Broward Community College
Course Outline

STATUS: A

COMMON COURSE NUMBER: BCN 1251C

COURSE TITLE: Building Construction Drawing I

CREDIT HOURS: 4

CONTACT HOURS BREAKDOWN:

Lecture/Discussion	48
Lab	48
Other	
Contact Hours/Week	6

CATALOG COURSE DESCRIPTION:

Prerequisite: CGS 1000 or Instructor Approval

Corequisite: None

This is the first in a two-course sequence of construction drawing courses. The first half of the semester will include a review of basic drafting techniques. The second half will be devoted to an in-depth study of residential construction working drawings and how they are prepared. AutoCAD will be used extensively as one of the tools for preparing drawings.

General Education Requirements - Associate of Arts Degree, meets Area(s):
General Education Requirements - Associate in Science Degree, meets Area(s):

UNIT TITLES: (OVER, PLEASE)

UNIT TITLES:

1. Introduction to AutoCAD
2. Review of Engineering Geometry
3. Equipment Use and Line Quality
4. Lettering
5. Geometric Construction
6. Multi-View Drawings
7. Sections
8. Paraline Drawings
9. Working Drawings for Residential Construction
10. Drawing, Dimensioning, and Noting the Floor Plan for Residential Construction
11. Drawing, Dimensioning and Noting the Interior Elevations for Residential Construction
12. Drawing, Dimensioning and Noting the Roof Framing Plan for Residential Construction
13. Typical Wall Sections for Residential Construction
14. Exterior Elevations for Residential Construction
15. Building Cross Sections for Residential Construction
16. Site and Roof Plan for Residential Construction

I. Course Overview:

Upon successful completion of this course, the students should be able to develop skills which will enable them to interpret and produce residential working drawings and communicate ideas effectively using free-hand sketches, drawing instruments and AutoCAD.

II. Units:

Unit 1. Introduction to AutoCAD

General Outcome:

1.0 The students should be able to produce 2 dimensional drawings using the AutoCAD software program.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

1.1 Move around in and access all parts of AutoCAD's menu, including the keyboard, screen, tablet, and pull-down menus.

1.2 Draw lines, arcs, circles, points, donuts, ellipses, parallel lines and simple text.

1.3 Begin and set up a new drawing.

1.4 Draw more effectively using AutoCAD various drawing aid commands.

1.5 Lock a pick point to specific locations on existing objects (OSNAPS).

1.6 Use layers to logically organize drawing entities onto multiple layers.

1.7 Move around drawings using zoom parallel view.

1.8 Draw more effectively and edit files using the edit commands.

Unit 2. Review of Engineering Geometry

General Outcome:

2.0 The students should be able to define and use the properties of points, lines, triangles, polygons, circles, ellipses, parabolas, and hyperbolas.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

2.1 Define and draw lines as collections of points.

2.2 Bisect segments.

2.3 Divide segments into equal parts.

2.4 Define and draw parallel lines.

2.5 Define and draw altitudes, medians, bisectors and mediatrice in triangles.

2.6 Define and draw polygons.

2.7 Define and draw circles.

2.8 Define and draw ellipses.

2.9 Define and draw parabolas.

2.10 Define and draw hyperbolas.

Unit 3. Equipment Use and Line Quality

General Outcome:

3.0 The students should be able to use drafting equipment to draw quality linework.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

3.1 Use triangles for quality linework.

3.2 Use scales for quality linework.

3.3 Find scale factors on completed drawings.

3.4 Use parallel rulers for quality linework.

3.5 Use the compass for quality arcs and circles.

3.6 Use the french curve for quality curves.

3.7 Use templates for quality figures.

3.8 Use erasers and erasing shields.

Unit 4. Lettering

General Outcome:

4.0 The students should be able to hand print letters with clarity and style.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

4.1 Make annotations on drawings.

4.2 Prepare title blocks.

Unit 5. Geometric Construction

General Outcome:

5.0 The students should be able to perform parallel, perpendicular and tangency problems effectively.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

5.1 Draw a line perpendicular to another line from given point.

5.2 Draw a line parallel to a given line from a given point.

5.3 Draw a circle tangent to a given line with given radius.

5.4 Draw a line tangent to a given circle from a given point.

5.5 Draw an arc tangent to a given angle with a given radius.

5.6 Draw a compound curve tangent to three given intersecting lines with one given radius.

Unit 6. Multi-View Drawings

General Outcome:

6.0 The students should be able to visualize and draw orthographic projections of three dimensional objects.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

6.1 Visualize and draw three dimensional drawings.

6.2 Visualize and draw top and bottom views.

6.3 Visualize and draw front and rear views.

6.4 Visualize and draw right side and left side views.

Unit 7. Sections

General Outcome:

7.0 The students should be able to visualize and draw sections thru three dimensional objects.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

7.1 Visualize and draw full sections.

7.2 Visualize and draw longitudinal sections.

7.3 Visualize and draw transversal sections.

7.4 Visualize and draw partial sections.

Unit 8. Paraline Drawings

General Outcome:

8.0 The students should be able to visualize and draw paraline drawings.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

8.1 Visualize and draw isometric drawings.

8.2 Visualize and draw diametric drawings.

8.3 Visualize and draw oblique drawings.

8.4 Visualize and draw perspective drawings.

Unit 9. Working Drawings for Residential Construction

General Outcome:

9.0 The students should be able to read and draw residential construction working drawings.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

9.1 Read and draw line types used in residential construction working drawings.

9.2 Read and draw symbols used in working residential construction drawings.

9.3 Read and draw material symbols used in residential construction working drawings.

9.4 Read and draw object symbols used in residential construction working drawings.

9.5 Read and draw reference symbols used in residential construction working drawings.

9.6 Analyze a residential construction working drawing.

Unit 10. Drawing, Dimensioning and Noting the Floor Plan for Residential Construction

General Outcome:

10.0 The students should be able to read, draw dimension, and annotate architectural and structural floor plans in residential construction.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

10.1 Draw dimension lines.

10.2 Draw extension lines.

10.3 Read, draw, dimension, and annotate architectural floor plans.

10.4 Read, draw, dimension, and annotate structural floor framing plans.

Unit 11. Drawing, Dimensioning and Noting the Interior Elevations for Residential Construction

General Outcome:

11.0 The students should be able to read, draw, dimension and annotate elevations in residential construction working drawings.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

11.1 Read, draw, dimension and annotate kitchen wall elevations.

11.2 Read, draw, dimension and annotate bathroom wall elevations.

11.3 Read, draw, dimension and annotate fireplace wall elevations.

11.4 Read, draw, dimension and annotate miscellaneous wall elevations.

Unit 12. Drawing Dimensioning and Noting the Roof Framing Plan for Residential Construction

General Outcome:

12.0 The students should be able to read, draw, dimension and annotate roof architectural plans and structural roof framing plans in residential construction.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

12.1 Read, draw, dimension and annotate architectural roof plans.

12.2 Read, draw, dimension and annotate structural roof framing plans.

Unit 13. Typical Wall Section for Residential Construction

General Outcome:

13.0 The students should be able to read, draw, dimension, and annotate architectural and structural wall sections in residential construction.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

13.1 Read, draw, dimension and annotate masonry wall sections.

13.2 Read, draw, dimension and annotate stud wall sections.

13.3 Read, draw, dimension and annotate curtain wall sections.

Unit 14. Exterior Elevations for Residential Construction

General Outcome:

14.0 The students should be able to read, draw, dimension and annotate exterior elevations in residential construction.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

14.1 Read, draw dimension and annotate front elevations.

14.2 Read, draw, dimension and annotate side elevations.

14.3 Read, draw, dimension and annotate rear elevations.

Unit 15. Building Cross Sections for Residential Construction

General Outcome:

15.0 The students should be able to read, draw, dimension and annotate building sections in residential construction.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

15.1 Read, draw, dimension and annotate longitudinal sections in buildings.

15.2 Read, draw, dimension and annotate cross sections of buildings.

15.3 Read, draw, dimension and annotate partial sections of buildings.

Unit 16. Site and Roof Plan for Residential Construction

General Outcome:

16.0 The students should be able to read, draw, dimension and annotate site plans for buildings in residential construction.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

16.1 Locate the buildings on the site plan with dimensions, annotations, property lines, and legal descriptions.

16.2 Read, draw, dimension and annotate all utilities required in the site plan.

16.3 Read, draw, dimension and annotate the parts of the building that are structurally sound.

16.4 Read, draw, dimension and annotate grade lines.