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| Time Frame | Topic/Unit | Skills/Concepts | Major Assessments | Core Standards | Resources |
| Week 1 | **Introduction to Course + Introduction to Tools** | * Exposure to drafting tools (Drawing board, T-Square, 30/60 Triangle, 45/90 Triangle, Compass, Brush, Eraser + Shield, Ruler, etc) | Diagnostic assessment of intuitive drafting tool knowledge (Tool Drawing 1) |  |  |
| Weeks 2 - 10 | **Tool & Equipment Usage** | * Drawing paper set-up * Horizontal Lines * Vertical Lines * 30, 45, 60 lines * Circles * Construction Points * Erasers & Reconstruction * Lettering | * Moon Phases Project (Research, Design, and Draw a chart of the 8 Moon Phases)      * Tool Drawing 2 (Demonstrate use and purpose of tools) |  | Hearlihy Instructional Workbook for Drafting – Paul Wallach and Dan Hearlihy (4th Edition) |
| Weeks 11 – 20 | **Orthographic Projection Drawings (Part I)** | * Define and identify Orthographic Projection Drawings * Understand Orthographic Projection Drawing layout of views * Overall sketch dimensions * Border and Title Block * 1:1 Scale Drawings - Simple | * Orthographic Projection Exercise 6 - Wedge Block |  | Hearlihy Instructional Workbook for Drafting – Paul Wallach and Dan Hearlihy (4th Edition) |
| Weeks 21 - 32 | **Orthographic Projection Drawings (Part II)** | * Sketching for layout and dimensioning * Spacing calculations for drawing layout * Scale and determination of scale * Orthographic Projection Drawing creation * Line Types (Object, Hidden, Center, Dimension, Extension) * Dimensioning (placement of dimensions, identification of necessary dimensions) | * Model to Ortho 1 – Flexion Point * Model to Ortho 2 – Weird Barbell * Model to Ortho 3 – Shape Sorter * Model to Ortho 4 – Uncomfortable Toilet * Model to Ortho 5 – Whirley Gig * Model to Ortho 6 – Hole Pattern Disc * Model to Ortho 7 – Countersunk Drill Hole * Model to Ortho 8 – Fillet Corners |  | Hearlihy Instructional Workbook for Drafting – Paul Wallach and Dan Hearlihy (4th Edition)  3D Printed components for Model to Ortho assessments. |
| Weeks 33 - 36 | **3D Modeling** | * Creating a part file * Selecting a sketch plane * Using sketch tools to create a profile * Dimensioning sketches to be fully defined * Extruding to add or remove material * Creating subsequent planes, sketches, and extrusion features * Creating a drawing from a part * Dimensioning a drawing from a part | * Model to Ortho 1 – Flexion Point * Model to Ortho 2 – Weird Barbell * Model to Ortho 3 – Shape Sorter * Model to Ortho 6 – Hole Pattern Disc |  | Autodesk Inventor software  3D Printed components from Model to Ortho assessments |
| Weeks 37 - 38 | **Sketching Design Concepts** | * Drawing:   + Lines   + Ellipses   + Circles   + Hatching   + Arcs * One Point Perspective Drawings * Two Point Perspective Drawings * Three Point Perspective ideas | * Chair in 1 Point * Chair in 2 Point * House in 1 Point * House in 2 Point * Arch Bridge in 1 Point * Arch Bridge in 2 Point * Freehand Toothbrush design * Freehand Game Console design * Freehand desk fan design |  | Concepts “How to Draw” video tutorials (YouTube) |