

Goodheart-Willcox Publisher
Correlation of
Architecture: Residential Drafting and Design ©2018
to Maryland Department of Education
Course: Architecture Design & Development Grades 9-14



| Standard | Correlating Textbook Pages |
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| Standard 1: Understand, Demonstrate, and Apply Mathematics and Measuring Skills. | |
| Demonstrate and apply related mathematics. | 143, 602, 784, 786, 796, 824 |
| • Add, subtract, multiply, and divide whole numbers. | 78, 337, 600–601 |
| • Add, subtract, multiply, and divide fractions. | 103, 404 |
| • Add, subtract, multiply, and divide decimals. | 76, 103, 337 |
| Convert fractions/decimals. | |
| • Convert fractions to decimal equivalents. | 446 |
| • Convert decimal values to nearest fractional equivalent. | 446 |
| Demonstrate an ability to make and record basic measurements. | |
| Use scales, measuring tapes, and other techniques to take measurements. | 73, 76–78, 429 |
| Make and use measurements using fraction, foot---inch, and decimal---foot scales. | 76–77, 104, 337 |
| Record measurements using Cartesian and polar coordinates, as well as absolute and relative distances. | 105–106 |
| Standard 2: Understand and Demonstrate Drawing Techniques. | |
| Demonstrate proper sketching techniques. | |
| Create freehand sketches using paper, pencil, and an eraser (without the benefit of a straightedge, compass, or template) which is neat, clear, and smudge-free. | 337, 381, 390, 655, 719 |
| Understand and demonstrate the use of the alphabet of lines. Demonstrate the use of lines as they are drawn according to the alphabet of lines. | 87, 108 |
| Produce a one-view sketch of an object using proportional relationships. | 78, 382 |
| Use letters and numerals that conform to an architectural style. | 80, 89, 91–92, 386 |
| Demonstrate how words and letters are to be evenly spaced. | 80 |
| Understand and demonstrate the use of perspective views. | 146, 634, 644, 652–653 |
| Understand and use accepted dimensioning practices for sketches. | 71, 88, 107, 116, 122 |
| Demonstrate an ability to create architectural drawings to a professional standard. | |



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| Demonstrate exactness when producing drawing geometry. | 72, 116, 125, 280 |
| Drawing elements are accurate and drawn to scale. | 111, 684, 794 |
| Use and know correct geometric construction techniques. | 39, 121 |
| Construct lines as defined by the alphabet of lines. | 87, 108 |
| Understand and correctly use object, hidden, and center lines. | 88 |
| Understand and correctly use dimension lines, extension lines, and leader lines. | 88–89 |
| Identify border lines, phantom lines, and section lines and know their uses. | 87–89 |
| Know and follow accepted architectural dimensioning standards to apply the appropriate dimensions to drawings. | 71 |
| <ul style="list-style-type: none"> Understand and choose the best location for dimensions. | 58 |
| <ul style="list-style-type: none"> Apply appropriate spacing between the object and the first dimension. | 332–336 |
| <ul style="list-style-type: none"> Apply uniform spacing between dimension lines. | 166, 332–336 |
| <ul style="list-style-type: none"> Demonstrate an ability to fully dimension the object. | 332–336 |
| <ul style="list-style-type: none"> Demonstrate the correct use of leaders and notes. | 89, 111, 118, 298, 335 |
| <ul style="list-style-type: none"> Use appropriate angles for leaders. | 89 |
| <ul style="list-style-type: none"> Use appropriate leader line terminators. | 89 |
| Apply the appropriate notes to drawings. | |
| Understand the placement and use of title block information. | 82, 111 |
| Understand the placement and use of general notes. | 755 |
| Use the correct text height. | 111, 336, 389 |
| Use architectural style letters and numerals. | 87–92 |
| Standard 3: Develop and Demonstrate an Ability to Use Computer Software to Create Architectural Drawings. | |
| Know how to save, open, rename, and move data files using common computer operating system software. | |
| Create a new drawing setup to support architectural standards. | 111–112, 290–291 |
| Create drawing setups for different sizes of drawing formats. | 111–112, 290–291 |
| Revise existing architectural drawings using 2D or 3D computer- | 99 |



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| aided design software features. | |
| Produce hard copies of drawings using correct printer/plotter settings. | 102–103, 298 |
| Print/plot drawings using the appropriate scale settings. | 99–100, 102–103, 111 |
| Print/plot drawings with correct line widths. | 107–108 |
| Standard 4: Understand Architectural Design Fundamentals. | |
| Identify the historical influences that contributed to current home styles. | 3–23 |
| Recognize and describe the design elements of contemporary dwellings. | 3–23 |
| Discuss current trends in architecture. | 28–29 |
| List family needs that should be considered when planning a dwelling. | 135–141 |
| Discuss accessibility requirements for good functional utility. | 141–142, 155–157, 159 |
| Standard 5: Understand and Apply Architectural Room Planning for the Sleeping, Living, and Service Areas. | |
| Discuss factors important in the design of bedrooms, bathrooms, and closets. Apply those design elements to sketches and drawings. | 185–202 |
| Discuss factors important in the design of family rooms, living rooms, entryways, foyers, porches, and courts. Apply those design elements to sketches and drawings. | 155–181 |
| Discuss factors important in the design of kitchens, clothes care centers, and garages. Apply those design elements to sketches and drawings. | 205–223 |
| Discuss home construction costs using the cost per square foot. Discuss cost per type of construction, affordability, and the cost of amenities. | 823–833 |
| Standard 6: Understand How to Lay Out a Residential Floor Plan. | |
| Draw a residential floor plan using the accepted symbols and techniques. | 327–335, 341–348 |
| List the information required on a typical floor plan. | 328–343 |
| Represent typical materials using standard architectural symbols. | 328–333, 335, 341–342 |
| Draw the dimensions of a floor plan in a clear and precise manner which complies with architectural standards. | 332–337 |
| Recognize the difference between a good and poor drawing of a floor plan. | 162–163 |
| Standard 7: Understand How to Analyze, Calculate, and Design Footings and Foundations. | |
| List the major considerations when designing a footing for a residential foundation. | 432–434 |
| Analyze a typical floor plan to determine the appropriate foundation. | 433–441 |



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| Standard 8: Understand How to Lay Out Exterior Elevations. | |
| List features that should be included on an exterior elevation. | 565–573 |
| Identify the dimensions commonly shown on elevations. | 570, 572, 576–577 |
| Illustrate symbols that are often found on elevations. | 570, 572–574, 576–577 |
| Draw a typical exterior elevation which demonstrates proper techniques. | 573–580 |
| Standard 9: Understand How to Lay Out Wall Construction. | |
| Name the components of a typical frame wall. | 485–489 |
| Draw and label a typical wall section and full cross sections. | 502, 510, 513, 546–550 |
| Standard 10: Understand How to Complete a Door and Window Schedule. | |
| Draw a window schedule that would include window size, make, material, and type of glazing. | 113–114, 537–541 |
| Draw a door schedule that would include door size, style, type of lock set, special features, and jamb size. | 113, 520, 523–526 |