

KENTUCKY

APPLYING

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A D V A N C E D

**Correlation with the Kentucky
Computer Aided Drafting course,
Drafting/Computer Assisted Design
Technology course, SCANS,
National Standards of
Technological Literacy,
and responses to Vocational Studies
Evaluation Tool**

**Adoption Group V
Commonwealth of
Kentucky
2004-2010**



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TERRY T. WOHLERS



Computer Aided Drafting

ACADEMIC EXPECTATIONS	CONTENT/PROCESS	PAGE REFERENCES
6.3, 2.3	<p>Students will:</p> <ul style="list-style-type: none"> • apply knowledge and understanding of basic computer aided drafting. 	<p>SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401</p> <p>IRG: 35-42, 57-62, 227-336</p>
2.2, 5.5	<ul style="list-style-type: none"> • develop knowledge and understanding of concepts of CAD architecture, construction techniques, structural systems and design and planning. 	<p>SE: 1, 15, 35, 47, 59, 69, 81, 95, 104, 121, 132, 140, 155, 167, 182, 192, 205, 219, 228, 240, 251, 260, 270, 287, 298, 308, 320, 328, 344, 354</p> <p>IRG: 35-42, 57-62, 227-336</p>
1.1, 5.5	<ul style="list-style-type: none"> • engage in hands-on, minds-on, and conceptual based computer aided drafting activities. 	<p>SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401, 402-434</p> <p>IRG: 227-336</p>

Computer Aided Drafting

ACADEMIC EXPECTATIONS	CONTENT/PROCESS	PAGE REFERENCES
2.1, 6.1	<ul style="list-style-type: none"> demonstrate knowledge and skill with illustration techniques and working drawings. 	SE: 1-14, 15-33, 35-46, 95-103, 104-117, 308-309, 442, 444-445 IRG: 57-62, 227-336
1.12	<ul style="list-style-type: none"> develop skill and knowledge of surveying and working drawings. 	SE: 1, 15, 35, 95, 104, 308, 442, 444-445 IRG: 57-62, 227-336
1.16	<ul style="list-style-type: none"> demonstrate skills and abilities with keyboarding, electronic and electrical drafting. 	SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401 IRG: 35-42, 57-62, 227-336
6.3	<ul style="list-style-type: none"> apply concepts from mathematics, science, and communications in the context of computer aided drafting. 	SE: 34, 54, 58, 66, 90, 94, 120, 128, 154, 181, 204, 214, 218, 239, 246, 250, 286, 297, 319, 324, 368 IRG: 224, 233, 236, 238, 242, 249, 258, 263, 266

Computer Aided Drafting		
ACADEMIC EXPECTATIONS	CONTENT/PROCESS	PAGE REFERENCES
6.2	<ul style="list-style-type: none"> develop knowledge and understanding of basic welding and industrial drafting processes. 	SE: 297 IRG: 19-28, 260
5.3	<ul style="list-style-type: none"> develop and demonstrate competencies with pictorial drawings, threads and fasteners, gears and cams, and pipe drafting. 	SE: 1-14, 15-33, 35-46, 95-103, 104-117, 308-309, 442, 444-445, 446 IRG: 57-62, 227-336
2.36, 2.38	<ul style="list-style-type: none"> develop personal and professional leadership skills through involvement with the SkillsUSA-VICA student organization activities. 	SE: 58 IRG: 51-54
2.17, 5.4	<ul style="list-style-type: none"> demonstrate employability and social skills relative to careers. 	SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368 IRG: 65-94, 224-226

Drafting/Computer Assisted Design Technology

ACADEMIC EXPECTATIONS	CONTENT/PROCESS	PAGE REFERENCES
6.1, 6.3	<p>Students will:</p> <ul style="list-style-type: none"> • apply core knowledge in the context of drafting/computer assisted design. 	<p>SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401, 402-434</p> <p>IRG: 35-42, 57-62, 227-336</p>
1.16, 1.11	<ul style="list-style-type: none"> • use computer based technologies to communicate process, manipulate, collect, and apply information to solve technical problems. 	<p>SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401, 402-434</p> <p>IRG: 35-42, 57-62, 227-336</p>
2.31, 1.16	<ul style="list-style-type: none"> • develop competencies in the safe and efficient use of the tools, machines, materials, and processes of drafting/computer assisted design 	<p>SE: 57, 119, 217, 249, 285, 367</p> <p>IRG: 19-28, 35-42, 89-90</p>

Drafting/Computer Assisted Design Technology

ACADEMIC EXPECTATIONS	CONTENT/PROCESS	PAGE REFERENCES
2.36, 2.17	<ul style="list-style-type: none"> identify opportunities, characteristics, and preparation requirements for current and emerging occupations in drafting/computer assisted design. 	SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368 IRG: 65-94, 224-226
6.3, 2.36	<ul style="list-style-type: none"> engage in meaningful, hands-on, minds-on, and conceptual technology-based activities. 	SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401, 402-434 IRG: 35-42, 57-62, 227-336
1.1, 5.14	<ul style="list-style-type: none"> explore entrepreneurship and its place within the free enterprise system as a means to becoming a self-sufficient individual. 	SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368 IRG: 93-94
6.2, 2.38	<ul style="list-style-type: none"> become participating citizens who can understand, assess, predict, control and adapt to the impacts and consequences of drafting/computer. 	SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368 IRG: 35-42, 65-94

Drafting/Computer Assisted Design Technology

ACADEMIC EXPECTATIONS	CONTENT/PROCESS	PAGE REFERENCES
6.2	<ul style="list-style-type: none"> understand the concepts of drafting/computer assisted design. 	<p>SE: 1, 15, 35, 47, 59, 69, 81, 95, 104, 121, 132, 140, 155, 167, 182, 192, 205, 219, 228, 240, 251, 260, 270, 287, 298, 308, 320, 328, 344, 354</p> <p>IRG: 35-42, 57-62, 227-336</p>
5.1, 5.5	<ul style="list-style-type: none"> develop and apply problem solving, critical thinking skills and creativity to drafting/computer assisted design problems. 	<p>SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401, 402-434</p> <p>IRG: 35-42, 57-62, 227-336</p>
2.36, 2.38	<ul style="list-style-type: none"> develop personal and professional leadership skills through participation in Kentucky Technology Student Association activities. 	<p>SE: 58</p> <p>IRG: 48-55</p>
1.13	<ul style="list-style-type: none"> communicate ideas through application of drafting fundamental (e.g., sketching, multi-view drawings, 3D renderings). 	<p>SE: 1-14, 15-33, 35-46, 95-103, 104-117, 308-309, 442, 444-445</p> <p>IRG: 57-62, 227-336</p>

Drafting/Computer Assisted Design Technology

ACADEMIC EXPECTATIONS	CONTENT/PROCESS	PAGE REFERENCES
6.2	<ul style="list-style-type: none"> experience and develop an understanding of the different sub-specialties within drafting/computer assisted design (e.g., mechanical, architectural, electrical). 	SE: 120, 239, 250, 286, 366 IRG: 112, 123, 124, 128, 138
2, 6.3	<ul style="list-style-type: none"> apply knowledge and experiences from drafting/computer assisted design to produce a culminating project. 	SE: 402-434 IRG: 35-42, 57-62
2.17, 5.4	<ul style="list-style-type: none"> demonstrate employability and social skills relative to careers. 	SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368 IRG: 65-94, 224-226
6.2, 6.3	<ul style="list-style-type: none"> apply concepts from mathematics, science, and communication in the context of technology education. 	SE: 34, 54, 58, 66, 90, 94, 118-119, 120, 128, 154, 181, 204, 214, 216-217, 218, 239, 246, 248-249, 250, 280, 284-285, 286, 297, 319, 324, 364, 366-367 IRG: 224, 233, 236, 238, 242, 249, 258, 263, 266

SCANS	
A Three-Part Foundation	
Basic Skills	PAGE REFERENCES
<p>Reads, writes, performs arithmetic and mathematical operations, listens and speaks</p> <ul style="list-style-type: none"> • A. <u>Reading</u>—locates, understands, and interprets written information in prose and in documents such as manuals, graphs, and schedules 	<p>SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368</p> <p>IRG: 224, 233, 236, 238, 242, 249, 258, 263, 266</p>
<ul style="list-style-type: none"> • B. <u>Writing</u>—communicates thoughts, ideas, information, and messages in writing; and creates documents such as letters, directions, manuals, reports, graphs, and flow charts 	<p>SE: 58, 66, 90, 94, 120, 128, 154, 181, 204, 214, 218, 239, 246, 250, 286, 297, 319, 324, 368</p> <p>IRG: 38, 75-80, 224, 233, 236, 238, 242, 249, 258, 263, 266</p>
<ul style="list-style-type: none"> • C. <u>Arithmetic/Mathematics</u>—performs basic computations and approaches practical problems by choosing appropriately from a variety of mathematical techniques 	<p>SE: 34, 54, 58, 66, 90, 94, 120, 128, 154, 181, 204, 214, 218, 239, 246, 250, 286, 297, 319, 324, 368</p> <p>IRG: 224, 233, 236, 238, 242, 249, 258, 263, 266</p>
<ul style="list-style-type: none"> • D. <u>Listening</u>—receives, attends to, interprets, and responds to verbal messages and other cues 	<p>SE: 34</p> <p>IRG: 29-34, 65-66, 83-85</p>
<ul style="list-style-type: none"> • E. <u>Speaking</u>—organizes ideas and communicates orally 	<p>SE: 34</p> <p>IRG: 29-34, 65-66, 84-85</p>

SCANS	
A Three-Part Foundation	
Thinking Skills	PAGE REFERENCES
<p>Thinks creatively, makes decisions, solves problems, visualizes, knows how to learn and reasons</p> <ul style="list-style-type: none"> • A. <u>Creative Thinking</u>—generates new ideas 	<p>SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401</p> <p>IRG: 93, 223-336</p>
<ul style="list-style-type: none"> • B. <u>Decision Making</u>—specifies goals and constraints, generates alternatives, considers risks, and evaluates and chooses best alternative 	<p>SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401</p> <p>IRG: 33, 57-62, 84-86, 93-94</p>
<ul style="list-style-type: none"> • C. <u>Problem Solving</u>—recognizes problems and devises and implements plan of action 	<p>SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401, 402-434</p> <p>IRG: 33, 57-62, 86, 94</p>

SCANS

A Three-Part Foundation

<ul style="list-style-type: none"> • D. <u>Seeing Things in the Mind’s Eye</u>—organizes, and processes symbols, pictures, graphs, objects, and other information 	<p>SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401, 402-434</p> <p>IRG: 35-42, 57-62, 227-336</p>
<ul style="list-style-type: none"> • E. <u>Knowing How to Learn</u>—uses efficient learning techniques to acquire and apply new knowledge and skills 	<p>SE: 1, 15, 35, 47, 59, 69, 81, 95, 104, 121, 132, 140, 155, 167, 182, 192, 205, 219, 228, 240, 251, 260, 270, 287, 298, 308, 320, 328, 344, 354</p> <p>IRG: 32-33, 84-86, 93-94</p>
<ul style="list-style-type: none"> • F. <u>Reasoning</u>—discovers a rule or principle underlying the relationship between two or objects and applies it when solving a problem 	<p>SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401, 402-434</p> <p>IRG: 32-33, 65-66, 86, 93-94</p>

SCANS	
A Three-Part Foundation	
Personal Qualities	PAGE REFERENCES
<p>Displays responsibility, self-esteem, sociability, self-management, and integrity and honesty</p> <ul style="list-style-type: none"> • A. <u>Responsibility</u>—exerts a high level of effort and perseveres towards goal attainment 	<p>SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401</p> <p>IRG: 65-66, 92-94</p>
<ul style="list-style-type: none"> • B. <u>Self-Esteem</u>—believes in own self-worth and maintains a positive view of self 	<p>SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368</p> <p>IRG: 65-66, 93-94</p>
<ul style="list-style-type: none"> • C. <u>Sociability</u>—demonstrates understanding, friendliness, adaptability, empathy, and politeness in new and on-going group settings 	<p>SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368</p> <p>IRG: 31-34, 84-86, 93-94</p>
<ul style="list-style-type: none"> • D. <u>Self-Management</u>—assesses self accurately, sets personal goals, monitors progress, and exhibits self-control 	<p>SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368, 402-434</p> <p>IRG: 52, 65-66, 67, 87, 93-94</p>
<ul style="list-style-type: none"> • E. <u>Integrity/Honesty</u>—chooses ethical courses of action 	<p>SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368</p> <p>IRG: 34, 65-66, 88</p>

SCANS	
Five Workplace Competencies	
Resources	PAGE REFERENCES
Identifies, organizes, plans, and allocates resources <ul style="list-style-type: none"> • <i>A. Time</i>—Selects goal-relevant activities, ranks them, allocates time, and prepares and follows schedules 	SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368 IRG: 67, 84-86, 93-94
<ul style="list-style-type: none"> • <i>B. Money</i>—Uses or prepares budgets, makes forecasts, keeps records, and makes adjustments to meet objectives 	SE: 218 IRG: 65, 93-94
<ul style="list-style-type: none"> • <i>C. Material and Facilities</i>—Acquires, stores, allocates, and uses materials or space efficiently 	SE: 107, 218, 250 IRG: 27, 65
<ul style="list-style-type: none"> • <i>D. Human Resources</i>—Assesses skills and distributes work accordingly, evaluates performance and provides feedback 	SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368 IRG: 88, 92

SCANS	
A Three-Part Foundation	
Interpersonal	PAGE REFERENCES
<ul style="list-style-type: none"> • <i>A. Participates as Member of a Team</i>—contributes to group effort 	SE: 204, 354-363 IRG: 84-86
<ul style="list-style-type: none"> • <i>B. Teaches Others New Skills</i> 	SE: 204, 354-363 IRG: 33, 65-66, 87
<ul style="list-style-type: none"> • <i>C. Serves Clients/Customers</i>—works to satisfy customers' expectations 	SE: 204, 354-363 IRG: 65-66, 84-86, 93-94
<ul style="list-style-type: none"> • <i>D. Exercises Leadership</i>—communicates ideas to justify position, persuades and convinces others, responsibly challenges existing procedures and policies 	SE: 204, 354-363 IRG: 33, 65-66, 84-86, 93-94
<ul style="list-style-type: none"> • <i>E. Negotiates</i>—works toward agreements involving exchange of resources, resolves divergent interests 	SE: 204, 354-363 IRG: 65-66, 84-86
<ul style="list-style-type: none"> • <i>F. Works with Diversity</i>—works well with men and women from diverse backgrounds 	SE: 204, 354-363 IRG: 65-66, 84-86

SCANS	
A Three-Part Foundation	
Information	PAGE REFERENCES
<p>Acquires and uses information</p> <ul style="list-style-type: none"> • <i>A. Acquires and Evaluates Information</i> 	<p>SE: 1, 15, 35, 47, 59, 69, 81, 95, 104, 121, 132, 140, 155, 167, 182, 192, 205, 219, 228, 240, 251, 260, 270, 287, 298, 308, 320, 328, 344, 354</p> <p>IRG: 57-62</p>
<ul style="list-style-type: none"> • <i>B. Organizes and Maintains Information</i> 	<p>SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401</p> <p>IRG: 36, 57-62</p>
<ul style="list-style-type: none"> • <i>C. Interprets and Communicates Information</i> 	<p>SE: 54, 66, 90, 118-119, 128, 214, 216-217, 246, 248-249, 280, 284-285, 324, 364, 366-367</p> <p>IRG: 57-62</p>
<ul style="list-style-type: none"> • <i>D. Uses Computers to Process Information</i> 	<p>SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401</p> <p>IRG: 57-62</p>

SCANS	
A Three-Part Foundation	
Systems	PAGE REFERENCES
<p>Understands complex inter-relationships</p> <ul style="list-style-type: none"> • <i>A. Understands Systems</i>—knows how social, organizational, and technological systems work and operates effectively with them 	<p>SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368</p> <p>IRG: 35-42, 224-226</p>
<ul style="list-style-type: none"> • <i>B. Monitors and Corrects Performance</i>—distinguishes trends, predicts impacts on systems operations, diagnoses deviations in systems' performance and corrects malfunctions 	<p>SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368</p> <p>IRG: 35-42</p>
<ul style="list-style-type: none"> • <i>C. Improves or Designs Systems</i>—suggests modifications to existing systems and develops new or alternative systems to improve performance 	<p>SE: 54, 66, 90, 118-119, 128, 214, 216-217, 246, 248-249, 280, 284-285, 324, 364, 366-367</p> <p>IRG: 32, 35-42, 94</p>

SCANS	
A Three-Part Foundation	
Technology	PAGE REFERENCES
<p>Works with a variety of technologies</p> <ul style="list-style-type: none"> • <i>A. Selects Technology</i>—chooses procedures, tools or equipment including computers and related technologies 	<p>SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401, 402-434</p> <p>IRG: 33, 57-62, 86, 94</p>
<ul style="list-style-type: none"> • <i>B. Applies Technology</i>—Understands overall intent and proper procedures for setup and operation of equipment 	<p>SE: 1, 15, 35, 47, 59, 69, 81, 95, 104, 121, 132, 140, 155, 167, 182, 192, 205, 219, 228, 240, 251, 260, 270, 287, 298, 308, 320, 328, 344, 354</p> <p>IRG: 35-42, 57-62, 227-336</p>
<ul style="list-style-type: none"> • <i>C. Maintains and Troubleshoots Equipment</i>—Prevents, identifies, or solves problems with equipment, including computers and other technologies 	<p>SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401, 402-434</p> <p>IRG: 33, 57-62, 86, 94</p>

National Standards of Technological Literacy

The Nature of Technology

STANDARDS	PAGE REFERENCES
<p>Standard 1: Students will develop an understanding of the characteristics and scope of technology.</p>	<p>SE: 1, 15, 35, 47, 59, 69, 81, 95, 104, 121, 132, 140, 155, 167, 182, 192, 205, 219, 228, 240, 251, 260, 270, 287, 298, 308, 320, 328, 344, 354</p> <p>IRG: 35-42, 57-62, 227-336</p>
<p>Standard 2: Students will develop an understanding of the core concepts of technology.</p>	<p>SE: 1, 15, 35, 47, 59, 69, 81, 95, 104, 121, 132, 140, 155, 167, 182, 192, 205, 219, 228, 240, 251, 260, 270, 287, 298, 308, 320, 328, 344, 354</p> <p>IRG: 35-42, 57-62, 227-336</p>
<p>Standard 3: Students will develop an understanding of the relationships among technologies and the connections between technology and other fields of study.</p>	<p>SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368</p> <p>IRG: 57-62, 227-336</p>

National Standards of Technological Literacy	
Technology and Society	
STANDARDS	PAGE REFERENCES
Standard 4: Students will develop an understanding of the cultural, social, economic, and political effects of technology.	SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368 IRG: 35-42, 57-62
Standard 5: Students will develop an understanding of the role of society in the development and use of technology.	SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368 IRG: 35-42, 57-62, 227-336
Standard 6: Students will develop an understanding of the role of society in the development and use of technology.	SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368 IRG: 35-42, 57-62, 227-336
Standard 7: Students will develop an understanding of the influence of technology on history.	SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368 IRG: 35-42, 57-62

National Standards of Technological Literacy	
Design	
STANDARDS	PAGE REFERENCES
Standard 8: Students will develop an understanding of the attributes of design.	SE: 154, 218, 239, 319, 421 IRG: 227-336
Standard 9: Students will develop an understanding of engineering design.	SE: 154, 218, 239, 319 IRG: 227-336
Standard 10: Students will develop an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.	SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401, 402-434 IRG: 33, 57-62, 86, 94

National Standards of Technological Literacy	
Abilities for a Technological World	
STANDARDS	PAGE REFERENCES
Standard 11: Students will develop abilities to apply the design process.	SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401, 402-434 IRG: 227-336
Standard 12: Students will develop abilities to use and maintain technological products and systems.	SE: 8-14, 28-33, 44-46, 54-55, 66-68, 78-80, 90-93, 100-103, 116-117, 128-131, 138-139, 148-153, 160-166, 176-180, 188-191, 202-203, 214-215, 226-227, 236-238, 246-247, 258-259, 268-269, 280-283, 294-297, 306-307, 316-318, 324-327, 342-343, 352-353, 364-365, 369-401, 402-434 IRG: 35-42, 227-336
Standard 13: Students will develop abilities to assess the impact of products and systems.	SE: 34, 58, 94, 120, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368 IRG: 65-66, 69

National Standards of Technological Literacy	
The Designed World	
STANDARDS	PAGE REFERENCES
Standard 14: Students will develop an understanding of and be able to select and use medical technologies.	SE: 154, 286 IRG: 89-91
Standard 15: Students will develop an understanding of and be able to select and use agricultural and related biotechnologies.	SE: 58, 120, 204, 218, 239 IRG: 27-28, 89
Standard 16: Students will develop an understanding of and be able to select and use energy and power technologies.	SE: 34, 154, 204, 218, 239, 286, 297, 319 IRG: 19-21
Standard 17: Students will develop an understanding of and be able to select and use information and communication technologies.	SE: 34, 94, 154, 181, 204, 218, 239, 250, 286, 297, 319, 368 IRG: 19-20, 35-42, 65-66
Standard 18: Students will develop an understanding of and be able to select and use transportation technologies.	SE: 154, 218, 239, 297 IRG: 33
Standard 19: Students will develop an understanding of and be able to select and use manufacturing technologies.	SE: 34, 94, 120, 204, 218, 239, 286, 297, 368 IRG: 33, 53

National Standards of Technological Literacy	
The Designed World	
STANDARDS	PAGE REFERENCES
Standard 20: Students will develop an understanding of and be able to select and use construction technologies.	SE: 34, 58, 94, 181, 204, 218, 239, 250, 286, 297, 319, 368 IRG: 27-28, 53

Vocational Studies Evaluation Tool

Content–Vocational Studies	Comments
Career Opportunities	The <i>Career Leads</i> section found throughout the Student Edition introduces students to a wide range of interesting, attainable career choices in the technical drawing industry.
Career Search	The <i>Career Leads</i> section found throughout the Student Edition introduces students to a wide range of interesting, attainable career choices in the technical drawing industry.
Career Preparation	The <i>Career Leads</i> section found throughout the Student Edition introduces students to a wide range of interesting, attainable career choices in the technical drawing industry. The <i>Education and Training</i> portion of the <i>Career Leads</i> section outlines the specific training that is required for specific careers in the technical drawing industry.
Employability Skills	The <i>Career Leads</i> section found throughout the Student Edition introduces students to a wide range of interesting, attainable career choices in the technical drawing industry. The <i>Education and Training</i> portion of the <i>Career Leads</i> section outlines the specific training that is required for specific careers in the technical drawing industry. A <i>Workplace Skills Checklist</i> is provided on page 65 of the Instructor Resource Guide to help identify skills that are required to be successful in the workplace.

Content-Vocational Studies (continued)	Comments
Success in the Workplace	<p>The <i>Career Leads</i> section found throughout the Student Edition introduces students to a wide range of interesting, attainable career choices in the technical drawing industry. The <i>Education and Training</i> portion of the <i>Career Leads</i> section outlines the specific training that is required for specific careers in the technical drawing industry. A <i>Workplace Skills Checklist</i> is provided on page 65 of the Instructor Resource Guide to help identify skills that are required to be successful in the workplace.</p>

Instruction and Assessment	Comments
Identifies a Sense of Purpose	Each chapter in the Student Edition begins with elements designed to quickly launch a student's focus and interest on the chapter's topic. Each chapter begins with an <i>Objectives</i> section to introduce the students to the new material that will be covered in the chapter. The students are presented with a list of the skills and knowledge that they can expect to have mastered once they have completed the chapter. Photographs expand and reinforce the technical drawing concepts presented in each chapter.
Builds on Student Ideals	Each chapter of the Instructor Resource Guide begins with an <i>Instructional Plan</i> which outlines the content overview and focus for each chapter.

Instruction and Assessment (continued)	Comments
Engages Students	Each chapter in the Student Edition begins with elements designed to quickly launch a student's focus and interest on the chapter's topic. Each chapter begins with an <i>Objectives</i> section to introduce the students to the new material that will be covered in the chapter. Each objective is followed by specific teaching suggestions to help students achieve the objective. Photographs expand and reinforce the technical drawing concepts presented in each chapter.
Develops Vocational Ideas	In <i>Glencoe Applying AutoCAD 2002</i> , new learning is based on previous knowledge, with each new concept building on a prior experience.
Promotes Student Thinking	Both the Student Edition and the Instructor Resource Guide provide numerous activities and suggestions to help students incorporate and integrate critical thinking skills. On page 25 of the <i>Instructor Resource Guide</i> , each of Bloom's cognitive categories is addressed in a table that provides some examples of skills that fall within each category. Questions, statements and activities can be designed based on this taxonomy that will promote students to use critical thinking skills appropriate to the lesson's objective.

Instruction and Assessment (continued)	Comments
Assesses Student Progress	<p>At the end of each chapter of the Student Edition, you will find <i>Chapter Review and Activities</i> that help you measure the progress of your students. An industrial project is located at the end of each of the six parts of this book. <i>Part Projects</i> tie together the skills and techniques introduced in the chapter in a hands-on manner.</p>
Enhances The Learning Environment	<p><i>Glencoe Applying AutoCAD 2002</i> offers engaging, relevant, and appropriate content for the widest range of learners – from young scholars to visual learners and low achievers. The researched-based content is presented in a visually dynamic style that will engage and motivate students. The program has been designed to offer a variety of lesson plan options which will develop the knowledge and problem-solving skills of all of your students – regardless of their learning styles and ability levels.</p>

Instruction and Assessment (continued)	Comments
Reading level is appropriate for interest and ability level of intended student group: level remains consistent throughout.	<i>Glencoe Applying AutoCAD 2002</i> offers engaging, relevant, and appropriate content for the widest range of learners – from young scholars to visual learners and low achievers. The researched-based content is presented in a visually dynamic style that will engage and motivate students. The program has been designed to offer a variety of lesson plan options which will develop the knowledge and problem-solving skills of all of your students – regardless of their learning styles and ability levels.
Common wealth Accountability Testing System (CATS) “like” Assessment is provided	<i>SkillsUSA-VICA</i> programs help establish industry standards for classroom job skill training. The <i>ADDA</i> provides recognition to schools which meets its established standards to provide quality instruction in the drafting profession.
Variety of Assessments (diagnostic, formative, summative, open response, multiple choice, individual, small group, oral, demonstrations, presentations, self and peer performance, portfolio prompts) is included.	At the end of each chapter of the Student Edition, you will find <i>Chapter Review and Activities</i> that help you measure the progress of your students. An industrial project is located at the end of each of the six parts of this book. <i>Part Projects</i> tie together the skills and techniques introduced in the chapter in a hands-on manner.

Instruction and Assessment (continued)	Comments
Includes activities and opportunities for integration of technology.	Students use the ACIS ® Open Viewer to access, view, and manipulate 3D models that were created in any ACIS-enabled application, such as AutoCAD. Student practice files are included on the <i>Advanced CD-ROM</i> for use with exercises and problems in the textbook. References are made to the American Design Drafting Association at www.adda.com .
Reflects researched-based practices (e.g. hands-on activities, technology, problem-solving situations)	<i>Glencoe Applying AutoCAD 2002</i> has achieved the highest degree of accuracy through rigorous scientifically-based research. This edition is the product of the most recent research studies, teacher feedback, and detailed editorial development. The result is an up-to-date, solid foundation for an engaging, stimulating, and high-quality drafting education course for your students.
Differentiation techniques and activities suggested.	<i>Glencoe Applying AutoCAD 2002</i> offers engaging, relevant, and appropriate content for the widest range of learners – from young scholars to visual learners and low achievers. The researched-based content is presented in a visually dynamic style that will engage and motivate students. The program has been designed to offer a variety of lesson plan options which will develop the knowledge and problem-solving skills of all of your students – regardless of their learning styles and ability levels.

Organization and Structure	Comments
Organization is logical and allows for spiraling of content.	<i>Glencoe Applying AutoCAD 2002</i> is composed of 30 chapters, divided into 6 parts. Each chapter follows a straightforward format, beginning with an <i>Objectives</i> section to prepare students with the technical drawing concepts being introduced in the chapter. Each chapter closes with a <i>Chapter Review and Activities</i> section which provides a review of important technical drawing terms and concepts, as well as a variety of activities.
Vocabulary and key terms are clearly defined and easily accessible within each lesson.	Each chapter begins with a list of <i>Key Terms</i> presented in the chapter. These key terms are printed in bold-face type the first time they are introduced and defined within the text.
Visual illustrations (e.g. graphs, charts, models) and examples are clearly presented and content-related	Graphs, charts, and models are used throughout the book to illustrate concepts. Examples are related to the content of the chapter.
Illustrations and language reflect diversity (e.g. racial, ethnic, cultural, age, gender, disabilities).	A variety of situations that reflect diversity are presented throughout the text.

<p style="text-align: center;">Organization and Structure (continued)</p>	<p style="text-align: center;">Comments</p>
<p>Legible type, length of lines, spacing, and page layout and widths of margins contribute to overall appearance and use.</p>	<p><i>Glencoe Applying AutoCAD 2002</i> has achieved the highest degree of accuracy through rigorous scientifically-based research. This edition is the product of the most recent research studies, teacher feedback, and detailed editorial development. The result is an up-to-date, solid foundation for an engaging, stimulating, and high-quality drafting education course for your students.</p>
<p>Student materials seem durable and conducive to daily use.</p>	<p>The very best materials are used in all Glencoe products. The materials are easy for students to use, both in school and at home.</p>
<p>Includes sufficient glossary, index and appendices.</p>	<p>The <i>Index</i> can be found on pages 451-458. The <i>Glossary</i> can be found on pages 442-449 The <i>Appendix</i> can be found on pages 435-441.</p>
<p>Employs accurate grammar and spelling.</p>	<p><i>Glencoe Applying AutoCAD 2002</i> has achieved the highest degree of accuracy through rigorous scientifically-based research. This edition is the product of the most recent research studies, teacher feedback, and detailed editorial development. The result is an up-to-date, solid foundation for an engaging, stimulating, and high-quality drafting education course for your students.</p>

Organization and Structure (continued)	Comments
<p>Organization of material can be effectively used with Standards Based Units, Core Content and Program of Studies.</p>	<p>The correlation between <i>Glencoe Applying AutoCAD 2002</i> and the standards endorsed by the SkillsUSA-VICA is strong.</p>

Resource Materials	Comments
<p>Teacher materials coordinate easily with student materials (e.g. additional resources included at point of need, student pages shown, integration of technology indicated).</p>	<p>Each chapter in the Instructional Resource Guide begins with an <i>Instructional Plan</i> with a <i>Focus and Chapter Overview</i> Section designed to introduce, teach and assess the student’s mastery of the objectives introduced in the chapter.</p>
<p>Activities are included that adapt to the various learning styles, intelligences, and interest / ability levels.</p>	<p><i>Glencoe Applying AutoCAD 2002</i> offers engaging, relevant, and appropriate content for the widest range of learners – from young scholars to visual learners and low achievers. The researched-based content is presented in a visually dynamic style that will engage and motivate students. The program has been designed to offer a variety of lesson plan options which will develop the knowledge and problem-solving skills of all of your students – regardless of their learning styles and ability levels.</p>

Organization and Structure (continued)	Comments
<p>Extension activities including adaptations and accommodations for students with special needs.</p>	<p>A <i>Learner Differences</i> section is included in the Instructor Resource Guide on pages 31-32 which allows you to meet the needs of all learners.</p>
<p>Resources provide objectives, background information, common student errors, hints, advice for lesson implementation and real-world connections, connections with career and / technology and references (e.g. solution manuals, study guides).</p>	<p>In <i>Glencoe Applying AutoCAD 2002</i>, students are presented with background information and then prompted to work through a set of problems, respond to a set of questions, and perform a hands-on experiment. A <i>Careers Using AutoCAD</i> feature appears at the end of each chapter of the text and provides the students with an opportunity to explore a career within the drafting industry.</p>
<p>Suggestions are made for integration of themes and / or interdisciplinary instruction.</p>	<p>Integration of technical programs with occupational and academic education allows students to relate information learned in academic courses to the knowledge and skills developed in occupational courses. Related communication, mathematics, and science applications can be found in the <i>Applying AutoCAD 2002 Student Edition</i>.</p>

Organization and Structure (continued)	Comments
Integration opportunities suggested and examples given.	Integration of technical programs with occupational and academic education allows students to relate information learned in academic courses to the knowledge and skills developed in occupational courses. Related communication, mathematics, and science applications can be found in the <i>Applying AutoCAD 2002</i> Student Edition.
Teacher resources are available online.	Teacher resources are available online at www.knowledgematters.com



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