustainable communities, spatial ethics, private/collective spaces, space programming, and accessibility to the analysis and design of collective housing.
5. Identify the technical and structural definition of the architectural problem.
6. Understand the collective housing typology as an aesthetic/discursive device within the context.

Student Performance Criterion/a addressed:

Ability:

A.2 Design Thinking Skills: *Ability* to raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test alternative outcomes against relevant criteria and standards.

A.4 Architectural Design Skills: *Ability* to effectively use basic formal, organizational and environmental principles and the capacity of each to inform two- and three-dimensional design.

A.5 Ordering Systems: *Ability* to apply the fundamentals of both natural and formal ordering systems and the capacity of each to inform two- and three-dimensional design.

A.6 Use of Precedents: *Ability* to examine and comprehend the fundamental principles present in relevant precedents and to make informed choices about the incorporation of such principles into architecture and urban design projects.

Topical Outline:

Lectures/Discussion 10%, Programming 20%, Site Analysis 20%, Conceptual Design 20%, Design Development 20%, Presentation 10%

Prerequisites: ARCH 500

Textbooks/Learning Resources:

F. Ching. **Architecture Form Space and Order**. Wiley and Sons. Hoboken. 2007.
 P. V. Meiss. **Elements of Architecture. From Form to Place**. Spon Press. 1990.

Bassler (Editor). AIA. **Architectural Graphic Standard. Student Edition.** Wiley and Sons. Hoboken. 2007.

Edward Allen, Joseph Iano. **The Architect's Studio Companion: Rules of Thumb for Preliminary Design.** by: Wiley & Sons, NY 2006

Brian Edwards, Magda Sibley, Mohammad Hakmi, Peter Land. **Courtyard Housing: Past, Present and Future.** Taylor & Francis. New York. 2006.

Offered: Second semester; annually

Faculty assigned: See Faculty Matrix

ARCH 511 Architectural History I (3 credits)

Course Description:

This course focuses its discussions in the architectural production of the 18th and 19th Century and reinforces the debate about its importance in the formation of the Modern Movement.

Course Goals & Objectives:

1. Understand how the consolidation of the nation-states in Europe defined great part of the architectural production of the period. 2. Recognize the dissection of the nationalist sentiments that directed the efforts of many European countries during the 18th and 19th century to represent themselves by means of their architectural production. 3. Outline concepts and milestones in order to establish dialogues to relate the connections between architecture and modern advancements in culture such as science, philosophy and technology.

Student Performance Criterion/a addressed:

Ability:

A.3 Investigative Skills: *Ability* to gather, assess, record, and comparatively evaluate relevant information and performance in order to support conclusions related to a specific project or assignment.

Understanding:

A.7 History and Global Culture: *Understanding* of the parallel and divergent histories of architecture and the cultural norms of a variety of indigenous, vernacular, local, and regional settings in terms of their political, economic, social, ecological, and technological factors.

A.8 Cultural Diversity and Social Equity: *Understanding* of the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize different cultures and individuals and the responsibility of the architect to ensure equity of access to sites, buildings, and structures.

Topical Outline:

Lectures 40%, Class Discussions 20%, Written Essays 20%, Exams 20%

Prerequisites: ARCH 501

Textbooks/Learning Resources:

Hereu, Pere, Josep Maria. Montaner, and Jordi Oliveras. **Textos De Arquitectura De La Modernidad.** Madrid: Nerea, 1994. Print.

B. Bergdoll. **European Architecture 1750-1890.** Oxford University Press. 2000.

F. Ching, V. Prakash, M. Jarzombek. **A Global History of Architecture.** Wiley and Sons. Hoboken. 2011.

Offered: Second semester; annually

Faculty assigned: See Faculty Matrix

ARCH 512 Building Design and Construction Systems I: Materials and Technology (3 credits)**Course Description:**

This course incorporates the content of Architect Registration Examination 4.0 Building Design and Construction Systems and as stated develops the application of knowledge and skills in the selection of systems, materials, and methods related to building design and construction.

Course Goals & Objectives:

(Taken from the ARE content)

1. Incorporate the implications of human behavior, historic precedent, and design theory in the selection of systems, materials, and methods related to building design and construction. 2. Analyze the implication of design decisions in the selection of systems, materials, and methods incorporated in building design and construction. 3. Identify the properties and characteristics of masonry structural and finish materials. 4. Identify the properties and characteristics of structural and miscellaneous metals. 5. Identify the properties and characteristics of wood structures, rough carpentry, finish carpentry, and millwork assemblies. 6. Identify the properties and characteristics of concrete structures and finishes. 7. Identify the properties and characteristics of miscellaneous systems, assemblies, membranes, cladding, coatings, and finish materials (e.g., plastics, composites, glass, tensile, pneumatic, EIFS, etc.) 8. Analyze and select accessories, equipment, and fittings.

Student Performance Criterion/a addressed:

Ability:

B.5 Structural Systems: *Ability* to demonstrate the basic principles of structural systems and their ability to withstand gravitational, seismic, and lateral forces, as well as the selection and application of the appropriate structural system.

Understanding:

B.7 Building Envelope Systems and Assemblies: *Understanding* of the basic principles involved in the appropriate selection and application of building envelope systems relative to fundamental performance, aesthetics, moisture transfer, durability, and energy and material resources.

B.8 Building Materials and Assemblies: *Understanding* of the basic principles used in the appropriate selection of interior and exterior construction materials, finishes, products, components, and assemblies based on their inherent performance, including environmental impact and reuse.

Topical Outline:

Lectures/Discussion/Visits 40%, Projects 20%, Exams 40%

Prerequisites: None

Textbooks/Learning Resources:

Edward Allen and Joseph Iano. **Fundamentals of Building Construction: Materials and Methods**. Wiley & Sons; 2008.

Francis D. K. Ching and Cassandra Adams. **Building Construction Illustrated**. Wiley & Sons. 2008.

Fernando Abruña. **Materiales y procedimientos de construcción**, Editorial A...Z/O...9. San Juan, Puerto Rico. 2007.

Ramsey/Sleeper. **Architectural Graphic Standards**. Wiley & Sons. 2007.

Offered: Second Semester; annually

Faculty assigned: See Faculty Matrix

ARCH 513 Structural Systems I (3 credits)**Course Description:**

This course incorporates the content of Architect Registration Examination 4.0 Structural Systems and as stated identifies and incorporates the fundamental principles of general structures in the design and construction of buildings.

Course Goals & Objectives:

Following ARE content and standards, at the end of the semester the student will be able to:

1. Understand the behavior of building systems when the loads are applied to it. 2. Learn to make decisions during selection of a structural system in terms of constructability, material selection, integrity of the structure and cost effective decisions. 3. Understand loading paths along an entire building structure including gravitational and lateral loads. 4. Apply general structural concepts for designing different elements involved in a building construction such as beams, columns, trusses, etc. 5. Introduction to design building codes for the general structural design procedure in terms of load combinations needed for a building design. 6. Understand the general basic procedure of foundation analysis and design.

Student Performance Criterion/a addressed:

Ability:

B.5 Structural Systems: *Ability* to demonstrate the basic principles of structural systems and their ability to withstand gravitational, seismic, and lateral forces, as well as the selection and application of the appropriate structural system.

Topical Outline:

Lectures/Discussion 40%, Projects 20%, Exams 40%

Prerequisites: ARCH 500

Textbooks/Learning Resources:

Schodek, D., Bechthold, M., **Structures**, Prentice Hall, New York, 2008, 6th edition.

Matthys Levy, Mario Salvadori. **Why Buildings Fall Down: How Structures Fail**. WW Norton; 1994 (latest edition)

Mario Salvadori. **Why Buildings Stand Up: The Strength of Architecture**. WW Norton; 2002 (Latest edition)

Hibbler, R.C. **Engineering Mechanics Statics**. Prentice Hall; 2001 (latest edition)

Hibbler, R.C. **Structural Analysis**, Prentice Hall: (Latest edition)

Ching, Francis D.K, et.al. **Building Structures Illustrated**. John Wiley & Sons; 2009

Kent Ballast, David. **ARE Review Manual**. Professional Publications Inc.; Second Edition

Offered: First Semester; annually

Faculty assigned: See Faculty Matrix

ARCH 515 Computer Studio (3 credits)

Course Description:

This course emphasizes in generating architectural representation and encourages the use of CAD process for exploration and documentation generating three-dimensional renderings and models with Autodesk Revit.

Course Goals & Objectives:

1. Ability to generate technical drawings in architectural representation. 2. Develop three-dimensional renderings and models using computer aided design techniques. 3. Incorporate digital design fabrication as techniques. 4. Develop abilities in composition and/or graphic design for architecture project presentations.

Student Performance Criterion/a addressed:

Ability:

A.1 Professional Communication Skills: *Ability* to write and speak effectively and use representational media appropriate for both within the profession and with the general public.

Topical Outline:

Lectures/Discussion 40%, Projects 60%

Prerequisites: None

Textbooks/Learning Resources:

Eddy Krygiel, Phil Read, James Vandezande. **Mastering Autodesk Revit Architecture 2011**, Sybex (July 26, 2010).

Jefferis, Alan, and David A. Madsen. **Architectural Drafting and Design**. Albany: Delmar, 2001. Print.

Lisa Iwamoto. **Digital Fabrications: Architectural and Material Techniques (Architecture Briefs)** Princeton Architectural Press; 144 p. edition (July 1, 2009).

Ron K.C. Cheng. **Inside Rhinoceros 5**. Delmar Cengage Learning; 2010

Offered: Second semester; annually

Faculty assigned: See Faculty Matrix

ARCH 520 Architectural Design III (6 credits)

Course Description:

This course will explore the conditions that define mixed-use space in a context defined by the inclusion of public space and the city and the interrelationship of site with structure.

Course Goals & Objectives:

1. Identify the inherent adjacencies of the city and their effect on the architectural object that will become the scaffolding to develop an investigation of the mixed-use typology and the orchestration of its different programmatic components. 2. Understand the importance of the mixed-use programs in their capacity to define sustainable urban conditions and how the conceptual disposition of mixed-use strategies can provide for multivalent experiences in architecture. 3. Understand the complexity of the multistory building and develop the requirements for its technical and structural resolution. 4. Interpret accessibility codes, construction codes and sustainable systems integration methods that will serve as formative design criteria to strengthen the development of the mixed-use architectural experience. 5. Develop the skill to define vertical circulation, means of egress, building skins, supporting infrastructure and their inflection on architectural design.

Student Performance Criterion/a addressed:

Ability:

A.2 Design Thinking Skills: *Ability* to raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test alternative outcomes against relevant criteria and standards.

A.4 Architectural Design Skills: *Ability* to effectively use basic formal, organizational and environmental principles and the capacity of each to inform two- and three-dimensional design.

B.1 Pre-Design: *Ability* to prepare a comprehensive program for an architectural project that includes an assessment of client and user needs; an inventory of spaces and their requirements; an analysis of site conditions (including existing buildings); a review of the relevant building codes and standards, including relevant sustainability requirements, and an assessment of their implications for the project; and a definition of site selection and design assessment criteria.

B.2 Site Design: *Ability* to respond to site characteristics, including urban context and developmental patterning, historical fabric, soil, topography, ecology, climate, and building orientation, in the development of a project design.

B.3 Codes and Regulations: *Ability* to design sites, facilities, and systems that are responsive to relevant codes and regulations, and include the principles of life-safety and accessibility standards.

C.3 Integrative Design: *Ability* to make design decisions within a complex architectural project while demonstrating broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life safety, environmental systems, structural systems, and building envelope systems and assemblies.

Topical Outline:

Lectures/Discussion 10%, Programming 20%, Site Analysis 30%, Conceptual Design 10%, Design Development 20%, Presentation 10%

Prerequisites: ARCH 510

Textbooks/Learning Resources:

F. Ching. **Architecture Form Space and Order**. Wiley and Sons. Hoboken. 2007.

P. V. Meiss. **Elements of Architecture. From Form to Place**. Spon Press. 1990.

Bassler (Editor). AIA. **Architectural Graphic Standard. Student Edition**. Wiley and Sons. Hoboken. 2007.

Edward Allen, Joseph Iano. **The Architect's Studio Companion: Rules of Thumb for Preliminary Design**, by: Wiley & Sons, NY 2006

Lynch, Kevin. **Site Planning**. The MIT Press

Clayton, George T. **The Site Plan in Architectural Working Drawings**. Stipes Publishing

Offered: First Semester; annually

Faculty assigned: See Faculty Matrix

ARCH 521 Architectural History II (3 credits)

Course Description:

This course observes the development of the condition of Modernity, in the transition between the 19th Century into the 20th Century to the euphoric utopianism of the Avant Garde, on to Corporate Modernism in America.

Course Goals & Objectives:

1. Relate the rubrics of the turn of the century and how these rubrics evolve and understand their translation in the architectures of the Modern Movement. 2. Understand and differentiate that although the Modern Movement is sometimes described as a cohesive phenomenon, the notion of Modernity as fragmentary condition, serves as a benchmark to inquire about the complex diversity manifested in the production of architectural texts, objects and visions that aimed to articulate a new social and cultural order. 3. Understand and relate the formation of modern architectural discourses through manifestoes, utopias to the creation of an aesthetic syntax. 4. Understand and interpret how these discourses and counter-discourses evolve from the techno-positivist visions of the 19th Century, to the euphoric utopianism of the Avant Garde, on to Corporate Modernism in America.

Student Performance Criterion/a addressed:

Ability:

A.1 Professional Communication Skills: *Ability* to write and speak effectively and use representational media appropriate for both within the profession and with the general public.

Understanding:

A.7 History and Global Culture: *Understanding* of the parallel and divergent histories of architecture and the cultural norms of a variety of indigenous, vernacular, local, and regional settings in terms of their political, economic, social, ecological, and technological factors

A.8 Cultural Diversity and Social Equity: *Understanding* of the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize different cultures and individuals and the responsibility of the architect to ensure equity of access to sites, buildings, and structures.

Topical Outline:

Lectures 40%, Class Discussions 20%, Written Essays 20%, Exams 20%

Prerequisites: ARCH 511

Textbooks/Learning Resources:

Hereu, Pere, Josep Maria. Montaner, and Jordi Oliveras. *Textos De Arquitectura De La Modernidad*. Madrid: Nerea, 1994. Print.

A. Colquhoun. *Modern Architecture*. Oxford University Press. Oxford/New York. 2002.

R. Banham. *Theory and Design in the First Machine Age*. MIT Press, 1980.

F. Ching, V. Prakash, M. Jarzombek. *A Global History of Architecture*. Wiley and Sons. Hoboken. 2011.

U. Conrads. *Programs and Manifestoes of the 20th Century*. MIT Press. 1975.

W. Curtis. *Modern Architecture since 1900*. Phaidon Press. New York. 1996

K. Frampton. *Modern Architecture a Critical History*. Thames and Hudson. Fourth Edition. 2007.

S. Gideon. *Space, Time and Architecture: The Growth of a New Tradition*. Harvard University Press, 2009.

Hereu, Pere, J.M. Montaner y J. Oliveras. *Textos de arquitectura de la modernidad*. Editorial Nerea. Madrid. 1999.

Tafari, Manfredo y Francesco Dal Co. *Modern Architecture*. Harry N. Abrams, 1980.

Offered: First Semester; annually

Faculty assigned: See Faculty Matrix 01

ARCH 522 Building Systems I (3 credits)

Course Description:

This course incorporates the content of Architect Registration Examination 4.0 Building Systems and, as stated, emphasizes on the evaluation, selection, and integration of plumbing and mechanical systems in building design and construction.

Course Goals & Objectives:

Following ARE content and standards, at the end of the semester the student will be able to understanding the principles of environmental systems' design and:

1. Understand, select and apply the basic principles, applications and performance of building service systems: plumbing, electrical, vertical transportation, etc.
2. Evaluate and select materials and construction details related to building service systems.
3. Analyze, specify and select heating, ventilating, and air conditioning systems.
4. Evaluate and select materials and construction details related to heating, ventilating, and air conditioning systems.

Student Performance Criterion/a addressed:

Ability:

B.6 Environmental Systems: *Ability* to demonstrate the principles of environmental systems' design, how design criteria can vary by geographic region, and the tools used for performance assessment. This demonstration must include active and passive heating and cooling, solar geometry, daylighting, natural ventilation, indoor air quality, solar systems, lighting systems, and acoustics.

Understanding:

B.9 Building Service Systems: *Understanding* of the basic principles and appropriate application and performance of building service systems, including lighting, mechanical, plumbing, electrical, communication, vertical transportation, security, and fire protection systems.

Topical Outline:

Lectures/Discussion/Visits 40%, Projects 20%, Exams 40%

Prerequisites: ARCH 512

Textbooks/Learning Resources:

Benjamin Stein, John S. Reynolds, Walter T. Grondzik, and Alison G. Kwok. **Mechanical and Electrical Equipment for Buildings (MEEB)**, 10th Edition: Wiley & Sons, NY 2005
Ramsey/Sleeper. **Architectural Graphic Standards**. Wiley & Sons. 2007.

Offered: First Semester; annually

Faculty assigned: See Faculty Matrix

ARCH 523 Structural Systems II (3 credits)

Course Description:

This course incorporates the content of Architect Registration Examination 4.0 Structural Systems and as stated identifies and incorporates the fundamental principles of general structures emphasizing on lateral force in the design and construction of buildings.

Course Goals & Objectives:

Following ARE content and standards, at the end of the semester the student will be able to understand the basic principles of structural behavior in withstanding gravity and lateral forces and:

1. Interpretation of design building codes required and specialty design codes for structural design and how to incorporate them.
2. Understand the structural behavior of the buildings when lateral forces are applied.
3. Design of basic structural systems considering gravitational and lateral loads.
4. Basic concepts to structural steel design, including general design of connections.

Student Performance Criterion/a addressed:

Ability:

B.5 Structural Systems: *Ability* to demonstrate the basic principles of structural systems and their ability to withstand gravitational, seismic, and lateral forces, as well as the selection and application of the appropriate structural system.

Topical Outline:

Lectures/Discussion 40%, Projects 20%, Exams 40%

Prerequisites: ARCH 513

Textbooks/Learning Resources:

Schodek, D., Bechthold, M., **Structures**, Prentice Hall, New York, 2008, 6th edition.
Matthys Levy, Mario Salvadori. **Why Buildings Fall Down: How Structures Fail**. WW Norton; 1994 (latest edition)
Mario Salvadori. **Why Buildings Stand Up: The Strength of Architecture**. WW Norton; 2002 (Latest edition)
Hibbler, R.C. **Engineering Mechanics Statics**. Prentice Hall; 2001 (latest edition)
Hibbler, R.C. **Structural Analysis**, Prentice Hall: (Latest edition)
Ching, Francis D.K, et.al. **Building Structures Illustrated**. John Wiley & Sons; 2009
Kent Ballast, David. **ARE Review Manual**. Professional Publications Inc.; Second Edition

Offered: Second Semester; annually

Faculty assigned: See Faculty Matrix

ARCH 524 Codes and Regulations (3 credits)

Course Description:

This course incorporates the content of Architect Registration Examination 4.0 from various exams, and incorporates building and specialty codes, zoning, and other regulatory requirements in building design, construction systems and programming and planning in site developments.

Course Goals & Objectives:

Following ARE content and standards, at the end of the semester the student will be able to: 1. Identify and incorporate building and specialty codes, zoning, and other regulatory requirements in building design and construction systems, as well as in the design of mechanical, electrical, and specialty systems. 2. Apply the basic principles of accessible design (design sites, facilities, and systems to provide independent and integrated use by individuals with physical -including mobility-, sensory, and cognitive disabilities). 3. Identify and delineate areas suitable for the construction of buildings and other site improvements responding to regulatory restrictions and programmatic requirements. 4. Be able to develop a site profile and maximum buildable envelope based on zoning regulations and environmental in different scenarios. 5. Understand the architect's legal responsibility to the public and the client as determined by all laws and regulatory codes on the above mentioned topics.

Student Performance Criterion/a addressed:

Ability:

B.2 Site Design: *Ability* to respond to site characteristics, including urban context and developmental patterning, historical fabric, soil, topography, ecology, climate, and building orientation, in the development of a project design.

B.3 Codes and Regulations: *Ability* to design sites, facilities, and systems that are responsive to relevant codes and regulations, and include the principles of life-safety and accessibility standards.

Understanding:

A.8 Cultural Diversity and Social Equity: *Understanding* of the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize different cultures and individuals and the responsibility of the architect to ensure equity of access to sites, buildings, and structures.

D.4 Legal Responsibilities: *Understanding* of the architect's responsibility to the public and the client as determined by regulations and legal considerations involving the practice of architecture and professional service contracts.

Topical Outline:

Lectures/Discussion 40%, Projects 20%, Exams 40%

Prerequisites: ARCH 510

Textbooks/Learning Resources:

Francis D. Ching, Steven R. Winkel FAIA PE. **Building Codes Illustrated: A Guide to Understanding the 2009 International Building Code** Wiley & Sons 2009
International Building Codes. International Code Council

Offered: First Semester; annually

Faculty assigned: See Faculty Matrix

ARCH 600 Architectural Design IV (6 credits)

Course Description:

This course focuses on the role of the architectural object as a component of the urban whole. The studio provides for the conception of architecture, not only as an objectified existence, but also as an intrinsic element of an urban system. The course's investigation will begin as an analysis of a localized urban context and will advance its investigations into a second stage, by the selection of a specific site included in the devised master plan.

Course Goals & Objectives:

1. Gather and assess information, and incorporate applied research principles to formulate urban strategies that will be articulated in a master plan. 2. Identify and apply concepts and precedents in order to manage projects - both individually and group - to develop the design process, from the planning stage to architectural projects that will extend the urban strategies 3. Demonstrate a collaborative approach in order to achieve an integrated resolution due to the emerging urban conflicts between the projects. 4. Understand the emphasis of the critical understanding of the dialectics between compacted urban experiences vs. the local/global patterns of urban sprawl, the qualitative urban potentials vs. reductionist rubrics of planning.

Student Performance Criterion/a addressed:

Ability:

A.3 Investigative Skills: *Ability* to gather, assess, record, and comparatively evaluate relevant information and performance in order to support conclusions related to a specific project or assignment.

A.4 Architectural Design Skills: *Ability* to effectively use basic formal, organizational and environmental principles and the capacity of each to inform two- and three-dimensional design.

B.2 Site Design: *Ability* to respond to site characteristics, including urban context and developmental patterning, historical fabric, soil, topography, ecology, climate, and building orientation, in the development of a project design.

Understanding:

A.8 Cultural Diversity and Social Equity: *Understanding* of the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize different cultures and individuals and the responsibility of the architect to ensure equity of access to sites, buildings, and structures.

Topical Outline:

Lectures/Discussion 10%, Programming 30%, Site Analysis 20%, Conceptual Design 10%, Design Development 20%, Presentation 10%

Prerequisites: ARCH 520

Textbooks/Learning Resources:

Bassler (Editor). **AIA. Architectural Graphic Standard. Student Edition.** Wiley and Sons. Hoboken. 2008.

Edward Allen, Joseph Iano. **The Architect's Studio Companion: Rules of Thumb for Preliminary Design**, by: Wiley & Sons, NY 2006

Emma Sendich. **Planning and Urban Design Standards**, American Planning Association, American Planning Association Published by John Wiley & Sons, 2006

Hayden, Dolores. **Building Suburbia: Green Fields and Urban Growth, 1820-2000.** New York: Pantheon Books, 2004.

Rae, Douglas W. **City: Urbanism and its End.** New Haven: Yale University Press, 2005.

Mc Morrow, Julia. **Materials, Structures and Standards.** Rockport Publishers; 2006 (latest edition).

Lynch, Kevin. **The Image of the City.** The MIT Press. 1960

Ruano, Miguel. **Ecourbanismo.** Editorial Gustavo Gili, SA. 1999.

Farr, Douglas. **Sustainable Urbanism; Urban Design with Nature.** John Wiley & Sons, Inc.; 2006.

Offered: Second semester; annually

Faculty assigned: See Faculty Matrix

ARCH 601 Theory in Architecture (3 credits)

Course Description:

It offers an overview of the role of treatises in architectural history. It approaches a critical review of influential texts and excerpts that shaped architectural thought, and serve as an intellectual scaffolding to scrutinize their further interpretation and application.

Course Goals & Objectives:

1. Understand the inflections of culture in the construction of architectural syntax. 2. Be able to articulate critical responses from the selected texts.

Student Performance Criterion/a addressed:

Ability:

A.1 Professional Communication Skills: *Ability* to write and speak effectively and use representational media appropriate for both within the profession and with the general public.

A.3 Investigative Skills: *Ability* to gather, assess, record, and comparatively evaluate relevant information and performance in order to support conclusions related to a specific project or assignment.

Understanding:

C.1 Research: *Understanding* of the theoretical and applied research methodologies and practices used during the design process.

Topical Outline:

Lectures 40%, Class Discussions 20%, Written Essays 20%, Exams 20%

Prerequisites: ARCH 521

Textbooks/Learning Resources:

K. Nesbit (Editor). **Theorizing a New Agenda for Architecture. An Anthology of Architectural Theory.** Princeton Architectural Press. 1996.

H. W. Kruff. **A History of Architectural History. From Vitruvius to the Present.** Princeton Architectural Press. 1996.

U. Conrads. **Programs and Manifestoes of the 20th Century.** MIT Press. 1975.

Anything. Edited by Cynthia C. Davidson. The MIT Press, Cambridge, 2001

Corner, James. **Recovering Landscape: Essays in Contemporary Landscape Architecture.** Princeton Architectural Press, New York: 1999

Eisenman, Peter. **Diagram Diaries.** New York: Universe, 1999

Frampton, Kenneth; **"Historia critica de la arquitectura moderna"**; Gustavo Gili, Barcelona, 1987

Hays, Michael K.; **"ed Oppositions Reader"**; Princeton Architectural Press, New York, 1998

Hays, Michael K.; **"ed Architectural Theory since 1968"**; The MIT Press, Cambridge, 2000

Koolhaas, Rem. **Delirious New York: A Retroactive Manifesto for Manhattan.** New York: The Monacelli Press, 1994

Koolhaas, Rem, and Bruce Mau. **S, M, L, XL.** New York: Monacelli Press, 1995

Le Corbusier; **"Towards a New Architecture"**; New York Dover, 1986

Michel de Certeau. **"Walking in the CHy." The Practice of Everyday Life.** Translated by Steven Rendall. Berkeley: University of California Press, 2002.

Ockman, Joan; **Architecture Culture 1943-1968: A Documentary Anthology.** Edited by Joan Ockman with the collaboration of Edward Eigen New York: Rizzoli, 1993

Pallasmaa, Juhani; **Encounters.** Edited by Peter MacKeith. Rakennustieto, 2005

Roland Barthes, "**The Eiffel Tower**". *The Eiffel Tower and Other Mythologies*. New York: Noonday Press, 1979.

Rossi, Aldo. **L'architettura della città** (1966), translated as *The Architecture of the City* by Diane Ghirardo and Joan Ockman. Cambridge, MA: MIT Press, 1982

Rowe, Colin, and Fred Koetter, **Collage City** (manuscript in circulation from 1973; published later) Cambridge, MA: MIT Press, 1978

The State of Architecture at the Beginning of the 21st Century. Edited by Bernard Tschumi and Irene Cheng. New York: Monacelli Press, 2003

Toyo Ito, "**Diagram Architecture**", *El Croquis* 77: Kazuyo Sejima

Tschumi, Bernard. **Architecture and Disjunction**. Cambridge, MA: MIT Press, 1994

19. Venturi, Robert, Denise Scott Brown, and Steven Izenour, **Learning from Las Vegas**, Cambridge, MA: MIT Press, 1972

Vidler, Anthony; "**Diagrams of Diagrams: Architectural Abstraction and Modern Representation**", *Representations* 72 (autumn 2000)

Offered: Second semester; annually

Faculty assigned: See Faculty Matrix

ARCH 602 Building Systems II (3 credits)

Course Description:

This course incorporates the content of Architect Registration Examination 4.0 Building Systems and, as stated, emphasizes on the evaluation, selection, and integration of mechanical, electrical, and specialty systems in building design and construction.

Course Goals & Objectives:

Following ARE content and standards, at the end of the semester the student will be able to:

1. Analyze and design electrical systems.
2. Understand the evaluation and selection of materials and construction details related to electrical systems.
3. Analyze and design natural and artificial lighting systems.
4. Understand and select materials and construction details related to natural and artificial lighting systems.
5. Understand and select specialty systems for: acoustics, communications and security, fire detection and suppression.
6. Be able to develop a reflected ceiling plan that integrates ceiling, lighting, mechanical, and structural systems and incorporates life safety considerations.
7. Be able to delineate a building section that integrates structural, mechanical, and lighting systems and incorporates life safety considerations.

Student Performance Criterion/a addressed:

Ability:

B.6 Environmental Systems: *Ability* to demonstrate the principles of environmental systems' design, how design criteria can vary by geographic region, and the tools used for performance assessment. This demonstration must include active and passive heating and cooling, solar geometry, daylighting, natural ventilation, indoor air quality, solar systems, lighting systems, and acoustics.

Understanding:

B.7 Building Envelope Systems and Assemblies: *Understanding* of the basic principles involved in the appropriate selection and application of building envelope systems relative to fundamental performance, aesthetics, moisture transfer, durability, and energy and material resources.

B.9 Building Service Systems: *Understanding* of the basic principles and appropriate application and performance of building service systems, including lighting, mechanical, plumbing, electrical, communication, vertical transportation, security, and fire protection systems.

Topical Outline:

Lectures/Discussion 40%, Projects 20%, Exams 40%

Prerequisites: ARCH 522

Textbooks/Learning Resources:

Edward Allen, Joseph Iano. **The Architect's Studio Companion: Rules of Thumb for Preliminary Design**, by: Wiley & Sons, NY 2006

Francis D. K. Ching and Cassandra Adams. **Building Construction Illustrated**. Wiley & Sons. 2008.

Marc Schiler. **Mechanical / Plumbing / Electrical Systems. Architectural License Seminars [ALS]** (1991) (Classic text).

Benjamin Stein, John S. Reynolds, Walter T. Grondzik, and Alison G. Kwok. **Mechanical and Electrical Equipment for Buildings (MEEB)**, 11th Edition: Wiley & Sons, NY 2009.

Ramsey/Sleeper. **Architectural Graphic Standards**. Wiley & Sons. 2007.

Offered: Second semester; annually

Faculty assigned: See Faculty Matrix

ARCH 604 Project and Practice Management I: Ethics, Contracts and Legal Issues (3 credits)
Course Description:

This course incorporates the content of Architect Registration Examination 4.0 from various exams, and introduces students to the legal and strategic characteristics of the design industry in contemporary professional practice and ethics.

Course Goals & Objectives:

1. Understand the requirements needed in order to become a licensed architect and the roles of the professional organizations. 2. Understand the essential areas in professional practice in topics such as standard AIA contract forms, government regulations, the client's roles in the design process, and the legal responsibilities of the profession. 3. Interpret and relate the subjects of professional ethics in practice. 4. Understand and be able to describe the different organizations and management of design firms.

Student Performance Criterion/a addressed:

Understanding:

D.1 Stakeholder Roles in Architecture: *Understanding* of the relationships among key stakeholders in the design process—client, contractor, architect, user groups, local community—and the architect's role to reconcile stakeholder needs.

D.2 Project Management: *Understanding* of the methods for selecting consultants and assembling teams; identifying work plans, project schedules, and time requirements; and recommending project delivery methods.

D.3 Business Practices: *Understanding* of the basic principles of a firm's business practices, including financial management and business planning, marketing, organization, and entrepreneurship.

D.4 Legal Responsibilities: *Understanding* of the architect's responsibility to the public and the client as determined by regulations and legal considerations involving the practice of architecture and professional service contracts.

D.5 Professional Conduct: *Understanding* of the ethical issues involved in the exercise of professional judgment in architectural design and practice and understanding the role of the NCARB Rules of Conduct and the AIA Code of Ethics in defining professional conduct.

Topical Outline:

Lectures/Discussion 40%, Projects and written papers 20%, Exams 40%

Prerequisites: ARCH 524

Textbooks/Learning Resources:

The Architect's Handbook of Professional Practice, 15th Ed. published by the AI. 2014
Andy Pressman. **Professional Practice 101: Business Strategies and Case Studies in Architecture**. Wiley & Sons; 2006 (latest edition).

Code of Ethics. American Institute of Architects

Rules of Conduct. NCARB

Comisión de Ética y Conducta Profesional. **Código de Ética y Conducta Profesional**. CAAPPR, San Juan, 2014.

Ballast D.K., O'Hara S.E. **Architect Registration Exam Review Manual**. 3rd ed. Professional Publications, Inc. Belmont, CA. 2008.

Harris C. M. **Dictionary of Architecture & Construction**. 2nd ed. Mc Graw Hill, New York. 1993.
Ramsey & Sleeper / AIA. **Architectural Graphics Standard**. 11th ed. John Wiley & Sons, New Jersey. 2007.

Offered: Second semester; annually

Faculty assigned: See Faculty Matrix

ARCH 610 Design/Build Studio I (6 credits)**Course Description:**

The first course of the design/build studio: the application of knowledge and skills required for the schematic design and development of construction documents for a 1,000 sq ft structure. This course will integrate ARCH 612 and ARCH 614 in the studio.

Course Goals & Objectives:

1. Develop the techniques to assess client needs and requirements into individual projects and program.
2. Understand the essential key in collaboration in design projects.
3. Be able to comprehend design skills that include program and site analysis, technical and structural resolution, and compliance of accessibility codes and construction codes.
4. Demonstrate an understanding of history and theory in the development of the project.

Student Performance Criterion/a addressed:

Ability:

A.2 Design Thinking Skills: *Ability* to raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test alternative outcomes against relevant criteria and standards.

A.6 Use of Precedents: *Ability* to examine and comprehend the fundamental principles present in relevant precedents and to make informed choices about the incorporation of such principles into architecture and urban design projects.

C.2 Integrated Evaluations and Decision Making Design Process: *Ability* to demonstrate the skills associated with making integrated decisions across multiple systems and variables in the completion of a design project. This demonstration includes problem identification, setting evaluative criteria, analyzing solutions, and predicting the effectiveness of implementation.

Understanding:

C.1 Research: *Understanding* of the theoretical and applied research methodologies and practices used during the design process.

D.1 Stakeholder Roles in Architecture: *Understanding* of the relationships among key stakeholders in the design process—client, contractor, architect, user groups, local community—and the architect's role to reconcile stakeholder needs.

Topical Outline:

Lectures/Discussion 10%, Programming 20%, Site Analysis 20%, Conceptual Design 10%, Design Development 30%, Presentation 10%

Prerequisites: ARCH 600, ARCH 602, ARCH 604

Textbooks/Learning Resources:

Bassler (Editor). AIA. **Architectural Graphic Standard. Student Edition.** Wiley and Sons. Hoboken. 2008.

Edward Allen, Joseph Iano. **The Architect's Studio Companion: Rules of Thumb for Preliminary Design,** by: Wiley & Sons, NY. 2006

The American Institute of Architects. **The Architect's Guide to Design-Build Services.** Wiley (May 5, 2003)

Offered: First Semester; annually

Faculty assigned: See Faculty Matrix

ARCH 612 Building Design and Construction Systems II: Environmental Issues (3 credits)

Course Description:

This course incorporates the content of Architect Registration Examination 4.0 Building Design and Construction Systems and, as stated, develops the application of knowledge and skills by applying sustainable design principles to the selection, design and construction of building systems.

Course Goals & Objectives:

Following ARE content and standards, at the end of the semester the student will be able to:

1. Apply knowledge and skills of building design and construction, including environmental, social, and economic issues, project and practice management to a design project.
2. Incorporate the implications of human behavior, historic precedent, and design theory in the selection of systems, materials, and methods related to building design and construction.
3. Understand the importance of the consideration of the principles of sustainable design including adaptive re-use, thermal and moisture protection, and hazardous material mitigation.
4. Apply sustainable design principles to the selection, design and construction of building systems.

Student Performance Criterion/a addressed:

Ability:

B.6 Environmental Systems: *Ability* to demonstrate the principles of environmental systems' design, how design criteria can vary by geographic region, and the tools used for performance assessment. This demonstration must include active and passive heating and cooling, solar geometry, daylighting, natural ventilation, indoor air quality, solar systems, lighting systems, and acoustics.

Topical Outline:

Lectures/Discussion 40%, Projects 20%, Exams 40%

Prerequisites: ARCH 602

Textbooks/Learning Resources:

Sam Kubba. **LEED Practices, Certification, and Accreditation Handbook,** Butterworth-Heinemann (November 2, 2009)

Alison Kwok, Walter Grondzik. **The Green Studio Handbook, Second Edition: Environmental Strategies for Schematic Design,** Architectural Press; 2 edition (March 1, 2011)

Edward Allen and Joseph Iano. **Fundamentals of Building Construction: Materials and Methods.** Wiley & Sons; 2008.

Offered: First Semester; annually

Faculty assigned: See Faculty Matrix

ARCH 614 Project and Practice Management II: Cost (3 credits)

Course Description:

This course will introduce the student with different types of estimates, estimating software, the construction estimating process and estimating the various parts of a project to consider cost implications of design decisions.

Course Goals & Objectives:

1. Understand the fundamentals of finances in the construction industry. 2. Be able to apply the processes and fundamental issues involved in construction estimating. 3. Be able to develop economic viability proposals for design/build projects.

Student Performance Criterion/a addressed:

Understanding:

B.10 Financial Considerations: *Understanding* of the fundamentals of building costs, which must include project financing methods and feasibility, construction cost estimating, construction scheduling, operational costs, and life-cycle costs.

D.3 Business Practices: *Understanding* of the basic principles of a firm's business practices, including financial management and business planning, marketing, organization, and entrepreneurship.

Topical Outline:

Lectures/Discussion 40%, Projects and written papers 60%

Prerequisites: ARCH 604

Textbooks/Learning Resources:

Means Engineering Staff. **RS Means Estimating Handbook**, Wiley; 3 edition (August 28, 2009)

Offered: First Semester; annually

Faculty assigned: See Faculty Matrix

ARCH 615 Methods: Surfaces (3 credits)

Course Description:

This course is a requirement in the program. The course investigates materials, methods and strategies for making innovative building forms and systems. It incorporates the learning of computer programs to emphasize in the research and development of digitally fabricated prototypes.

Course Goals & Objectives:

1. Research in contemporary building forms and systems. 2. Develop technical drawings for digital fabrication prototypes. 3. Be able to specify materials and methods towards constructing innovative building forms and systems. 4. Integrate the analysis of technological systems and strategies.

Student Performance Criterion/a addressed:

Ability:

A.3 Investigative Skills: *Ability* to gather, assess, record, and comparatively evaluate relevant information and performance in order to support conclusions related to a specific project or assignment.

Understanding:

B.8 Building Materials and Assemblies: *Understanding* of the basic principles used in the appropriate selection of interior and exterior construction materials, finishes, products, components, and assemblies based on their inherent performance, including environmental impact and reuse.

C.1 Research: *Understanding* of the theoretical and applied research methodologies and practices used during the design process.

Topical Outline:

Lectures/Discussion 40%, Projects 60%

Prerequisites: Co-requisite ARCH 610

Textbooks/Learning Resources:

Eddy Krygiel, et.al. Mastering Autodesk Revit Architecture 2011, Sybex; 2010.
David Leathersbarrow, Mohsen Mostafavi. Surface Architecture. MIT Press, 2005
Lisa Iwamoto. Digital Fabrications: Architectural and Material Techniques (Architecture Briefs)
Princeton Architectural Press; 2009.
Ron K.C. Cheng. Inside Rhinoceros 5. Delmar Cengage Learning; 2010.

Offered: First Semester; annually

Faculty assigned: See Faculty Matrix

ARCH 700 Design/Build Studio II (9 credits)**Course Description:**

The second course of the design/build studio: the programming and planning of the 1,000 sq ft structure to begin construction. This course will integrate ARCH 702 and ARCH 704 in the studio.

Course Goals & Objectives:

1. Be able to manage regulatory approval process mandatory to begin the construction phase. 2. Understand the roles of the project team members in the planning and execution processes. 3. Identify and apply concepts and precedents to manage issues of professional practice including contracts, insurance and other fees. 4. Be able to prepare and coordinate shop drawings including technical specifications of the project.

Student Performance Criterion/a addressed:

Ability:

B.4 Technical Documentation: *Ability* to make technically clear drawings, prepare outline specifications, and construct models illustrating and identifying the assembly of materials, systems, and components appropriate for a building design.

C.2 Integrated Evaluations and Decision Making Design Process: *Ability* to demonstrate the skills associated with making integrated decisions across multiple systems and variables in the completion of a design project. This demonstration includes problem identification, setting evaluative criteria, analyzing solutions, and predicting the effectiveness of implementation.

C.3 Integrative Design: *Ability* to make design decisions within a complex architectural project while demonstrating broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life safety, environmental systems, structural systems, and building envelope systems and assemblies.

Understanding:

B.10 Financial Considerations: *Understanding* of the fundamentals of building costs, which must include project financing methods and feasibility, construction cost estimating, construction scheduling, operational costs, and life-cycle costs.

Topical Outline:

Lectures/Discussion 10%, Programming 30%, Site Analysis 20%, Conceptual Design 10%, Design Development 20%, Presentation 10%

Prerequisites: ARCH 610, ARCH 612, ARCH 614, ARCH 615

Textbooks/Learning Resources:

Bassler (Editor). AIA. **Architectural Graphic Standard. Student Edition.** Wiley and Sons. Hoboken. 2007.

Edward Allen, Joseph Iano. **The Architect's Studio Companion: Rules of Thumb for Preliminary Design,** by: Wiley & Sons, NY 2006

The American Institute of Architects. **The Architect's Guide to Design-Build Services,** Wiley (May 5, 2003)

Offered: Second Semester; annually

Faculty assigned: See Faculty Matrix

ARCH 704 Project and Practice Management III: Scheduling and Coordination (3 credits)

Course Description:

This course complements ARCH 700 and covers the programming and management process of the design/build project, including the scheduling and coordination of the construction phase.

Course Goals & Objectives:

1. Understand of the basic principles of architectural practice management. 2. Understand and be able to use the project management framework of the Project Management Institute that include the PMBOK knowledge areas of project scope, time, cost, quality, human resources, communications, risk and procurement management. 3. Be able to prepare and manage project schedule, including the coordination of consultants and contract documents in design/build studios and projects.

Student Performance Criterion/a addressed:

Ability:

B.4 Technical Documentation: *Ability* to make technically clear drawings, prepare outline specifications, and construct models illustrating and identifying the assembly of materials, systems, and components appropriate for a building design.

Understanding:

B.8 Building Materials and Assemblies: *Understanding* of the basic principles used in the appropriate selection of interior and exterior construction materials, finishes, products, components, and assemblies based on their inherent performance, including environmental impact and reuse.

D.2 Project Management: *Understanding* of the methods for selecting consultants and assembling teams; identifying work plans, project schedules, and time requirements; and recommending project delivery methods.

Topical Outline:

Lectures/Discussion 40%, Projects 60%

Prerequisites: ARCH 610, ARCH 612, ARCH 614, ARCH 615, Co-requisite ARCH 700

Textbooks/Learning Resources:

A Guide to the Project Management Body of Knowledge: (PMBOK Guide), Project Management Institute; 4 edition (December 31, 2008)

Offered: Second Semester; annually

Faculty assigned: See Faculty Matrix

ARCH 710 Design/Build Studio III (12 credits)**Course Description:**

The last course of the design/build studio: the construction phase of the 1,000 sq ft structure. This course will integrate ARCH 712 and ARCH 714 in the project execution.

Course Goals & Objectives:

1. Demonstrate advanced design and construction knowledge and skills through participation and execution of the design/build project.
2. Be able to apply knowledge and supervision skills throughout all processes.
3. Be able to manage design and construction team communications in the construction field.

Student Performance Criterion/a addressed:

Ability:

C.3 Integrative Design: *Ability* to make design decisions within a complex architectural project while demonstrating broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life safety, environmental systems, structural systems, and building envelope systems and assemblies.

Understanding:

B.8 Building Materials and Assemblies: *Understanding* of the basic principles used in the appropriate selection of interior and exterior construction materials, finishes, products, components, and assemblies based on their inherent performance, including environmental impact and reuse.

D.2 Project Management: *Understanding* of the methods for selecting consultants and assembling teams; identifying work plans, project schedules, and time requirements; and recommending project delivery methods.

Topical Outline:

Lectures/Discussion 10%, Programming 30%, Team project performance 60%

Prerequisites: ARCH 700, ARCH 704

Textbooks/Learning Resources:

Bassler (Editor). AIA. **Architectural Graphic Standard. Student Edition.** Wiley and Sons. Hoboken. 2007.

Edward Allen, Joseph Iano. **The Architect's Studio Companion: Rules of Thumb for Preliminary Design,** by: Wiley & Sons, NY 2006

American Institute of Architects. **Integrated Project Delivery: A Guide.** New York, 2007

Offered: First Semester; annually

Faculty assigned: See Faculty Matrix