



COURSE OUTLINE

ARC 123
Course Number

5
Credits

Architecture Basic Design II
Course Title

1 lecture/ 8 studio per week
Hours: lecture/laboratory/other (specify)

Catalog description:

Further study and exploration of the fundamental principles and elements of architecture design through a series of projects having increased complexity and depth of expression using more advanced presentation graphic techniques. Emphasis continues on the development of process drawing and model-building skills to explore design ideas.

Pre-requisites: ARC 121 with a minimum grade of C

Co-requisites: ARC 104 and ARC 125 (unless a minimum grade of C has already been earned in ARC 125)

Required texts: Francis D.K. Ching, *ARCHITECTURE Form, Space, and Order*; includes CD-ROM;
ISBN: 0-471-75216-9
Edition / Copyright: third
Publisher: John Wiley & Sons, Inc.

Ching, Francis, and Adams, Cassandra, *BUILDING CONSTRUCTION ILLUSTRATED*
ISBN: 0-471-35898-3;
Edition / Copyright: third - 2001
Publisher: John Wiley & Sons, Inc.

References: Brolin, Brent C., *The Designer's Eye: Problem-Solving in Architectural Design*
ISBN: 0-393-73068-9;
Edition/Copyright: 02
Publisher: W.W. Norton & Company 2002

Francis D.K. Ching, *Architectural Graphics*, 4th edition (John Wiley & Sons, Inc. 2003)

Clark, Roger H. and Pause, Michael, *PRECEDENTS IN ARCHITECTURE*,
3rd edition; **Publisher:** John Wiley & Sons, Inc. (2005)

McLennan, Jason F., *THE PHILOSOPHY OF SUSTAINABLE DESIGN*,
ISBN: 0-974-90330-2
Publisher: Ecotone Publishing

Reid, Grant W., *Landscape Graphics*, **Edition/Copyright:** REV 02 - Current Edition
ISBN: 0-8230-7333-5
Publisher: Watson-Guption Publications

Yee, Rendow, *Architectural Drawing*, **Edition / Copyright:** 2nd 03
ISBN: 0-471-05540-9
Publisher: John Wiley & Sons, Inc.

Last Revised: 2007

Course coordinator: Prof. Marilyn L. Dietrich, dietricm@mccc.edu, (609) 586-4800, ext. 3328

Information resources:

In addition to reference books listed above, additional books, periodicals, and other print materials are available in the freshman architecture studio, ET 213.

Course goals:

The student will be able to:

- Knowledgeably employ the various stages of the creative thought process in the task of producing an architectural design.
- Analyze a given architecture project statement and identify the specific issues that need to be addressed.
- Develop a concept (hypothesis) and produce several design strategies (partis) that support/express the concept and translate it into physical form.
- Apply the principles of orthographic projection, axonometric drawing, and rendering in freehand and hard-line architectural drawings.
- Utilize model-building techniques to produce study models and presentation models.
- Make a verbal and visual (2-dimensional and 3-dimensional) presentation of his/her work.

Course-specific General Education goals and objectives

The student will be able to:

- Read, write, and listen actively, critically, and reflectively.
- Logically, informatively, persuasively, and creatively respond orally and/or in writing to what they read, hear, and see.
- Write and speak clearly and effectively in formal American English.
- Recognize, analyze, and assess historical and contemporary works using accepted approaches and criteria.
- Develop foundational skills using art media, music, dance, or dramatic material.
- Apply skills and synthesize concepts to create and present individual performances and projects.
- Assess and evaluate their work and that of their peers.

Unit I: Defining Architectural Space – Structure, Proportion, and Scale

Learning Objectives

The student will be able to:

- Demonstrate an understanding of the difference between horizontal and vertical structural elements and the distinct and interrelated functions they serve.
- Demonstrate an understanding that size and proportion of structural elements are directly related to the tasks they perform and the materials of which they are made.
- Identify and explain the specific characteristics of the following proportioning systems: Golden Section, regulating lines, classical orders, Renaissance theories, le Modular, the Ken, anthropometry, and scale.
- Discover through research, investigation, and analysis how a proportioning system establishes a consistent set of visual relationships between the parts of a building, as well as between the parts and the whole.

Unit I (continued)

- Comprehend and apply the principles of scale in 2-dimensional and 3-dimensional contexts.
- Apply previously acquired architectural knowledge & principles to a new set of design parameters.
- Utilize 2D and 3D computer skills (in co-requisite course ARC 104) to explore and investigate design parties.
- Utilize freehand architecture drawings and manual model-building skills to explore and investigate design partis and produce 2-D and 3-D presentations.

Project: Architectural Follies (3 weeks)

Through analysis and interpretation of a simple architectural program, select an appropriate structural and proportional system and apply it to the design of a series of nine architectural follies that manifest a variety of responses to light and enclosure (Ching, Chap. 3), scale (Ching, Chap. 6), circulation (Ching, Chap. 5), and architectural ordering principles (Ching, Chap. 7).

Text: Ching, *Form, Space, and Order*, Chapter 6: Proportion and Scale, Chapter 3: Form and Space, Chapter 5: Circulation, and Chapter 7: Principles.

Ching and Adams, *Building Construction Illustrated*, 3rd edition, Chapter 2; Chapter 3: 8-11, 16, 18-20, 22-23; Chapter 4: 26-40; Chapter 5: 2-3, 9-11, 14-18, 29, 33, 41-50; Chapter 6: 2, 9, 16-17, 24-26, 28-30; Chapter 9: 3-9; and Appendix: 2-3.

Reference: Brolin, *The Designer's Eye*
Ching, *Architectural Graphics*, 4th ed., Chapter 10: Freehand Drawing
Reid, *Landscape Graphics*, revised edition
Yee, *Architectural Drawing*, 2nd edition

Unit II: Synthesis – Medium-Complexity, Non-urban Architectural Design

Learning Objectives

The student will be able to:

- Comprehend and apply the various stages of the creative thought process involved in producing an architectural design.
- Analyze and diagram all salient features of a site.
- Analyze a given program and develop a clear and explicit architectural concept (hypothesis).
- Demonstrate an understanding of how the design of architectural form and space are directly related to the physiological, psychological, sociological, and cultural needs of the client and/or building users.
- Demonstrate an understanding of basic principles of sustainable design by incorporating them in the development of the architectural design.
- Utilize sketching, diagramming and study models to explore various partis (design strategies).
- Utilize 2D and 3D computer skills (in co-requisite course ARC 104) to explore and investigate design parties.
- Produce presentation drawings and models.
- Make a verbal and visual (2-D and 3-D) presentation of the final design.

Project: A Medium-complexity, Non-urban Architectural Design (4 weeks)

Through analysis and interpretation of a medium-complexity, non-urban architecture program, develop a series of design partis and select one that best expresses the integration of concept, programmatic issues, and site constraints. Present the final design verbally and visually using presentation drawings and models.

Text: Ching, Form, Space and Order, Chapters 3, 4, 5, 6, and 7
Ching and Adams, Building Construction Illustrated, 3rd edition

Reference: Brolin, The Designer's Eye
Ching, Architectural Graphics, 4th edition, Chapters 4, 5, 7, 8, 9, and 10
McLennan, The Philosophy of Sustainable Design
Reid, Landscape Graphics, revised edition
Yee, Architectural Drawing, 2nd edition

Unit III: Elevation Studies – Analysis in an Urban Context

Learning Objectives

The student will be able to:

- Discover through analysis how exterior walls (facades, elevations) mold interior space and simultaneously shape exterior space and describe the form, massing, and image of a building in space.
- Discover through analysis how the primary elevation (façade) of a building is an integral part of the sequence of approach to a building and its entrance.
- Discover through analysis how a proportioning system establishes a consistent set of visual relationships between the parts of an elevation as well as between the parts and the whole elevation.
- Discover through analysis and exploration how elements such as rhythm, repetition, proportion, scale, and horizontal and vertical lines can be used in the treatment of windows, doors, building materials, colors, and ornamental details to create a sense of visual harmony in the fabric of an urban street façade.
- Utilize sketching, diagramming and study models to explore partis (design strategies)
- Utilize 2D and 3D computer skills (in co-requisite course ARC 104) to explore and investigate design parties.
- Utilizing the understanding gained from the above analyses, synthesize the elements of an urban façade to create a sense of visual harmony while satisfying practical constraints.

Project: Elevation Studies in an Urban Context (3 weeks)

Thoroughly analyze the architectural elements that constitute an existing urban street façade.

Design at least three new building facades for an infill location within the street façade that integrate harmoniously with the existing street fabric. Produce a continuous, detailed two-dimensional elevation drawing of the existing street façade with the new building elevation designs in place. As a class project, produce a three-dimensional model of the full existing street façade. Individually, produce models of the three building elevation designs for insertion in the street model.

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Text: Ching, Form, Space, and Order, Chapter 5: Circulation and Chapter 6: Scale and Proportion
Ching and Adams, Building Construction Illustrated, 3rd edition, Chapter 5: Wall Systems, and Appendix: 2-3.

Reference: Brolin, The Designer's Eye
Ching, Architectural Graphics, Chapters 4, 7, and 9
Clark and Pause, Precedents in Architecture, 3rd edition
Yee, Architectural Drawing, 2nd edition

Unit IV: Synthesis: Architecture Design in an Urban Context

Learning Objectives

The student will be able to:

- Comprehend and apply the various stages of the creative thought process involved in producing an architecture design.
- Analyze and diagram all salient features of an urban site.
- Analyze a given program and develop a clear and explicit architectural concept (hypothesis).
- Explore and investigate a range of design strategies (partis) that support the concept and the relationship of the architectural composition with the urban site/context (refer to Unit III).
- Demonstrate an understanding of how the design of an architectural composition is directly related to and informed by the physiological, psychological, sociological, and cultural needs of the client and/or building users.
- Demonstrate an understanding of rudimentary principles of sustainable design by incorporating them in the development of the architectural design.
- Utilize sketching, diagramming and study models to explore various parties.
- Utilize 2D and 3D computer skills (in co-requisite course ARC 104) to explore and investigate design parties.
- Produce presentation drawings and models.
- Make a verbal and visual (2-D and 3-D) presentation of the final design.

Project: A Medium-complexity Architecture Design in an Urban Context (5 weeks)

Through analysis and interpretation of a medium-complexity urban architecture program, develop a series of design partis and select one that best expresses the integration of concept, programmatic issues, and site parameters. Present the final design verbally and visually using presentation drawings and models.

Text: Ching, Form, Space, and Order, Chapters 3, 4, 5, 6, and 7
Ching and Adams, Building Construction Illustrated, 3rd edition

Reference: Brolin, The Designer's Eye
Ching, Architectural Graphics, 4th edition, Chapters 4, 5, 7, 8, 9, and 10
McLennan, The Philosophy of Sustainable Design
Reid, Landscape Graphics, revised edition
Yee, Architectural Drawing, 2nd edition

Evaluation of student learning:

Grading of Projects – 80% of course grade

All projects are due at the specified hour and date indicated at the outset of each project. A drop of one full letter grade will be given to projects submitted at the same specified hour at the next class meeting time. Projects submitted after this late period will be reviewed, but will receive the grade of “F”.

The grades of all projects except the last will be of equal value. The last project will have a value two times that of each of the preceding projects.

The student is responsible for his/her regular attendance, participation in studio discussions and reviews of student work, and for on-time submission of his/her work for discussion and evaluation.

The following statement is meant to clarify the evaluation criteria in studio work. Individual work will be graded in consideration of these criteria. Values of quality, aesthetics, etc., are based upon the instructor’s judgment of the work produced, the effort employed, and the total result achieved.

Analytic Skills:

- An ability to understand and identify the problem, its specific components, particularity, and constraints.
- An ability to apply logic and intuition to discern possible strategies for resolving the major and minor issues that need to be addressed in the problem.

Synthetic Skills:

- An ability to harmoniously satisfy and integrate all aspects of a problem (architectural program) through the development of an appropriate architectural concept and its expression in physical form as an architectural design.

Technical Skills:

- An ability to discern and resolve the major problems inherent in the architectural design.
- An ability to produce a clear and explicit presentation of the architectural design, 2-dimensionally and 3-dimensionally, verbally and visually.

Participation:

- An ability to communicate effectively one-on-one with the course instructor and other students.
- An ability to make productive contributions to the studio-learning environment through group interaction and sharing of ideas.

The grade of “A” will be earned by students who demonstrate mastery of the essential objectives of the project, as well as demonstrating excellence in aesthetics and originality, and in completing course objectives and learning unit objectives with at least 90% accuracy.

The grade of “B” will be earned by students who demonstrate more than adequate mastery of the essential objectives of the project, as well as demonstrating a more than adequate level of aesthetics and originality, and in completing course objectives and learning unit objectives with at least 80% accuracy.

The grade of “C” will be earned by students who demonstrate adequate mastery of the essential objectives of the project, as well as demonstrating an adequate level of aesthetics and originality, and in completing course objectives and learning unit objectives with at least 70% accuracy.

The grade of “D” is undesirable and indicates a less than adequate mastery of the essential objectives of the project and a less than adequate level of aesthetics and originality, with a minimum level of completion of course objectives and learning unit objectives.

The grade of “F” will be earned by students who do not demonstrate achievement.

Evaluation of student learning: (continued)

Professionalism – 20% of course grade

Professionalism refers to the degree of seriousness and commitment the student brings to his/her work in the course. It includes regular, on-time attendance in all lectures and studio classes, completing assignments on time, and contributing constructively to the overall demeanor and learning atmosphere of the lecture and studio.

Grading of professionalism will reflect the student's sincere effort to strive for, develop, and demonstrate the following specific criteria:

Contribution:

To support the creative learning environment through excellence in behavior and attitude, individually and collectively.

Dedication:

To the study of architecture, including the willingness to put forth the time and effort to search and explore, study and analyze, and to develop and nurture the ability to imagine and create and follow-through to completion each design project.

Commitment:

To embrace a sincere and open-minded attitude toward new ideas, approaches and interpretations of what constitutes good architecture, including a new sense of aesthetics, structure and materials, construction and technology.

Devotion:

To a progressively expanding learning process and to cultivating the intellectual skills required in understanding the principles of design.

To recognizing, acknowledging, and appropriately following the various stages of the creative thought process.

Academic Integrity Statement:

Students are expected to comply with the college-wide requirements for academic integrity. Mercer County Community College is committed to Academic Integrity—the honest, fair, and continuing pursuit of knowledge, free from fraud or deception. This implies that students are expected to be responsible for their own work. Presenting another individual's work as one's own and receiving excessive help from another individual will qualify as a violation of Academic Integrity. The entire policy on Academic Integrity is located in the Student handbook and is found on the college website (http://www.mccc.edu/admissions_policies_integrity.shtml).

Any student in this class who has special needs because of a disability is entitled to receive accommodations. Eligible students at Mercer County Community College are assured services under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. If you believe you are eligible for services, please contact Arlene Stinson, the Director of Academic Support Services. Ms. Stinson's office is LB221, and she can be reached at (609) 570-3525.