



COURSE OUTLINE

Course Number ARC 123	Course Title Architecture Basic Design II	Credits 5
Hours: Lecture/Lab/Other	Pre-requisite ARC 121 with a minimum grade of C ARC 102 with a minimum grade of C	Implementation Semester & Year
1 lecture/8 studio per week	Co-requisite ARC 104 Computers in Architecture	Spring 2022

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

General Education Category:
Not GenEd

Course coordinator:
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Required texts & Other materials:

Francis D.K. Ching, Building Construction Illustrated,
ISBN: 978-0-470-08781-7
Edition / Copyright: Fourth edition
Publisher: John Wiley & Sons, Inc.

Don Hanlon, Compositions in Architecture
ISBN: 978-0-470-05364-5
Edition / Copyright: latest
Publisher: John Wiley & Sons, Inc. Simon Unwin,

Simon Unwin, Analyzing Architecture
ISBN: 978-0-415-48928-7
Edition/Copyright: Third edition
Publisher: Routledge

Recommended:
Geoffrey H. Baker, Design Strategies in Architecture
ISBN: 0-419-16130-9
Edition/Copyright: Second edition
Publisher: Routledge

Paul Laseau, Graphic Thinking for Architects & Designers
ISBN: 978-0-471-35292-1
Edition/Copyright: Third edition
Pierre von Meiss, Elements of Architecture
ISBN: 978-0-419-15940-7

Edition/Copyright: latest
Publisher: Spon Press

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

Course Competencies/Goals:

The National Architectural Board (NAAB) requires that students in architecture programs are evaluated through NAAB STUDENT PERFORMANCE CRITERIA. Mercer County Community College uses the NAAB criteria in the creation and assessment of student performance.

Course Student Learning Outcomes (SLO):

Upon successful completion of this course the student will be able to:

1. Knowledgeably employ the various stages of the creative thought process (including critical thinking skills) in the task of producing an architectural design. [Supports ILG # 1, 3, 4, 5, 7, 8, 9, 10, 11; PLO # 1, 2, 4, 5, 6, 8]
2. Analyze a given architecture project statement and identify the specific issues that need to be addressed. [Supports ILG # 1, 3, 4, 5, 7, 8, 9, 10, 11; PLO # 1, 2, 4, 5, 6, 8]
3. Develop a concept (hypothesis) and, through an iterative and reflective design process, produce design strategies (partis) that support/express the concept and translate it into physical form. [Supports ILG # 1, 2, 3, 4, 5, 7, 8, 9, 10, 11; PLO # 1, 2, 4, 5, 6, 8]
4. Use as tools for thinking and representation a combination of traditional and digital drawing and modeling techniques [Supports ILG # 1, 2, 3, 4, 5, 7, 8, 9, 10, 11; PLO # 1, 2, 4, 5, 6, 8]
5. Utilize model-building techniques to produce study models and presentation models. [Supports ILG # 1, 2, 3, 4, 5, 7, 8, 9, 10, 11; PLO # 1, 2, 4, 5, 6, 8]
6. Make a verbal and visual (2-dimensional and 3-dimensional) presentation of his/her work. [Supports ILG # 1, 2, 3, 4, 5, 7, 8, 9, 10, 11; PLO # 1, 2, 4, 5, 6, 8]
7. Read, write, and listen actively, critically, and reflectively. [Supports ILG # 1, 3, 4, 5, 7, 8, 9, 10, 11; PLO # 1, 2, 4, 5, 6, 8]
8. Recognize, analyze, and assess historical and contemporary works using accepted approaches and criteria. [Supports ILG # 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11; PLO # 1, 2, 4, 5, 6, 8]
9. Assess and evaluate their work and that of their peers. [Supports ILG # 1, 3, 4, 5, 6, 7, 8, 9, 10, 11; PLO # 1, 2, 4, 5, 6, 8]

Course-specific Institutional Learning Goals (ILG):

Institutional Learning Goal 1. Written and Oral Communication in English. Students will communicate effectively in both speech and writing.

Institutional Learning Goal 2. Mathematics. Students will use appropriate mathematical and statistical concepts and operations to interpret data and to solve problems.

Institutional Learning Goal 3. Science. Students will use the scientific method of inquiry, through the acquisition of scientific knowledge.

Institutional Learning Goal 4. Technology. Students will use computer systems or other appropriate forms of technology to achieve educational and personal goals.

Institutional Learning Goal 5. Social Science. Students will use social science theories and concepts to analyze human behavior and social and political institutions and to act as responsible citizens.

Institutional Learning Goal 6. Humanities. Students will analyze works in the fields of art, music, or theater; literature; philosophy and/or religious studies; and/or will gain competence in the use of a foreign language.

Institutional Learning Goal 7. History. Students will understand historical events and movements in World, Western, non-Western or American societies and assess their subsequent significance.

Institutional Learning Goal 8. Diversity and Global Perspective: Students will understand the importance of a global perspective and culturally diverse peoples

Institutional Learning Goal 9. Ethical Reasoning and Action. Students will understand ethical frameworks, issues, and situations.

Institutional Learning Goal 10. Information Literacy: Students will recognize when information is needed and have the knowledge and skills to locate, evaluate, and effectively use information for college level work.

Institutional Learning Goal 11. Critical Thinking: Students will use critical thinking skills understand, analyze, or apply information or solve problems.

Program Learning Outcomes for the Architecture (PLO)

1. Use analytical skills to determine the major elements of a work of architecture and/or an architectural design project.
2. Comprehend and apply the various stages of the creative thought process to produce an architectural design.
3. Understand and apply the basic principles of sustainable design.
4. Use two- and three-dimensional visual communication skills (freehand, traditional, and computer-generated drawings and physical models) to convey a complete architectural idea;
5. Demonstrate knowledge of the important buildings and stages in the history of architecture and the social and technological factors that influenced them.
6. Critically evaluate the built environment – its relationship to the natural world and the reciprocal sociological and psychological influences on man;
7. Demonstrate knowledge of architectural materials and structural systems and their appropriate applications in building construction.
8. Develop a professional portfolio to serve in the pursuit of further education and employment.

Units of study in detail – Unit Student Learning Outcomes:

Unit I Defining Architectural space – Grid organization, structure, enclosure, scale and light [Supports Course SLO # 1-9]

Learning Objectives

The student will be able to:

- Apply an understanding of the use of a grid as a tool for spatial organization and response to context
- 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
- Demonstrate an understanding that the spatial qualities of form, proportion, scale, texture, light and sound depend of the properties of the enclosure of the space.
- 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, visualize and document various partis (design strategies).
- Utilize freehand architecture drawings and manual model-building skills to analyze, explore and investigate design partis and produce 2-D and 3-D presentations.

Unit II Proportioning Systems, Modular Design, and Sustainability in Architectural Design
[Supports Course SLO # 1-9]

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.
- Identify and explain the principles of the following proportioning systems: the Golden Section, the Modular, and the Ken.
- Discover through research, investigation, and analysis how a proportioning system establishes a consistent set of visual relationships amongst the parts of a building, as well as between the parts and the whole.
- 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 partis.
- Produce presentation drawings and models.
- Make a verbal and visual (2-D and 3-D) presentation of the final design.

Unit III Principles of dialog in a Medium-complexity, Non-Urban Architecture Design
[Supports Course SLO # # 1-9]

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.
- Comprehend and express the principles of dialog and their applications to architectural design and to specific site conditions.
- 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 partis. • Produce presentation drawings and models.
- Make a verbal and visual (2-D and 3-D) presentation of the final design.

Unit IV [Architecture Design in an Urban (Infill) Context – Analysis, Context and Content]
[Supports Course SLO ## 1-9]

Learning Objectives

The student will be able to:

- Explore through analysis how exterior walls shape interior space and simultaneously define the form and massing image of the exterior façade.
- Explore through analysis, how the primary elevation (façade) is an integral part of the sequence of approach to a building and its entrance.
- Explore through analysis how elements such as rhythm, repetition, proportion, scale and horizontal and vertical lines can be used in the treatment of windows, doors, building materials, color and ornamental detail.
- Realize the significance of material, texture and lighting in architectural spaces.
- Explore the opportunity to design interior space with a specific character and/or quality.
- Study allied arts of interior design and furniture design in order to understand the relationships they have to architecture and to appreciate how all aspects of the building design are correlated.
- Understand the functional needs of a common commercial building use and its relationship to human scale and dimensions as it pertains to related activities.
- Begin to address the responsibility of providing universal access (ADA)
- Appreciate the role that the architect and architectural design play in revitalizing downtown areas.
- 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 partis.
- Produce presentation drawings and models
- Make a verbal and visual (2-D and 3-D) presentation of the final design

Unit V [Portfolio] [Supports Course SLO # 1-9]

The student will be able to:

- Select work from all projects during the semester that is representative of the student's best effort and development as a designer
- Compose the selected work into a cohesive and logically-ordered portfolio that includes traditional and digital representation

Evaluation of student learning:

Grading of Projects – 80% of course grade

IMPORTANT NOTE: All assignments and gathering of research will be completed outside of class time. Students are expected to devote at least 10 additional hours per week to this course beyond scheduled class meeting times.

All component stages of each project (including the final stage) are due at the date and time indicated at the outset of each stage. For the final stage of each project, a drop of one full letter grade will be given to

a project submitted at the same specified hour at the next class meeting time. A project 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 (25%):

- 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 (25%):

- 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 (30%):

- 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 and professionalism (20%)

- 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.

Professionalism

Professionalism refers to the degree of seriousness and commitment the student brings to his/her work in the course. It includes the willingness to practice patience, curiosity, determination, and thoroughness in exploring the many possibilities as they emerge in the natural course of the design process. It includes regular, on-time attendance in all lectures and studio classes, completing assignments on time, maintaining a course notebook, and contributing constructively to the overall demeanor and learning atmosphere of the lecture and studio.

It includes regular, on-time attendance in all lectures and studio classes, completing assignments on time, maintaining a course notebook, and contributing constructively to the overall demeanor and learning atmosphere of the lecture and studio. Notebooks: the student may want to maintain a notebook (3-ring binder) of all of the following: handouts from each class, notes taken in class, homework assignments, and research and note-taking done outside of class.

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.

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