



Career Technical Education (CTE)

Trades and Industry Adoption Guide

For additional information (e.g. pricing, copyright, ISBN) and Idaho completed evaluations, please contact the curricular materials coordinator.

Materials in this guide are contracted from November 2020-December 31, 2026

GRADES 9-12

Cengage

Automotive Maintenance & Light Repair

- **Recommendation: Comprehensive**
 - Strengths: Very well developed and easy to navigate. Online resources available that can be modified to meet the needs of the learner.
 - Weaknesses: Index pages do not match book pages.
 - Other: Excellent book and online resources. Highly recommended.
 - Key Features: AUTOMOTIVE MAINTENANCE AND LIGHT REPAIR (AM&LR) is designed for automotive programs accredited in ASE Education Foundation's Maintenance & Light Repair (MLR) program standards. Unlike many textbooks, this practical guide is accessible for a wide range of entry-level automotive students because it is written at a tenth-grade reading level. Each chapter includes integrated learning features, such as Word Walls to encourage mastery of important technical and industry terminology, and ASE review questions to help students prepare for professional certification exams. Both the core textbook and accompanying workbook feature material covering the entire MLR task list, as well as many supplemental tasks often expected of entry-level technicians. This versatile structure makes it easy for instructors to customize lesson plans and assignments based on the skills and knowledge of their students. In addition to engaging students with a lively writing style and abundant images and illustrations, AM&LR provides a solid grounding in both automotive competencies and applied academic and lifelong learning skills, including math, science, and communication.

The text features detailed coverage of the ASE Education Foundation task list for Maintenance and Light Repair (MLR), delivering a highly practical learning experience focused on helping students master MLR tasks and attain professional success. In addition to essential industry and technical knowledge, the text emphasizes key academic and professional skills such as math, science, effective communication, strong work ethic, and dedication to lifelong learning. Each chapter includes useful features to reinforce learning, including review questions to assess understanding and deepen comprehension, and activities to help students hone expertise in key tools, components, and systems. Written by an experienced instructor who has taught high school automotive courses for more than two decades, the text features a clear, engaging writing style and extensive photographs and illustrations, making the material readily accessible for students of all backgrounds. The Second Edition features completely updated content to align to the ASE Education Foundation 2017 MLR Standards. Important safety and service information in the text is now color-coded, making it easier to find this material and encouraging a stronger emphasis on safety. New Word Wall features included in every chapter showcase important technical terms and key concepts that entry-level technicians need to know. Updated artwork and graphics throughout the text help clarify and reinforce key chapter content, making material easier to master for today's visual learners. An updated visual approach includes refreshed elements such as new bullet point styles, providing a more appealing reading experience. ASE Certification Voucher: Standard Test – Academic, 2 terms Printed Access Card--The ASE Certification Voucher provides students with access to the ASE Professional Level Certification Tests at a discounted price. The ASE Certification Voucher provide access to all ASE Certification tests except L1, L2, and L3 (advanced tests). Each voucher code includes one registration and one test fee.

Automotive Service: Inspection, Maintenance

- **Recommendation: Comprehensive**
 - Strengths: Very well developed and easy to navigate. Online resources available that can be modified to meet the needs of the learner.
 - Weaknesses: None noted.
 - Other: Excellent book and online resources. Highly recommended.
 - Key Features: Featuring many new additions and revisions, the fully updated Sixth Edition of AUTOMOTIVE SERVICE: INSPECTION, MAINTENANCE, REPAIR is the ideal resource to help learners develop the knowledge and skills they need to succeed in a range of automotive careers. This best-selling guide covers all

eight major areas of automotive technology, combining clear explanations and detailed, high-quality illustrations to help readers master theory related to vehicle systems operations, plus step-by-step instructions for hands-on troubleshooting and repair procedures. Reviewed by teachers and industry experts for technical accuracy, and aligned to the latest ASE Education Foundation Automotive requirements, the new edition is perfect for learners enrolled in programs accredited by the ASE Education Foundation, as well as individuals who want to develop critical-thinking skills for career success. The core content and accompanying lab exercises emphasize critical thinking to help students develop automotive diagnostic ability. Full-color photos and illustrations help bring key concepts to life, making it easier to connect text material to real-world applications for today's visual learners. Safety Notes and Cautions underscore the importance of safety procedures in the shop to avoid bodily injury and/or equipment damage. Case Histories provide relevant real-world scenarios to engage student's interest and help them understand how chapter material relates to situations they may encounter as working professionals. The Sixth Edition includes new and updated material on the latest automotive technology, including self-parking vehicles, autonomous (self-driving) vehicles, telematics, advanced body electronics, and other new and emerging trends. The author has thoroughly updated the ABS chapter, adding information on active wheel speed sensors and adaptive braking technologies such as active brake assist, rain drying brakes, knock back mitigation, electronic brake force distribution, and electronic stability control. The chapter also features ABS service updates, including testing digital wheel speed sensors with a graphing meter or scan tool. Tire chapters now include up-to-date material on tire pressure monitoring information, providing current guidance on this important industry topic. The cooling system chapters have been updated based on the most recent coolant recommendations and service information from an ASTM International Committee expert in engine coolants. Air conditioning chapters in the Sixth Edition include new and updated information on R1234y refrigerants, as well as the latest refrigerant laws and technology. Content throughout the text is fully correlated to ASE Education Foundation tasks, making it easy to connect coursework to industry standards and certification requirements, as well as real-world professional skills students will need to succeed. Correlated to Precision Exams Automotive Service, Introduction 505 Exam, and two exams (pre/post) are included for each unit purchased of the "Student Edition + MindTap bundles.

Residential Construction Academy: House Wiring

- **Recommendation: Basic**

- Strengths: The text gave a good introduction to wiring and basics of the electrical trade. Most of the year one and two standards were met and addressed in the text. The sequence of text followed the steps of the building and house wiring process.
- Weaknesses: Year three and four standards were not met in this text. Key concepts and fundamentals were presented well but need to be elaborate upon or disused in greater depth to meet year three and four standards.
- Key Features: Completely up to date with the 2017 National Electrical Code®, RESIDENTIAL CONSTRUCTION ACADEMY: HOUSE WIRING delivers a proven approach to teaching the latest and best practices in residential electrical wiring. This vividly illustrated, full-color text is based on the Home Builders Institute National Skill Standards relevant to achieving a first job as a residential electrician. In addition to providing a thorough grounding in basic residential wiring concepts, the text covers "green" topics such as sustainable building practices and alternative energy systems, as well as practical applications, real-world scenarios, and safety practices. In addition, the text's stellar supplement package includes a wealth of support materials, including a hands-on student workbook/lab manual, integrated digital resources in MindTap, and 3D immersive simulations. The text provides in-depth coverage of key topics such as safety, hardware and materials, tools, meters, print reading, and common residential wiring practices, providing a wide-ranging, highly practical introduction to today's industry. In addition to chapters devoted to "green" wiring practices and installation of solar photovoltaic (PV) systems, coverage of green topics and sustainable building practices is integrated throughout the text. End-of-chapter review questions reinforce chapter content and encourage development of critical thinking skills, while task procedures help students gain proficiency in applying their knowledge and skills to key professional practices. "From Experience" sections address common residential wiring practices and scenarios, and "Caution" boxes throughout the text emphasize the ongoing importance of safety in every stage of wiring installation. Extensive glossaries in both English and Spanish are included, providing a useful reference to industry terminology and other key concepts. The author has carefully updated all material to reflect the 2017 National Electrical Code®, preparing students to enter the field well-versed in the latest industry standards and best practices. Several illustrations have been updated in light of current residential wiring practices commonly encountered in today's industry. Learning objectives in

many chapters have been added or updated to better align with the specific knowledge and skills students should develop after completing each chapter.

Residential Construction Academy: Basic Principles for Construction

- **Recommendation: Basic**

- **Strengths:** The text had a thought out and thorough construction math and measurement unit. This unit gave content area examples and made connection students would see on a job site or in industry. Safety and tool use and identification was well covered with current examples of tools students would be using in the field.
- **Weaknesses:** The text misses the majority of state standards that involved building; framing, foundations, roofs, windows and doors was not covered in the text.
- **Key Features:** Created in partnership with the Home Builders Institute -the workforce development arm of the National Association of Home Builders-the RESIDENTIAL CONSTRUCTION ACADEMY Series is the only program based on the National Skill Standards for residential construction. As such, this practical text covers topics often missing from core building trades textbooks, including useful information on launching and advancing construction careers. Featuring a basic, step-by-step approach that makes even complex concepts easier to understand, as well as an engaging, full-color design and numerous photos and figures. Additional coverage of nail guns and nail types gives students helpful exposure to this essential equipment used in today's building trades. This text is ideal for readers beginning careers in the building trades industry. The new edition includes numerous updates to provide readers with the latest information on today's industry standards, notable trends, advances in technology and techniques, and current best practices. The author also covers fundamental knowledge and skills necessary for success in the field, including work ethics, safety procedures, construction mathematics, communications, print reading, and common tools. Comprehensive coverage of a broad range of professional topics makes this a must-have resource for students interested in entering the industry. Vibrant, full-color photos and detailed illustrations help bring important concepts to life and familiarize students with the latest equipment and procedures. The author includes useful information on basic math concepts, work ethic guidelines, and other practical professional topics often omitted from traditional building trades books. Summaries at the end of every chapter give students a convenient and effective way to review key concepts, assess their understanding, and prepare for assignments or exams. Videos, interactive

simulations, and additional information relevant to the text are available. A new chapter focused on adhesives and sealants provides helpful exposure to these common products used in residential construction. Correlated to Precision Exams Construction Trades Foundation 510 Exam, and two exams (pre/post) are included for each unit purchased of the "Student Edition + MindTap bundles.

Precision Machining Technology

- **Recommendation: Comprehensive**

- Strengths: Comprehensive book on machining that covers in detail the different machines used, tools, safety, and workplace skills.
- Weaknesses: Lacked information on lubrication types used with each machine, speed and feeding for each machine type and process. Needs a few practice projects incorporated into each machine unit to help project-based learning.
- Key Features: Packed with detailed examples and illustrations, PRECISION MACHINING TECHNOLOGY, Third Edition, provides an ideal introduction to today's machine tool industry, equipping readers with a solid understanding of fundamental and intermediate machining skills. Now fully integrated with MindTap®--an online, highly personalized learning resource—the text offers an interactive and engaging experience ideal for today's learners. Aligned with the National Institute of Metalworking Skills (NIMS) Machining Level I Standard, the text can help readers achieve NIMS credentials. PRECISION MACHINING TECHNOLOGY carries NIMS' exclusive endorsement and recommendation for use in NIMS-accredited Machining Programs, and the Third Edition includes expanded coverage of CNC programming, updated images, and newly formatted multi-step procedures that are even easier to follow. The text continues to emphasize safety throughout, and it includes thorough coverage of a wide range of topics, including hand tool basics, job planning, benchwork, layout, drill press, lathe, milling, grinding, and CNC. This edition features additional coverage of computer numerical control (CNC) programming content, providing additional emphasis on this important aspect of modern machining. CNC programming examples with graphics are presented in both FANUC and Haas formats, providing exposure to two of the most widely used formats in the industry. Multi-step procedures now feature bullet lists to make it easier for readers to follow steps in sequence while reviewing the material or completing hands-on projects. The authors have added new information and detail on many topics, including optical comparator use, hazardous materials, standard tapers, key and keyseat machining, and more. New and updated images throughout the text provide valuable context to help readers connect chapter content to real-world

machining practices. This edition of Precision Machining Technology is also correlated to Precision Exams' Machining I and Machining II exams, part of the Manufacturing Career Cluster's Production Pathway.

CEV Multimedia, Ltd.

iCEV Architecture, Construction, Transportation, & Manufacturing

- **Recommendation: Basic**
 - Strengths: The curriculum covers most of the state standards in depth with a variety of materials; video, PowerPoint, worksheets, student research and hands on application were all incorporated into the curriculum. The math portion gave industry related examples leading students to make cross curricular connections. Videos were formatted in a manner to easily watch and access. Short video clips make retaining information easier.
 - Weaknesses: A purely online format is difficult when connectivity is limited.
 - Key Features:
 - Multimedia-based, online curriculum
 - Featuring state-aligned pacing guides and custom playlists
 - Up-to-date, relevant video segments, slide series and other resources
 - Quality, accurate content featuring industry experts
 - Engaging lessons can be viewed on most devices, i.e. PC, Mac, iPad, tablets, etc.
 - Student licenses promote self-paced learning
 - Curriculum provides time-saving lesson plans, thought-provoking student activities, real-world projects and pre-made assessments
 - Career exploration and guidance highlighted in each lesson

Savvas

Automotive Technology: Principles, Diagnosis, and Service

- **Recommendation: Comprehensive**
 - Strengths: Very well developed and easy to navigate. Online resources available that can be modified to meet the needs of the learner.
 - Weaknesses: None noted.
 - Other: Excellent book and online resources. Highly recommended.
 - Key Features: Automotive Technology covers all eight areas of automotive service, showing readers how automotive systems are connected, as well as the practical skills that students must master to be successful in the industry.