

Department of Architectural Technology

ARCH 2411

Architectural Design IV

3 classroom hours, 4 lab hours, 3 credits
Tuesday and Thursday 2:30 – 5:25

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Office hours: Thursday 1-2

Course Description: The architectural process involved in designing small to medium size projects for specific building types. Scope covers initial research and analysis, program development, flow diagrams, schematic design, and massing studies through final presentation. Final presentations will entail drawings and models reviewed by a design jury.

There will be three projects. Research papers, 2D and 3D drawings, and physical study models and final models will be utilized in program development, design and presentations.

Prerequisites: ARCH 2311 with a grade of C or higher

Pre or co-requisites: ARCH 2321

Suggested Text: *Form Space & Order* by Francis D. K. Ching (published by Wiley)

Attendance Policy: No more than 10% absences are permitted during the semester. For the purposes of record, two latenesses are considered as one absence. Exceeding this limit will expose the student to failing at the discretion of the instructor.

Grading:	Research papers	10%
	Attendance and participation	10%
	Project 1	15%
	Project 2	25%
	Project 3	30%
	Final Portfolio	10%

A final grade of C or higher is required in this course to use it as a prerequisite for subsequent courses.

Academic Integrity: Students and all others who work with information, ideas, texts, images, music, inventions and other intellectual property owe their audience and sources accuracy and honesty in using, crediting and citation of sources. As a community of intellectual and professional workers, the college recognizes its responsibility for providing instruction in information literacy and academic integrity, offering models of good practice, and responding vigilantly and appropriately to infractions of academic integrity. Accordingly, academic

dishonesty is prohibited in The City University of New York and is punishable by penalties, including failing grades, suspension and expulsion.

Learning Objectives:

1. Understand the hierarchy of solving simple architectural problems.
2. Conduct initial research, including building type, functional requirements, design precedents, historic and physical context, materials and technologies.
3. Apply basic concepts of site analysis: topography, views, weather, sun, water, site circulation, zoning, urban context.
4. Understand how to develop a building program: flow diagrams, space planning, analysis of the important design elements, massing studies.
5. Understand and apply basic architectural concepts of parti, human scale, spatial experience, structure, materials and building envelope design.
6. Develop architectural ideas from preliminary through final design and make an effective presentation, including drawings and models.

Assessment: Students will be given research and design projects that test their ability to:

1. Utilize reference sources, identify and analyze appropriate precedents, and describe the functional requirements for 2-3 specific building types.
2. Identify the significant components of a proposed building site, set priorities, and develop a building design that responds appropriately to site conditions
3. Demonstrate, in weekly critiques, a logical design process, beginning with sketch diagrams representing spatial requirements and functional relationships, and proceeding to massing studies utilizing 3-dimensional models.
4. Derive and apply a clear organizational idea, or parti, to their creative process and final design.
5. Integrate basic architectural concepts of human scale, spatial experience, structure, materials and building envelope design
6. Produce an effective presentation, including drawings and models.

Course Outline

Project 1

- 3 weeks
- *parti-driven*, small project for a specific site (limited functional requirements)
- Welcome to Brooklyn Pavilion

Project 2

- 5 weeks
- *function-driven*, small to medium size project (15 to 20 spaces) on an urban site*
- Health Club

Project 3

- 6 weeks
- *form/theme-driven*, small to medium size project (10 to 20 spaces), specific site*
- Museum

The following description of the course will be refined as we progress through the semester. Please refer to the detailed project descriptions for additional detail and final requirements.

Week 1: Discussion: Review of architectural/graphic vocabulary developed in AR 311 (the development of architectural parti, definition of space and path) and introduction to site analysis and research.

Introduction of **Project 1**: Explanation of this type of project and assignment of site. Review methods used to research an architectural project through the use of the library, architectural journals, interviews, visits to similar facilities.

Assignment: Research paper—building type examples and analysis. What forms, types, materials, characteristics, elements would be appropriate for this site and why? Document the site through photographs and drawings.

Discussion: Review of site analysis criteria—context, site amenities, grade changes, sun orientation, pedestrian traffic, views. Concepts of scale, hierarchy, proportion, structure, development of ideas through materials, texture, detail.

Assignment: Develop a parti and schematics. Field visit / Desk crits.

Week 2: Continue working on Project 1. Evaluation and redevelopment.

Week 3: Final juried presentations of Project 1.

Introduction of **Project 2**: Discussion: Review the architectural process involved in designing a building. Discuss preliminary research, program development, flow diagrams, site analysis, schematic studies, massing studies, and the refinement of the concept studies to create a final design.

Assignment: Research paper—building type and site analysis, including study of two similar facilities, analyzing space requirements, program requirements, and comparing the use of materials and the treatment of the major spaces, site visit and photographs. Submit program recommendations.

Week 4: Presentation of research and site analysis. Assignment of program. Discussion of approaches to solving the design problem and the development of parti. Strong emphasis on architectural scale models to study the massing, proportions and orientation.

Assignments: Develop flow diagram and determine parti. Organize the program schematically, in graphic and model form.

Week 5: Development of plans and study model.

Week 6: Discussion: factors contributing to successful elevations—treatment of fenestration, articulation of parts, expression of interior spaces, welcoming entrance, use of materials; structure—structural principles, integration of structure and design, structure as generator of form. Refinement of plans. Development of building sections and elevations.

Week 7: Development of final models. Refinement of plans.

Week 8: Final juried presentations of Project 2.

Introduction of **Project 3**: Discussion of building type and inherent design demands. Review of site analysis criteria—dimensions, contours, context (adjacent neighborhood, building, size, style, materials), pedestrian and vehicular access, impact of sun, snow, wind, rain, etc.

Assignment: Research paper—compare two facilities of same or similar size and building type, site analysis.

Week 9: Presentation of research and site analysis. Discussion of approaches to solving the design problem. Development of the program and determination of a parti. Develop flow diagrams, organize the program schematically, both graphically and in model form. Develop schematic design.

Week 10: Discussion: In-depth investigation of architecture as interior and exterior sculpture. How to manipulate interior spaces to create exterior form. Evaluation and redevelopment of design.

Week 11: Discussion: Integration of building code requirements, ADA, hierarchy of spaces, incorporation of structure and mechanical systems into the design. Continue design development.

Week 12: Discussion: Importance of natural light in architecture, various means of fenestration, concepts of solid and void in the development of building facades. Continue design development, models, plans, sections.

Assignment: Develop elevations integrating fenestration and other means of introducing light.

Week 13: Discussion: Criteria for final presentations. Development of final design, models, plans, sections, elevations.

Week 14: Design and presentation refinements. Final juried presentations of Project 3.

Week 15: Portfolio review: Design portfolio to be prepared by each student, showcasing the semester's work. Plans, sections, elevations, renderings and photographs of the models to be included.