ARC 121  Architecture Basic Design I

Co-requisite: ARC102 or divisional permission 5 credits
Explores fundamental principles and elements of design: form, space, composition, systems, context, imagery, functional and structural organizations. Solutions to architectonic design projects explored through critical analysis, sketching, process drawings and study models. Traditional and digital media tools are used as a means of communicating architectural ideas. Fall offering.

Revision date:
Fall 2017

Course coordinator: Garry Perryman, 609-570-3357, perrymag@mccc.edu

Other materials: An equipment list is included in the course Syllabus

Information resources:
In addition to reference books listed above, additional books, periodicals, and other print materials are available in College library, in local libraries, and/or in the freshman architecture studio, ET 213.

Course Competencies/Goals:
The National Architectural Accreditation 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.

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 architectonic and architectural design.
2. Analyze an architecture design project statements and identify the specific issues that need to be addressed.
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.
4. Use as tools for thinking and representation a combination of traditional and digital drawing and modeling techniques
5. Utilize model-building techniques to produce study models and presentation models.
6. Make a verbal and visual (2-dimensional and 3-dimensional) presentation of his/her work.
General Education Knowledge Goals and Core Skills:

**General Education Knowledge Goals**

**Goal 1. Communication.** Students will communicate effectively in both speech and writing.

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

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

**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.

**Goal 8. Diversity.** Students will understand the importance of a global perspective and culturally diverse peoples.

**MCCC Core Skills**

**Goal A. Written and Oral Communication in English.** Students will communicate effectively in speech and writing, and demonstrate proficiency in reading.

**Goal B. Critical Thinking and Problem-solving.** Students will use critical thinking and problem solving skills in analyzing information.

**Goal D. 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.

**Goal E. Computer Literacy.** Students will use computers to access, analyze or present information, solve problems, and communicate with others.

**Goal F. Collaboration and Cooperation.** Students will develop the interpersonal skills required for effective performance in group situations.

**Goal G. Intra-Cultural and Inter-Cultural Responsibility.** Students will demonstrate an awareness of the responsibilities of intelligent citizenship in a diverse and pluralistic society, and will demonstrate cultural, global, and environmental awareness.

Units of Study in Detail

**Unit I: Principles of Unity and Dialog in Architectonic Design**

*The student will be able to: Course Goal 1-6; Skills Goals ABD& F*

- To understand three dimensional form as a series of lines, planes and volumes (x,y,z)
- Recognize the contrast between two-dimensional patterns and three-dimensional volumes of space.
- Discover through exploration how volumes of solid and void organize space.
- Demonstrate an understanding of rudimentary principles of physics as they apply to three-dimensional structures.
- Express principles of unity in a three-dimensional composition.
- Comprehend and explain the term “dialog” as used in architectonic composition.
- Comprehend and apply the properties of form (shape, size, color, texture, position, orientation, visual inertia) to create a composition that expresses architectonic dialog.
- Analyze, identify and respond to the parameters and geometric properties of a given site/field.
- Comprehend and apply the principles of orthographic projection (plan and section) in hardline and freehand architectural drawings.

**Unit II Diagramming**

*The student will be able to: Course Goal 1-6; Skills Goals ABD& F*

- Develop a graphic and verbal vocabulary for describing concepts, form and organizing principles of design.
- Develop a methodology for diagramming.
- Develop representation skills for the communication of ideas.
- Understand the basic elements of architecture and their relationship through out history.
- Demonstrate the understanding of the basic architecture design.
Unit III: Proportioning Systems
The student will be able to: Course Goal 1-6; Skills Goals ABD& F
- To study formal composition of individual objects and groups of objects and investigate the application of basic forces present in composition
- To investigate design and the defining of space/form as an additive process
- To practice craft in model-making
- To learn about proportion and understand the nuances between overall, inherent and comparative proportions.
- To practice acknowledging dominant, subdominant and subordinate forms within a composition.

Unit IV: Defining Architectonic Space - Continuity, Complexity, and Relativity
The student will be able to:
- Discover through exploration basic issues of architectural design: simplicity and complexity, proportion and scale, and relationships of parts to the whole.
- Develop the ability to select and define a hypothesis (concept) and design strategy (parti) for investigating spatial complexity. Consciously (deliberately) manipulate the number, attributes and organization of architectural elements (floors, walls, and roofs) to create spatial compositions of relative complexity. Comprehend the difference between a hypothesis (concept) and the design strategy (parti) that leads to a direct expression of the concept. Communicate explicitly in words and diagrams the hypothesis (concept) and design strategy (parti) investigated and the discoveries made in the investigation. Unit V: Modes of Interpretation: Analysis, Translation, and Transformation
The student will be able to:
- Analyze a given painting by looking at it critically
- Use analytic diagrams to express an understanding of the basic design issues and the formal organization of the composition
- Translate the 2-dimensional composition of the painting into 3-dimensional compositions of volumetric solids and voids.
- Utilize the analyses of the painting to generate interpretations (hypotheses/concepts) and transformations (design strategies/partis) into 3-dimensional compositions of positive and negative space
- Discover, through a series of iterative, 3-dimensional studies, the relationship between the planes, volumes, shapes and interstitial spaces of the 3-D composition
- Write a one- to two-page critical paper about the painting and its author
- Comprehend and apply the principles of orthographic projection and axonometric drawing in hard-line and freehand architectural drawings.
- Utilize model-building techniques to produce study models and presentation models.

Unit VI: Exploring Landscape: the Definition of Place
The student will be able to:
- Demonstrate an understanding of the basic design components of the creation of a physical landscape
- Show an understanding of the definition, identity, and nature of the following conditions - threshold, path, and goal - as they pertain to the previously studied design medium
- Interpret these conditions by expressing them through the creative manipulation of the landscape
- Read, comprehend, and interpret and draw the components of a landscape site plan
- Analyze and diagram the salient features of a landscape.
- Utilize model-building techniques (digital and/or physical) to produce study models of the landscape.
- Utilize sketching, diagramming, and study models to explore and depict alterations to the landscape.
Unit VII: Portfolio
The student will be able to:
• Select work from all projects during the course of 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.

Course Goal 1-6; Skills Goals ABD& F

Evaluation of student learning: Grading of Projects – 90% 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. Any component stage as well as any final stage of a project, submitted after the date and time specified, will be reviewed, but will receive the grade of “F” (or, at the instructor’s discretion, a substantial drop in letter grade).

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 (30%):
An ability to understand and identify the problem, its specific components 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 (30%):
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 (10%):
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 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.

Notebook: 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.

**Academic Integrity Statement:**
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](http://www.mccc.edu/admissions_policies_integrity.shtml)). Mercer County Community College is committed to ensuring the full participation of all students in all activities, programs and services. If you have a documented differing ability or think that you may have a differing ability that is protected under the ADA and Section 504 of the Rehabilitation Act, please contact Arlene Stinson in LB 216 stinsona@mccc.edu for information regarding support services. If you do not have a documented differing ability, remember that other resources are available to all students on campus including academic support through our Academic Learning Center located in LB 214.