



EVERGREEN 2024 RELEASE NOTES

- New and Updated Content -

Fitzpatrick/Smith, Machining and CNC Technology

Release Overview: Changes for this revision were motivated by the constant state of evolution in the manufacturing of machined parts. There are new chapters on Mastercam and SolidWorks. Updated content on Multiaxis setups and operations. There is now more content on 3-D metal printing, an emerging technology. The authors also included links to videos that include additional material relevant to the topic being discussed at that point in the chapter. The digital product, Connect, includes two question banks. The first one includes auto-gradable versions of the End-of-Chapter questions. The second one includes the test bank. To receive these updates, duplicate/copy your section on or after the upcoming release date.

DIGITAL CONTENT		
	Question Bank <i>NEW and UPDATED assessments have been tagged in Connect for easy filtering.</i>	Instructor Resources
LOCATION OF UPDATED CONTENT IN CONNECT	Assignments tab > Add Assignment > Question Bank	Library tab > instructor resources
Updates Made	New End-of-Chapter question bank and updated Test Bank. The End-of-Chapter question bank includes multiple-choice versions of the problems in each chapter. The Test bank question bank has been updated to reflect changes made to reading content. These are tagged as “New 2024” or “Updated 2024” in the question bank filter. See Question Bank Content Map for more details.	Updates to lecture PPTs and Solution’s Manual have been made based on updates to the narrative.
GLOBAL INFORMATION FOR QUESTION BANKS	<ul style="list-style-type: none"> New Accessibility Filter. Experience a simpler way to be mindful of accessibility as you create question bank assignments. New filter options make it easy to ensure all questions in your assignment work well with screen readers; can be used with keyboard only; have accessible audio, video, and images; and more. Use the “Screen Reader/Keyboard/CC” filter to find only accessible questions and the “Screen Reader/Keyboard/CC/AD-Vids described” filter to find accessible questions that also come with text descriptions of any videos that are included. 	

READING/ADAPTIVE CONTENT – eBook, SmartBook, Print

LOCATION OF UPDATED CONTENT IN CONNECT	eBook on Connect home page AND Assignments tab > Add Assignment > Reading Assignment & SmartBook 2.0
Chapter	Content Changes
Chapter 1 – Professionalism in Manufacturing	<ul style="list-style-type: none"> • New Figure 1-3: Machinists protect their hearing when shop noise is loud or high pitched. • New “Armchair Field Trip” about hearing safety. • New Figure 1-29: A lean shadow drawer.
Chapter 2 - Math Skills Self-Review	No significant changes to this chapter.
Chapter 3 – Reading Technical Drawings	No significant changes to this chapter.
Chapter 4 – Introduction to Geometrics	<ul style="list-style-type: none"> • New Figure 4-35: Using a dial test indicator to evaluate the parallelism of a surface.
Chapter 5 - Title	<ul style="list-style-type: none"> • New “Armchair Field Trip” about thread taps. • New Figure 5-42: A horizontal saw self-feeds down through the work at a controlled rate.
Chapter 6 - The Science and Skill of Measuring— Five Basic Tools	<ul style="list-style-type: none"> • New “Armchair Field Trip” about using Machinery’s Handbook as a resource to find out all kinds of information machinist need to know. • New Figure 6-19: Vernier calipers, an earlier measuring tool, are useful in tight spots, due to their compactness. •
Chapter 7 - Single-Purpose Measuring Tools, Gages, and Surface Roughness	No significant changes to this chapter.
Chapter 8 - Cutting Tool Geometry	<ul style="list-style-type: none"> • New “Armchair Field Trip” about how machinists determine correct feed rates.
Chapter 9 - Drilling and	<ul style="list-style-type: none"> • New “Armchair Field Trip” about cutting speed calculations. You’ll learn how to determine correct speed and feeds.

Operations and Machines	
Chapter 10 - Turning Operations	No significant changes to this chapter.
Chapter 11 - Mills and Milling Operations	<ul style="list-style-type: none"> • New “Armchair Field Trip” about aligning vises.
Chapter 12 - Precision Grinding Operations and Machines	No significant changes to this chapter.
Chapter 13 - Screw Thread Technology	<ul style="list-style-type: none"> • New Figure 13-1: A CNC thread routine makes thread cutting a snap. • New “Armchair Field Trip” about identifying bolts.
Chapter 14 - Metallurgy for Machinists—Heat Treating and Measuring Hardness	No significant changes to this chapter.
Chapter 15 – Job Planning	No significant changes to this chapter.
Chapter 16 - Coordinates, Axes, and Motion	No significant changes to this chapter.
Chapter 17 - Advanced CNC Systems	<ul style="list-style-type: none"> • New “Armchair Field Trip” about the use of probes.
Chapter 18 - CNC Controls	<ul style="list-style-type: none"> • New Figure 18-2: The standard Haas keyboard. • New “Armchair Field Trip” about machining coolant.
Chapter 19 - Operating a CNC Machine	<ul style="list-style-type: none"> • New “Armchair Field Trip” about using single block on your CNC machine.
Chapter 20 - Program Planning	<ul style="list-style-type: none"> • New “Armchair Field Trip” about threading inserts.

Chapter 21 - Level-One Programming	<ul style="list-style-type: none"> • New “Armchair Field Trip” about program code.
Chapter 22 - Level-Two Programming	<ul style="list-style-type: none"> • New “Armchair Field Trip” about drilling cycles used on CNC machines.
Chapter 23 - Setting Up a CNC Machine	<ul style="list-style-type: none"> • New Figure 23-26: Setting Up a CNC Machine • New “Armchair Field Trip” about how to use a test indicator to “sweep” in a hole quickly and accurately.
Chapter 24 - Advanced and Advancing Technology	No significant changes to this chapter.
Chapter 25 - CAM Mill Programming for CNC Machinists	<ul style="list-style-type: none"> • New Figure 25-7: Adaptive tool path vs traditional pocketing tool path. • New Section 25.1.4 about “Dynamic or Adaptive Tool Paths” • New content on Programming in Section 25.1.7: Rest milling
Chapter 26 - Advancing Technology	No significant changes to this chapter.
Chapter 27 - Statistical Process Control (SPC)	No significant changes to this chapter.
Chapter 28 - Computer Coordinate Measuring	No significant changes to this chapter.

GENERAL NOTES

Accessibility	<p>McGraw Hill is committed to aligning our digital solutions to WCAG AA standards. Our Voluntary Product Accessibility Templates (VPATs) are available upon request. Any additional questions related to the accessibility of a product can be directed to your Learning Technology Representative, or you may contact us at accessibility@mheducation.com</p>
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Implementation and Training Support	<p>Your dedicated McGraw Hill Customer Success Teams can help you update your course and assignments and set policies. Need help with reports or adjusting your course to improve outcomes? No problem, they can help with that too! Have your rep introduce you to your Customer Success Representative or use the link below to schedule your personal 1-to-1 Course Consultation.</p> <p>https://mheimplementationteam2.as.me/schedule.php</p>
Tech Support	<p>Don't become tech support. Ask students to call McGraw Hill's CXG support team at 1-800-331-5094 or contact us by visiting http://mpss.mhhe.com/contact.php. They should only come to you with a CXG ticket # in hand so you may follow up. Always make assignments due during tech support hours so students are always able to get their issues resolved before the due date.</p>
LMS Integration	<p>We support LTI-compliant LMSes with Single Sign-On, Deep Linking, and Grade Syncing for the following LMS systems: Blackboard, Brightspace, Canvas, Moodle, Sakai.</p> <p>https://www.mheducation.com/highered/lms-integration.html</p>
Connect Support Tools and Best Practices	<p>Assign a variety of Connect assignments to your students and make their performance part of their final course grade (minimum of 10–15% to encourage student compliance). Visit this link below to see additional student engagement tips.</p> <p>https://www.mheducation.com/highered/support/connect.html</p>
New Connect Updates	<p>A new, streamlined instructor experience is available in Connect. It includes the ability to add additional instructors (and other roles!) to any section, an updated section dashboard with new data visualization, and mobile optimization, with automatic resizing and redistribution of screen space for tablets and smartphones. This experience continues to be improved based on your feedback so let us know how we're doing!</p> <p>Click here to see the most recent updates: https://www.mheducation.com/highered/connect/new-releases.html</p>
Connect Polling Tool	<p>Engage students with the Connect Polling tool, which allows you to discover where your students are in real time. Help them create connections with your course content while gaining valuable insight during lecture, then leverage polling data to deliver personalized instruction when and where it is needed most.</p>
Writing Assignments	<p>Help students improve their conceptual understanding and written communication skills with Writing Assignments. Integrate writing skill development into your course with ease and help your students gain the critical writing skills they need for success now and beyond. Assign, monitor, mark, and provide feedback all in one place. All Connect courses now have Writing Assignments with peer review, originality checker, and grammar checker.*</p> <p>*Engineering, music, and world languages will not have originality or grammar checker due to special characters.</p>