Mercer County Community College

Arts and Communication Division

ABT 120

ARCHITECTURAL TECHNOLOGY GRAPHICS

COURSE DESCRIPTION

An introductory course in architectural graphics designed to develop the students' ability in a range of current graphic techniques. Topics include lettering, line work, orthographic projection, paraline drawing, dimensioning, material representation and working drawings.

Food and Drink are Strictly prohibited in Classrooms as per Health and Safety Laws. Students may not bring in chemicals or cleaning fluids without the appropriate MSD Sheets.

Text (s): **Reference Division Booklist**

Prerequisites: **Proficiency in basic reading and computation per BSPT.**

Co-requisites:

Credits: 4 **Lecture Hours: 2** **Studio/Lab Hours: 6**

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Course Coordinator: John Santosuosso **Latest Review: Fall 2004**

I. GENERAL OBJECTIVES

A. To develop the students' abilities in use of drafting equipment, line work and lettering.

B. To introduce the student to elementary architectural graphics techniques in orthographic projection, paraline drawing and working drawings.

C. To develop the students' abilities in visual perception and to produce drawings mechanically as well as freehand.

D. To introduce the students to elevations and framing plans.

E. To introduce dimensioning and material representation.

F. To introduce the student to computer aided drafting.

II. SPECIFIC OBJECTIVES

UNIT 1: ELEMENTS OF DRAFTING - USE OF EQUIPMENT, LETTERING AND LINE WEIGHTS - 2 WEEKS

The student should be able to:

A. Identify all of the drafting equipment and materials he will be required to use.

B. Properly operate his drafting station and know drafting room procedures.

C. Perform the following basic drafting procedures:
   a. Tape paper to the drafting surface
   b. Point a pencil

D. Read an architect's or engineer's scale and use it proficiently enough to properly size drawings, and to reduce or enlarge them accurately to another scale.

E. Illustrate a proficiency in using drawing instruments to construct straight and curved lines, and demonstrate the ability to properly connect these lines.

F. Graphically reproduce all of the numbers and letters of the alphabet in a reasonably professional manner considering letter forms, inclination, height and spacing.

G. Differentiate line weights and effectively illustrate the difference between object lines, hidden lines and guide lines.

UNIT 2: ORTHOGRAPHIC PROJECTION - 2 WEEKS

The student should be able to:

A. Identify and construct orthographic views, i.e. front, top and right side views of three-dimensional forms.

UNIT 3: PRESENTATION DRAWINGS - 3 WEEKS

The student should be able to:

A. Construct the floor plan, elevation and section of a basic residential dwelling unit in the presentation drawing format.

B. Use proper line weights and use the proper pouche' technique for walls and floors in section.

UNIT 4: PARALINE DRAWING - 2 WEEKS

The student should be able to:

A. Recognize and distinguish between the various methods of paraline drawing.

B. Properly construct isometric and oblique drawings.

C. Determine from a given view the most appropriate method, i.e. isometric or oblique, for effectively illustrating its form.

D. Determine correct proportions, especially with oblique drawing in order to avoid excessive distortion of the drawing.

UNIT 5: AUXILIARY VIEWS - 0.5 WEEKS

The student should be able to:

A. Construct the auxiliary view of the sloping face of a basic geometric form.

UNIT 6: WORKING DRAWINGS - 5 WEEKS

The student should be able to:

A. Draw elevations, floor plans, sections and a foundation plan for a basic residential structure in a working drawing format.

   He/she should be able to properly dimension all views.

Students will be given the opportunity to produce a small portion of the final project using AUTOCAD software for extra credit.

UNIT 7: PERSPECTIVE DRAWING (Optional) - 0.5 WEEKS

The student should be able to:

A. Draw a 2-point perspective of a basic geometric figure.
   (This objective will be incorporated, time permitting).

III. ATTENDANCE

Students are expected to attend all classes unless excused by the instructor. Unexcused absences in excess of two (2) classes will result in a reduction of the average in calculating the final grade. Two unexcused "lateness attendance" will equate to one unexcused absence.

IV. EVALUATION

Grade Weights	
Drawings (Projects 1, 2, 3 and 4)	55-60%
Drawing (Project 5)	20-25%
Tests, Quizzes, Extra Projects, Attendance and Performance in Lab Sessions	5-10%
Summative Evaluation	5-10%

The final project, consisting of a set of architectural working drawings will serve as a summative evaluation in which the most important objectives of the course will be evaluated. Accuracy, line work, lettering, completeness and layout will be reviewed. Students will be required to review and evaluate other students' projects. The student's ability to evaluate the project will be viewed as the summative evaluation.

Grading of the final project will be based on the following:

LETTERING	**20%**
LINEWORK	**20%**
ACCURACY/COMPLETENESS	**50%**
LAYOUT/GENERAL	**10%**

V. REFERENCES

Architectural Graphic Standards
by Ramsey/Sleeper

Architectural Graphics
by Frank Ching

The Professional Practice of Architectural Working Drawings
by Q. Wakita and R. Linde