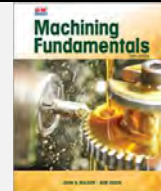
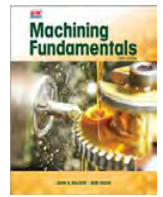




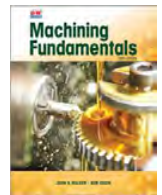
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to South Carolina Department of Education
Course Code: 6233 Machine Tool Technology IV (Grades 9–12)



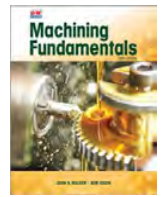
Standards	Correlating Text Pages
A. Safety	
1. Review school safety policies and procedures.	28-36, 99, 101-102, 103-104, 109, 113, 115, 156, 166 172, 206, 235-236, 312-313, 384, 398-399, 447-449, 516
2. Review classroom safety rules and procedures.	28-35
3. Review safety procedures for using equipment in the classroom.	28-35
4. Identify major causes of work/related accidents in office environments.	28-35
5. Demonstrate safety skills in an office/work environment.	28-35
B. Student Organizations	
1. Identify the purpose and goals of a Career and Technology Student Organization (CTSO).	19
2. Explain how CTSOs are integral parts of specific clusters, majors, and/or courses.	19
3. Explain the benefits and responsibilities of being a member of a CTSO.	19
4. List leadership opportunities that are available to students through participation in CTSO conferences, competitions, community service, philanthropy, and other activities.	19
5. Explain how participation in CTSOs can promote lifelong benefits in other professional and civic organizations.	19
C. Technology Knowledge	
1. Demonstrate proficiency and skills associated with the use of technologies that are common to a specific occupation.	21-22, 23
2. Identify proper netiquette when using e-mail, social media, and other technologies for communication purposes.	23
3. Identify potential abuse and unethical uses of laptops, tablets, computers, and/or networks.	23
4. Explain the consequences of social, illegal, and unethical uses of technology (e.g., piracy; illegal downloading; licensing infringement; inappropriate uses of software, hardware, and mobile devices in the work environment).	23, 445
5. Discuss legal issues and the terms of use related to copyright laws, fair use laws, and ethics pertaining to downloading of images, photographs, documents, video, sounds, music, trademarks, and other elements for personal use.	23, 445



Standards		Correlating Text Pages
6.	Describe ethical and legal practices of safeguarding the confidentiality of business-related information.	445
7.	Describe possible threats to a laptop, tablet, computer, and/or network and methods of avoiding attacks.	23, 445
D. Personal Qualities And Employability Skills		
1.	Demonstrate punctuality.	21-22
2.	Demonstrate self-representation.	21-22
3.	Demonstrate work ethic.	21-22
4.	Demonstrate respect.	21-22
5.	Demonstrate time management.	21-22
6.	Demonstrate integrity.	21-22
7.	Demonstrate leadership.	21-22
8.	Demonstrate teamwork and collaboration.	21-22
9.	Demonstrate conflict resolution.	21-22
10.	Demonstrate perseverance.	21-22
11.	Demonstrate commitment.	21-22
12.	Demonstrate a healthy view of competition.	21-22
13.	Demonstrate a global perspective.	21-22, 471
14.	Demonstrate health and fitness.	21-22
15.	Demonstrate self-direction.	21-22
16.	Demonstrate lifelong learning	25
E. Professional Knowledge		
1.	Demonstrate effective speaking and listening skills.	21-22
2.	Demonstrate effective reading and writing skills.	21-22
3.	Demonstrate mathematical reasoning.	21-22, 572-594
4.	Demonstrate job-specific mathematics skills.	590-594
5.	Demonstrate critical-thinking and problem-solving skills.	572-594
6.	Demonstrate creativity and resourcefulness.	21-22
7.	Demonstrate an understanding of business ethics.	445
8.	Demonstrate confidentiality.	21-22, 445
9.	Demonstrate an understanding of workplace structures, organizations, systems, and climates.	21-22
10.	Demonstrate diversity awareness.	471
11.	Demonstrate job acquisition and advancement skills.	19, 22-23, 25
12.	Demonstrate task management skills.	21-22
13.	Demonstrate customer-service skills.	21-22
Machine Tool Technology Level 4		
F. Job Planning And Management: Job Process		
1.	Write a detailed process plan that includes a quality plan for a part requiring milling, drilling, turning, or grinding.	6, 188-198, 202-207, 237-241, 257-258, 293-294, 317-334, 348-370



Standards		Correlating Text Pages
2. Produce an operation sheet detailing the process plan.		6, 188-198, 202-207, 237-241, 257-258, 293-294, 317-334, 348-370
3. Identify all critical dimensions and required speeds and feeds.		183, 231-234, 306-307, 594, 602-604
G. Quality Control And Inspection		
1. Develop an inspection plan and inspect assigned project parts using precision tools and techniques.		45-468
2. Prepare reports on the compliance of the parts.		456-468
H. Job Execution		
1. Machine Tool Power Tapping: Taper Reaming and Pipe Tapping		
a. Set up, drill, taper ream, and tap a series of holes to part print specification.		189-191, 195-197, 266-272
2. Surface Grinding: Finish Flats to +/- .0005		
a. Grind a block's six faces to finished dimensions having tolerances of +/- .0005 and squareness of .0005 over 4", and 32 microinch surface finish.		320, 328, 348-349
b. Dress the wheel as necessary		205
3. Surface Grinding: Finish Flats as Simple Angles and Grind Contour Radii		
a. Set up and perform the finish surface grinding of flat surfaces at simple angles with respect to one another.		348-370
b. Dress the wheel as necessary.		205
4. Grinding Wheel Preparation and Balancing		
a. Set up and perform the preparation and balancing of a grinding wheel 14" diameter or greater.		202-207
5. CNC: Write Simple Programs for CNC Mill and Lathe (upon equipment availability)		
a. Write programs using M and G codes from the machine programming manuals using a computer and editor software. Programs are single plane, cutter centerline, linear and circular interpolation, single cutter, as specified on the print (NIMS Level 1 recommended).		410-416
b. Set up and operate a CNC Milling Machine (NIMS Level 1 recommended).		393-395
c. Set up and operate a CNC Lathe (NIMS Level 1 recommended).		395-399
I. General Housekeeping And Maintenance		
1. Keep the duty station clean and safe for work.		28, 384
2. Keep the tools, workbenches, and manual equipment clean, maintained, and safe for work.		28, 384
J Preventive Maintenance: Machine Tools		
1. Inspect and assess the general condition of an assigned machine tool.		384



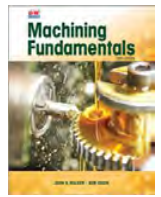
Standards	Correlating Text Pages
2. Make routine adjustments as necessary and as authorized.	384
3. Report to supervision problems which are beyond the scope of authority.	384
4. Carry out daily, weekly, and/or monthly routine upkeep chores cited on checklists for a given machine tool.	384
K. Tooling Maintenance	
1. Inspect and assess the condition of tooling.	384
2. Refurbish tooling where appropriate.	384
3. Refer tooling for repair or regrind where appropriate.	384
L. Process Adjustment And Improvement: Process Adjustment-Single Part Production	
1. Analyze the performance of a single-part production process.	500-516
2. Formulate process adjustments or improvements where appropriate.	500-516
3. Where appropriate, notify supervision of the proposed adjustment and/or improvement.	500-516
4. Where authorized, carry out the strategies for process adjustment and/or improvement.	500-516
5. Critique a process for improvement in quality and productivity.	500-516
M. Career Management And Employment Relations	
1. Job Application and Interviewing	21-25, 149
a. Complete job application form and demonstrate interviewing skills.	21-25, 149
2. Teamwork and Interpersonal Relations	21-22
a. Demonstrate appropriate interpersonal skills in job performance evaluations, group communication, decision-making, and conflict resolution.	21-22
3. Organizational Structures and Work Relations	14-21
a. Identify and explain the major departments or functions in a metalworking company and how they affect production units.	14-21
4. Employment Relations	14-25



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Standards	Correlating Text Pages
a. Understand and explain employment rights and responsibilities in metalworking companies.	23-25