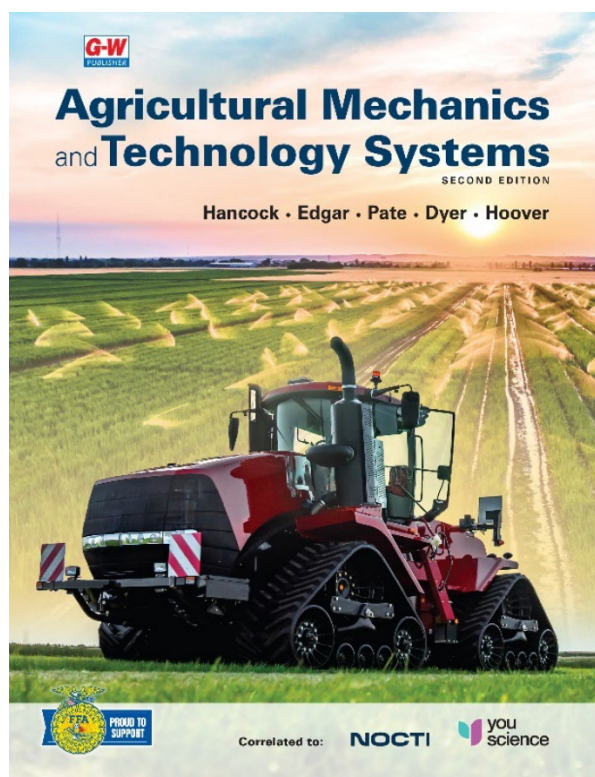


*Correlation of*  
***Agricultural Mechanics and Technology Systems,***  
**J.P. Hancock, Don Edgar, Michael Pate, Lori Dyer, Brian Hoover**  
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to  
**Agricultural Mechanics 115**  
**Precision Exams by YouScience**

Goodheart-Willcox is pleased to partner with Precision Exams by YouScience by correlating *Agricultural Mechanics and Technology Systems* to their Agricultural Mechanics Exam 115 standards. Precision Exams standards and Career Skills Exams were created in concert with industry and subject matter experts to match real-world job skills and marketplace demands. Students that pass the exam and performance portion of the exam can earn a Career Skills Certification.

The correlation chart below lists the standards, objectives, and indicators for the Agricultural Mechanics Exam 115 in the left column. Corresponding content from *Agricultural Mechanics and Technology Systems* that can be used by a student to help achieve the standard, objective, or indicator is listed in the right column.

For more information on Precision Exams by YouScience, including a complete listing of their 150+ Career Skills Exams and Certificates, please visit [www.youscience.com/certifications/career-clusters/](http://www.youscience.com/certifications/career-clusters/).



Standards / Objectives / Indicators	Textbook Pages
<i>End of Chapter abbreviations: Analyze and Apply AA; Thinking Critically TC; STEM and Academic Activities ST; Communicating about Ag Mechanics CA; SAE for ALL Opportunities SAE OP</i>	
<b>Standard 1 Students will understand the importance of workplace skills and will implement and practice these skills in the classroom, laboratory, and work-based experiences</b>	
<b>Objective 1</b> Use communication skills to interact effectively with others.  <b>NOTE:</b> The end-of-chapter review sections provide many activities requiring written and oral communication skills. Only a portion are identified by page and activity number.	Ag Ed Connection: Employment Skills CDE pg. 26 Maintaining Employment pg. 34 AA 1–2 pg. 38 CA 1–2 pg. 39 SAE OP 1 pg. 39 Career and Leadership Events pg. 47 TC 1–3 pg. 64 CA 1 pg. 65

Standards / Objectives / Indicators	Textbook Pages
<b>1</b> Understand when it is appropriate to listen and to speak.	Ag Ed Connection: Employment Skills CDE pg. 26 Answering Interview Questions pg. 32 Maintaining Employment pg. 34 CA 1–2 pg. 39 Career and Leadership Events pg. 47
<b>2</b> Understand and follow verbal and written instructions for classroom and laboratory activities.	Classroom and Laboratory Instruction pg. 41
<b>3</b> Reflect on assigned work and then communicate progress relative to completion.	AA 1–3 pg. 38 CA 1–2 pg. 39 AA 1–3 pg. 63 TC 1–4 pg. 64
<b>Objective 2</b> Effectively use teamwork to work respectfully with other individuals.	FFA Leadership Opportunities pg. 42 Program of Activities pg. 45
<b>1</b> Work with a team to complete assignments and projects.	Career and Leadership Development Events pg. 47 FFA Connection: Ag Tech and Mech Systems CDE pg. 48
<b>Objective 3</b> Use the critical thinking and problem-solving skills; reason, analyze, reflect, evaluate, and interpret information to make judgements and decisions to solve problems.	Each end-of-chapter review and assessment section includes many activities requiring these skills, as well as critical thinking.
<b>1</b> Use generally accepted industry standards to analyze and evaluate the properties of a fabrication project, interpret the findings, and make decisions about improving the process or procedure to improve the quality of the project.	AA 1–3 pg. 19 Agricultural Literacy pg. 49 STEM Connection: The Scientific Method pg. 52 AA 1–2 pg. 87 SAE 1 pg. 88
<b>Objective 4</b> Be dependable, reliable, steady, trustworthy, and consistent in performance and behavior.	Maintaining Employment pgs. 34–36
<b>1</b> Set and meet goals on attendance and punctuality.	Being Punctual pg. 35 Interests and Goals pg. 54 Having a Strong Work Ethic pg. 35
<b>2</b> Prioritize, plan, and manage work to complete assignments and projects on time.	Reading Information and Following Directions pg. 34 Being a Self-Starter pg. 35 SAE OP 4 pg. 39
<b>Objective 5</b> Be accountable for results.	Maintaining Employment pgs. 34–36 Career and Leadership Development Events pg. 47 FFA Connection: Ag Tech and Mech Systems CDE pg. 48

<b>Standards / Objectives / Indicators</b>	<b>Textbook Pages</b>
<b>1</b> Assure work quality by using industry standards for process, procedure, and evaluation.	TC pg. 308
<b>Objective 6</b> Be familiar with the legal requirements and expectations of the course.	—
<b>1</b> Be familiar with the course disclosure statement and all requirements for successful completion of the course.	—
<b>2</b> Demonstrate workplace ethics.	Having a strong work ethic pg. 34 FFA Code of Ethics pg. 45
<b>Objective 7</b> Demonstrate employment skills.	CH 2 Careers and Employability Skills pgs. 21–39
<b>1</b> Build a job search network and find job leads.	Ag Ed Connection: Employment Skills LDE pg. 26 References pg. 29 Networking pg. 33 Finding a Job in Agricultural Mechanics pgs. 32–34
<b>2</b> Write a résumé and create a job portfolio.	Skill Documentation pgs. 25–26 Documents pgs. 26–29 Résumé pg. 27
<b>3</b> Write a letter of application.	Cover Letter pg. 28 TC 2 pg. 38
<b>4</b> Complete a job application.	Job Application pg. 29 AA 1, 3 pg. 38
<b>5</b> Participate in an actual or simulated job interview.	Job Interview pgs. 29–32 AA 1, 3 pg. 38 CA 1–2 pg. 29
<b>Standard 2</b> Students will participate in a supervised agricultural experience (SAE).	
<b>Objective 1</b> Students will participate in an entrepreneurial, paid employment, research, or exploratory focused work-based experience outside the classroom.	CH 3 Experiential Learning through SAEs pgs. 40–65 Supervised Agricultural Experiences pg. 42 Supervised Agricultural Experiences pgs. 48–54 Foundational SAEs pgs. 48–50 Immersion SAEs pgs. 50–54 Placement/Internship SAE pgs. 50–51 Ownership/Entrepreneurship SAE pg. 51 Exploratory SAE pgs. 51–52 Research SAE pgs. 52–53 School-Based Enterprise SAE pg. 53 Service-Learning SAE pg. 54 SAE for ALL Opportunities 1–3 pg. 65 ( <i>these are found at the end of each chapter</i> )

Standards / Objectives / Indicators	Textbook Pages
<b>Objective 2</b> Students are required to keep a personal record/journal/log of their work-based experience.	SAE Recordkeeping pgs. 58–59
<b>Standard 3</b> Students will work to create a culture of safety. <b>NOTE:</b> <i>Safety First notes are located throughout the text.</i>	CH 5 Safety and Developing Safe Work Habits pgs. 89–117
<b>Objective 1</b> Complete a student safety pledge (disclosure statement).	Workplace Safety pg. 49 Safety Agreement pgs. 50–51 SAE OP 3 pg. 117
<b>Objective 2</b> Respond to first aid requirements as allowed by school policy.	First Aid pg. 111
<b>1</b> Locate first aid kits and investigate their contents and discuss the use of the items as allowed by school policy.	First Aid pg. 111
<b>2</b> Discuss appropriate safety responses in an accident or emergency.	First Aid pg. 111
<b>3</b> Demonstrate the use of simple first aid in an accident with an injury.	First Aid pg. 111
<b>Objective 3</b> Follow safe practices.	CH 5 Safety and Developing Safe Work Habits pgs. 89–117
<b>1</b> Use appropriate PPE (Personal Protective Equipment) at all times.	Personal Protective Equipment pgs. 94–99
<b>2</b> Eliminate workplace practices that distract attention and create an unsafe environment, e.g., cell phones and other electronic devices.	Shop and Lab Practices That Improve Safety pg. 101 AA 2–3 pg. 115 TC 1–2 pg. 116
<b>Objective 4</b> Perform housekeeping duties.	Shop and Lab Practices That Improve Safety pg. 101
<b>1</b> Keep personal workspace clean and work with others to clean and organize community space.	Shop and Lab Practices That Improve Safety pg. 101
<b>Objective 5</b> Successfully complete safety tests or demonstrations on equipment use and equipment safety.	Hand Tools, General Safety pg. 99 Power Tools, General Safety pg. 100
<b>1</b> Students will demonstrate an understanding of safe practices with 100% accuracy.	Shop and Lab Practices That Improve Safety pg. 101 Hand Tools, General Safety pg. 99 Power Tools, General Safety pg. 100 SAE OPS 1–3 pg. 117
<b>Standard 4</b> Students will design a fabrication project.	CH 10 Project Planning and Woodworking pgs. 244–267 CH 12 Designing, Planning, and Constructing Woodworking Projects pgs. 293–309

Standards / Objectives / Indicators	Textbook Pages
<b>Objective 1</b> Select a project with blueprints for fabrication.	Project Planning 293 Figure 12-3 Nail Box project Hands-On Ag Mechanics: Plant Stand Project pg. 295 ST 6 pg. 711
<b>1</b> Analyze the project to make sure that it is cost effective to build the project.	Budgeting pgs. 250–251 Total Project Cost pgs. 251–253 Materials List pg. 295 Selecting Lumber pg. 296 SAE for ALL Connection: Project Planning pg. 298 TC 1–2 pg. 308 Bill of Materials (metal project) pgs. 681–682 Cut List pg. 682
<b>Objective 2</b> Interpret welding and construction symbols/information.	Dimensions pg. 256 Figure 10-14 Line Types pg. 256 Types of Technical Drawings pgs. 257–258 AA 1–5 pg. 266
<b>Objective 3</b> Develop a project portfolio.	Skill Documentation pg. 25
<b>1</b> Drawing	CH 10 Project Planning and Design pgs. 246–267 Hands-On Mechanics: Orthographic Drawing pg. 260 SAE for ALL Connection: Computer-Aided Design Software pg. 261 ST 2 pg. 266 SAE OP 3 pg. 267
<b>2</b> Bill of Materials	Bill of Materials pg. 251 ST 4 pg. 266 SAE OP 3 pg. 267 TC 1–2 pg. 308
<b>3</b> Cut list	STEM Connection: Calculating Board Feet pg. 252 ST 4 pg. 266 SAE OP 3 pg. 267
<b>4</b> Cost estimates	AA 1, 2, 5 pg. 266 SAE OP 3 pg. 267 ST 4 pg. 849
<b>Objective 4</b> Prepare a materials order and secure the materials.	Bill of Materials pg. 251 Calculating Material Cost pg. 252
<b>Objective 5</b> Develop a production schedule.	Preparing a Bid Package pg. 253
<b>Standard 5</b> Students will fabricate projects. <b>NOTE:</b> Additional projects may be found in the Lab Workbook that accompanies the text.	Figure 12-3 Nail Box project Hands-On Ag Mechanics: Plant Stand Project pg. 295

Standards / Objectives / Indicators	Textbook Pages
<b>Objective 1</b> Demonstrate proper equipment setup and usage.	Acetylene Cylinders pg. 716 Setting up the Equipment pg. 726
<b>Objective 2</b> Accurately measure and prepare materials for fabrication.	Layout pgs. 296–297 Cutting the Project Parts pg. 298
<b>Objective 3</b> Construct the project according to a plan that meets high quality standards in four areas, including project design, quality of workmanship, attention to detail, and fit and finish.	SAE OP 3 pg. 292 Figure 12-3 Nail Box project Hands-On Ag Mechanics: Plant Stand Project pg. 295 Assembling the Project pgs. 298–301 Finishing the Project pgs. 301–303