Correlation of

***Exploring Drafting,* Walker, Mathis, Scribner**

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to

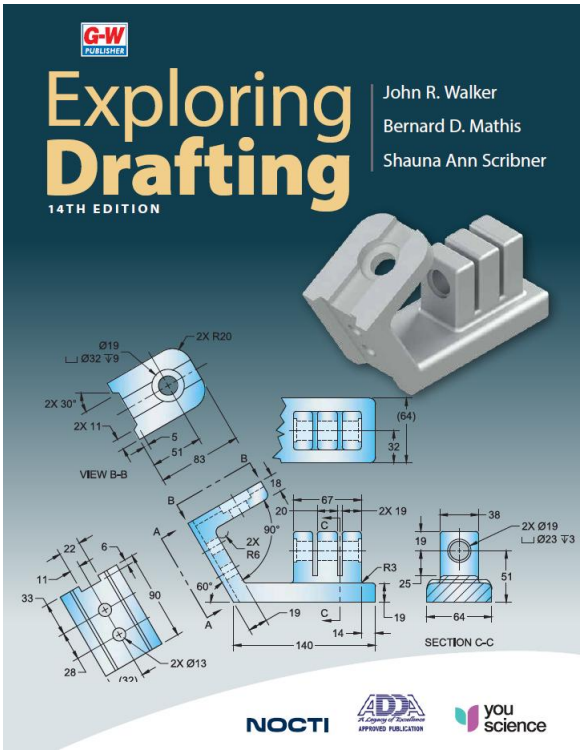
NOCTI Technical Drafting Credential

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NOCTI/NBS certifications (knowledge-based and skill-based) are developed by national teams of subject matter experts as part of the process that meets personnel accrediting standards and requirements under ISO 17024, resulting in credentials measuring skills and competencies critical for learner success outside the classroom. NOCTI/NBS offers test development, test delivery, and psychometric services to support skill verification, using the latest tools and methods to provide relevant and helpful solutions for workforce development.

The following chart correlates the *<Textbook Title>* textbook to the NOCTI/NBS national standards and competencies for Technical Drafting. Corresponding content from the *Exploring Drafting* textbook that can be used by a learner to help achieve the standards and competencies is listed in the right column.

For more information about NOCTI, visit https://www.nocti.org.



Standard / Competency	G-W Content
Basic Drawing Skills	
Identify and demonstrate appropriate use of drafting tools, materials, and equipment	Textbook: pg. 53–69

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Standard / Competency	G-W Content
Demonstrate knowledge of the use of CAD as a drafting tool	Textbook: pg. 142–167
Drawing standards and conventions	Textbook: pg. 26–31, 74–77
Utilize appropriate drawing layout and scale	Textbook: pg. 85–87, 64–66, 77–80
Complete annotation on drawings	Textbook: pg. 237–240, 254–274, 354
Complete a title block	Textbook: pg. 85–86, 237–240, 354, 359
Demonstrate sketching skills and techniques	Textbook: pg. 26–40
Geometric Construction	
Identify geometric terms and constructions	Textbook: pg. 26–40
Produce basic geometric constructions	Textbook: pg. 26–40
Construct lines at any given angle	Textbook: pg. 35
Construct irregular curved lines	Textbook: pg. 36–38
Construct geometric shapes and plane figures	Textbook: pg. 26–40
Draw lines	Textbook: pg. 26–35
Draw curved elements	Textbook: pg. 36–38
Applied Mathematics	
Basic mathematic operations	Textbook: pg. 65, 531–540
Apply methods of measurement	Textbook: pg. 65, 77–80, 531–540
Calculate distance, area, and volume	Textbook: pg. 65, 77–80, 531–540
Calculate fractions and decimals	Textbook: pg. 65, 76, 531–540
Demonstrate conversion skills	Textbook: pg. 65, 531–540
Calculate taper/slope	Textbook: pg. 312–315
Demonstrate knowledge of algebraic equations	Textbook: pg. 76, 531–540
Demonstrate knowledge of geometry	Textbook: pg. 76, 82, 531–540
Demonstrate knowledge of trigonometry	Textbook: pg. 531–540
Dimensioning Skills	
Dimension basic features	Textbook: pg. 255–268
Apply local and general notes	Textbook: pg. 352–353
Interpret abbreviations and symbols	Textbook: pg. 299, 388–390, 459
Demonstrate metric dimensioning	Textbook: pg. 268–271
Demonstrate dual dimensioning	Textbook: pg. 268
Demonstrate tabular/charted dimensioning	Textbook: pg. 268–269

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Standard / Competency	G-W Content
Demonstrate baseline dimensioning	Textbook: pg. 273–275
Demonstrate tolerancing practices	Textbook: pg. 271–276
Identify finished surfaces	Textbook: pg. 151–152, 352–353
Demonstrate geometric dimension and tolerancing (GD&T)	Textbook: pg. 273–276
Multiview Drawing	
Produce basic orthographic views	Textbook: pg. 224–230
Produce auxiliary views	Textbook: pg. 310–325
Produce section views	Textbook: pg. 288–209
Produce intersections and developments	Textbook: pg. 232
Produce schematic drawings	Textbook: pg. 374
Produce pictorial drawings	Textbook: pg. 186–221
Produce detail working drawings	Textbook: pg. 352–353
Produce assembly drawings	Textbook: pg.353–354
Demonstrate drawing revisions	Textbook: pg. 352
Produce modified part drawings	
Threads and Fasteners	
Identify and apply fastener terminology and symbols	Textbook: pg. 370–385
Identify and apply screw thread terminology and symbols	Textbook: pg. 370–385
Produce threaded fastener drawings	Textbook: pg. 370–385
Produce common fasteners and applications	Textbook: pg. 370–385
Manufacturing Processes	
Demonstrate knowledge of machining operations	Textbook: pg. 404–412
Demonstrate knowledge of welding	Textbook: pg. 388–401
Demonstrate knowledge of various manufacturing processes	Textbook: pg. 411–421
Demonstrate knowledge of various materials	Textbook: pg. 426, 434
Identify standard shop tools and equipment	Textbook: pg. 404–410
Demonstrate knowledge of mechanical components	Textbook: pg. 328–329, 372–379, 404–417

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Standard / Competency	G-W Content
Explain design guidelines (form, function, repetition, etc.)	Textbook: pg. 434–437
Identify steps of the design process/cycle	Textbook: pg. 437–440
Research and design a project	Textbook: pg. 434–443
Use reference materials	Textbook: pg. 12, 458–459

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