

Pharmacy Practice for Technicians

Seventh Edition



Skye A. McKennon and Robert J. Anderson
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As part of Paradigm's *Pharmacy Technician Series*, this courseware provides students with comprehensive instruction on pharmacy technician practice along with coverage of business operations in a community pharmacy, infection control in the hospital, professionalism and ethics in the workplace, and advanced pharmacy technician careers.

Students will gain insight on healthcare reform, pharmacology, e-prescribing, informatics, pharmacy automation systems, medication safety initiatives, innovative drug delivery systems, and medication therapy management services.

Pharmacy Practice for Technicians is integrated in **Cirrus**, a cloud-based learning environment designed to elevate student success and improve instructor efficiency.



FOR PHARMACY TECHNICIANS

Cirrus seamlessly delivers complete course content, which students can access anytime, anywhere—from PCs, Macs, and Chromebooks.

To strengthen student understanding, Cirrus provides interactive, independent learning experiences, including:

- self-assessment opportunities
- critical-thinking, application, and research activities
- quizzes and exams

New Watch and Learn Lessons include video and text to help students comprehend concepts or develop skills.

INSTRUCTOR RESOURCES IN CIRRUS

Tools include course-planning guidelines, syllabus models, teaching hints and activities, quizzes and exams, answer keys, instructor rubrics, handouts, and more.

KEY FEATURES

- Premium content that aligns to the updated ASHP/ACPE *Model Curriculum for Pharmacy Technician Education and Training Programs*, Fifth Edition.
- New features include:
 - information on point-of-care testing
 - easy-to-follow calculations and alligation examples
 - updated information on new drugs and generics
 - real-world highlighted incidents
 - emphasis on career advancement and practice specialties
 - updates for *USP* Chapters <795>, <797>, and <800> on hazardous compounding
- Cutting-edge topics like the ASHP Practice Advancement Initiative (PAI) and the technician's role on a healthcare team, software interoperability, green pharmacy, emergency preparedness, and others.
- Complete course content can be easily integrated with LTI-supported learning management systems, including Canvas, Blackboard, D2L, and Moodle.

Get this courseware!

To learn more, contact your Account Manager. Find yours at ParadigmEducation.com/Contact/Account-Manager.

Courseware Overview

CHAPTER FEATURES

- **Learning Objectives** establish a clear set of goals for each chapter.
- **In the Real World** boxes highlight related true incidents (e.g. the tragic story of Emily Jerry).
- **Key terms** are set in bold and defined in context and at chapter's end.
- **Engaging new photos and figures** appeal to students and illustrate key concepts in colorful ways.
- **Links** connect students to web resources and videos.
- A **chapter summary** at the end of each chapter reviews key points.
- **Computer-gradable reviews and assessments** are available in Cirrus.

ADDITIONAL FEATURES

- **Practice Tip** gives additional suggestions for professional techniques.
- **Safety Alert** gives students a warning to give special consideration to a particular practice procedure.
- **Work Wise** focuses on professional habits and soft skills in the workplace.
- **Pharm Facts** offers interesting information students like to know.
- **Put Down Roots** provides word etymology tips to help students understand and remember terms.
- **Math Morsels** and **For Good Measure** offer tips relating to calculation and to measurement.

CONTENTS

Unit 1. Principles of Pharmacy Practice

1. The Profession of Pharmacy
2. Pharmacy Law, Regulations, and Standards
3. Drug and Supplement Development

Unit 2. Introduction to Pharmacy Skills

4. Introducing Pharmacology
5. Routes of Drug Administration and Dosage Formulations
6. Pharmacy Measurements and Calculations

Unit 3. Community Pharmacy Practice

7. Community Pharmacy Dispensing
8. Prescription Drug Insurance in Health Care
9. The Business of Community Pharmacy
10. Extemporaneous, Nonsterile Compounding

Unit 4. Institutional Pharmacy Practice

11. Hospital Pharmacy Dispensing
12. Infection Control, Aseptic Technique, and Cleanroom Facilities
13. Sterile and Hazardous Compounding

Unit 5. Professionalism in the Pharmacy

14. Medication Safety
15. Professional Performance, Communications, and Ethics
16. Your Future in Pharmacy Practice

Appendix. Common Pharmacy Abbreviations and Acronyms

STUDENT COURSEWARE

Pharmacy Practice for Technicians, Seventh Edition

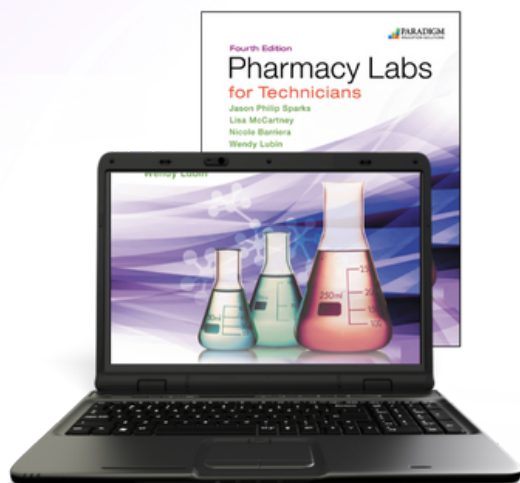
- Access code, digitally delivered - 978-0-76389-306-4
- Bundle: Access code and print text - 978-0-76389-318-7

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PHARMACY LABS FOR TECHNICIANS

Fourth Edition



Jason Philip Sparks, Lisa McCartney, Nicole Barriera, and Wendy Lubin
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FOR PHARMACY TECHNICIANS

Cirrus seamlessly delivers complete course content, which students can access anytime, anywhere—from PCs, Macs, and Chromebooks.

To strengthen student understanding, Cirrus provides interactive, independent learning experiences, including:

- self-assessment opportunities
- critical-thinking, application, and research activities
- quizzes and exams

New Watch and Learn Lessons include video and text to help students comprehend concepts and develop skills.

INSTRUCTOR RESOURCES IN CIRRUS

Tools include course-planning guidelines, syllabus models, teaching hints and activities, quizzes and exams, answer keys, instructor rubrics, handouts, and more.

Suitable for a stand-alone pharmacy lab course or for the lab portion of a pharmacy practice course, *Pharmacy Labs for Technicians* teaches students detailed lab procedures and skills using hands-on practice. Students learn both administrative and clinical procedures such as filling prescriptions, compounding medications, and preparing sterile intravenous products.

Pharmacy Labs for Technicians includes access to live, web-based tutorials and assessments on NRx—one of the most popular labs software programs in the pharmaceutical market. The guided tutorials give students hands-on practice creating and maintaining patient records, managing prescriptions, processing daily reports, and processing insurance claims. Graded assessments allow students to demonstrate their mastery of the NRx system.

This courseware is integrated in Cirrus, a cloud-based learning environment designed to elevate student success and improve instructor efficiency.

KEY FEATURES

- Eleven new labs aligned to the updated ASHP/ACPE model curriculum:
 - professionalism in the pharmacy
 - maintaining a pseudoephedrine logbook
 - transcribing signa codes and NRx short codes
 - workflow in the pharmacy
 - immunization process and documentation
 - ISMP tall man lettering and look-alike, sound-alike drugs
 - point-of-care testing
 - understanding drug recalls and shortages
 - reviewing investigational drug documentation
 - reviewing medication orders
 - preparation and cleanup of hazardous drugs
- Live, NRx tutorials and assessments, based on QS/1's nationally recognized software.

Get this courseware!

To learn more, contact your Account Manager. Find yours at ParadigmEducation.com/Contact/Account-Manager.

Courseware Overview

LAB FEATURES

- **Learning Objectives** establish a clear set of goals for each lab.
- **Supplies** are listed to help students prepare for each lab.
- **Key terms** are set in bold and defined in the context of the lab.
- **Numbered photos** illustrate lab steps.
- **Take Note** features offer additional suggestions and warns of potential pitfalls in the field of pharmacy practice.
- **Figures** illustrate supplies, equipment, techniques, and other important components of working in a pharmacy lab.
- **Practice Tip** sidebars give additional suggestions for performing the labs.
- **Procedure steps** give clear instructions on how to perform lab tasks.
- **A Day in the Life of a Pharmacy Technician** opens each unit to provide students with a real life look at what it is like to work in various areas of pharmacy.
- **Work Wise** sidebars focus on professional skills in the workplace.
- **Math Morsels** provide calculation tips.
- **For Good Measure** margin tips offer advice relating to measurement.
- **Safety Alerts** give students a warning to pay special consideration to a particular lab step or topic.
- **End-of-chapter review and assessments** are available in Cirrus.

CONTENTS

Section 1: Foundational Pharmacy Skills

Unit 1: Essential Pharmacy Skills

- Lab 1: Using Reference Materials in Pharmacy Practice
- Lab 2: Practicing Professionalism in the Pharmacy
- Lab 3: Customer Service and Point of Sale

Unit 2: Foundational Community Pharmacy Skills

- Lab 4: Using a Pseudoephedrine Logbook
- Lab 5: Validating DEA Numbers
- Lab 6: Managing Pharmacy Inventory
- Lab 7: Obtaining and Reviewing a Patient Profile
- Lab 8: Reviewing Signa Codes and Creating Patient Instructions
- Lab 9: Reviewing a Prescription Form
- Lab 10: Reviewing a Filled Prescription
- Lab 11: Entering Patient Data
- Lab 12: Processing a Prescription
- Lab 13: Processing a Refill
- Lab 14: Obtaining Refill Authorization
- Lab 15: Processing Third-Party Claims
- Lab 16: Verifying Cash Pricing
- Lab 17: Workflow in the Pharmacy
- Lab 18: Reconstituting Powdered Drugs
- Lab 19: Documenting and Preparing Immunizations

Unit 3: Foundational Institutional Pharmacy Skills

- Lab 20: ISMP Tall-Man Lettering and Look-Alike, Sound-Alike Drugs
- Lab 21: Filling a 24-Hour Medication Cart
- Lab 22: Filling and Checking Floor Stock
- Lab 23: Filling and Recording Controlled Substances Floor Stock
- Lab 24: Preparing Oral Syringes
- Lab 25: Charging and Refilling a Crash Cart
- Lab 26: Filling an Automated Drug Storage and Dispensing System

Section 2: Advanced Pharmacy Skills

Unit 4: Advanced Community Pharmacy Skills

- Lab 27: Point-of-Care Testing
- Lab 28: Producing Computerized Reports
- Lab 29: Medication Therapy Management

Unit 5: Advanced Institutional Pharmacy Skills

- Lab 30: Drug Recalls and Shortages
- Lab 31: Medication Reconciliation
- Lab 32: Reviewing Investigational Drug Documentation
- Lab 33: Reviewing Medication Orders
- Lab 34: Cleaning Up a Hazardous Drug Spill

Unit 6: Nonsterile Extemporaneous Compounding

- Lab 35: Filling Capsules
- Lab 36: Preparing Suspensions from Tablets
- Lab 37: Preparing Suspensions from Capsules
- Lab 38: Preparing Creams, Ointments, Gels, and Pastes

Unit 7: Aseptic Technique

- Lab 39: Garbing According to USP Chapter <797> Standards
- Lab 40: Aseptic Hand Washing
- Lab 41: Hood Cleaning
- Lab 42: Preparing Large-Volume Parenteral Solutions
- Lab 43: Preparing Small-Volume Parenteral Solutions
- Lab 44: Preparing Sterile Powdered Drug Vials
- Lab 45: Using Ampules
- Lab 46: Compounding Chemotherapy Drugs

STUDENT COURSEWARE

Pharmacy Labs for Technicians, Fourth Edition

- Access code, digitally delivered: 978-0-76389-309-5
- Bundle: Access code and print text: 978-0-76389-321-7

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Pharmacology for Technicians

Seventh Edition



Skye A. McKennon, PharmD, BCPS; Sara B. Alvarez, PharmD, MS, BCPS; and Jen Danielson, PharmD, MBA, CDE
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- quizzes and exams

New Watch and Learn Lessons include video and text to help students comprehend concepts or develop skills.

INSTRUCTOR RESOURCES IN CIRRUS

Tools include course-planning guidelines, syllabus models, teaching hints and activities, quizzes and exams, answer keys, instructor rubrics, handouts, and more.

Designed specifically for pharmacy technicians, this program provides students with the key concepts and pharmacology information required to succeed in the pharmacy.

Students will develop an understanding of drug classes and the mechanisms of action for many drugs. They will also gain insight into why certain drugs are prescribed for particular disease states and obtain instruction for making informed, intelligent decisions when dispensing drugs.

This edition of *Pharmacology for Technicians* is integrated in **Cirrus**, a cloud-based learning environment designed to elevate student success and improve instructor efficiency.

KEY FEATURES

- Alignment with the updated *ASHP/ACPE Accreditation Standards for Pharmacy Technician Education and Training Programs* and *ASHP's Model Curriculum for Pharmacy Technician Education and Training Programs, Fifth Edition*
- Updated organization and new chapter presenting pharmacology-specific study skills
- Complete course integration with LTI-supported learning management systems, including Canvas, Blackboard, D2L, and Moodle
- Updated drug information, including side effects, contraindications, cautions and considerations, and drug interactions
- Exploration of complementary and alternative therapies
- Coverage of professionalism, soft skills, and cultural awareness
- Available companion workbook with additional practice

Get this courseware!

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Courseware Overview

CHAPTER FEATURES

Auxiliary Labels provide a visual cue for the cautions and considerations associated with certain drugs.

Drug Tables highlight important drug information, such as pronunciation, dosage form, and dispensing status.

Figures illustrate body systems and pharmacology concepts to aid visual learners.

Chapter summaries review key points.

Key terms are defined both in context and within a full glossary.

Drug List provides a list of all the drugs discussed in the chapter, grouped by drug type.

Automatically scored reviews and assessments are available in Cirrus.

ADDITIONAL FEATURES

Practice Tip gives additional tips that relate anatomy and physiology to coding.

Pharm Facts offer trivia related to the field of pharmacology.

Put Down Roots provides word etymology tips to help students understand and remember terms.

Work Wise focuses on professional habits and soft skills in the workplace.

Safety Alert focuses on unusual/harmful drug effects, look-alike/sound-alike drugs and drug interactions.

Name Exchange focuses on the names of generic drugs and their corresponding brand names.

CONTENTS

Unit 1. Introduction to Pharmacology

1. Introduction to Pharmacology and Medications in the Body
2. Pharmaceutical Development
3. Pharmacology Study for the Pharmacy Technician
4. Medication Safety and Prescription Orders

Unit 2. Body Systems and Corresponding Drug Therapies

5. The Integumentary System and Drug Therapy
6. The Musculoskeletal System and Drug Therapy
7. The Nervous System, Central Nervous System Disorders, and Drug Therapy
8. The Nervous System, Mental Health and Drug Therapy
9. The Sensory System and Drug Therapy
10. The Cardiovascular System and Drug Therapy
11. The Respiratory System and Drug Therapy
12. The Gastrointestinal System and Drug Therapy
13. The Endocrine System and Drug Therapy
14. The Reproductive System and Drug Therapy
15. The Renal System and Drug Therapy

Unit 3. Pharmacology and Multisystems

16. The Immune System, Bacterial Infections, Fungal Infections, and Drug Therapy
17. The Immune System, Viral Infections, and Drug Therapy
18. Pain, Anesthesia, and Drug Therapy
19. Nutrition, Fluids, Electrolytes, and Drug Therapy
20. Cancer and Drug Therapy

STUDENT COURSEWARE

Pharmacology for Technicians, Seventh Edition

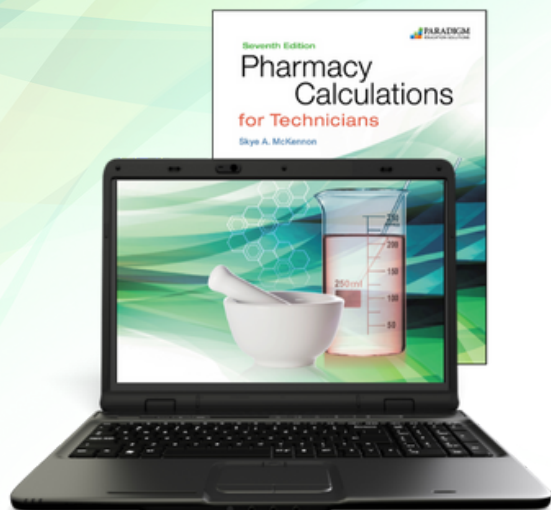
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Pharmacy Calculations for Technicians

Seventh Edition



Skye A. McKennon, PharmD, BCPS
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With *Pharmacy Calculations for Technicians*, students learn the essential mathematics concepts and skills pharmacy technicians use on the job.

Clear, complete examples and practice problems provide students with the required skills for calculating and preparing drug doses in both community and institutional pharmacy settings. Students are guided, step-by-step, through several calculation methods, including basic formula, ratio and proportion, dimensional analysis, and alligation.

This edition of *Pharmacy Calculations for Technicians* is integrated in **Cirrus**, a cloud-based learning environment designed to elevate student success and improve instructor efficiency.

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Cirrus seamlessly delivers complete course content, which students can access anytime, anywhere—from PCs, Macs, and Chromebooks.

To strengthen student understanding, Cirrus provides interactive, independent learning experiences, including:

- self-assessment opportunities
- critical-thinking, application, and research activities
- quizzes and exams

New Watch and Learn Lessons include video and text to help students comprehend concepts or develop skills.

INSTRUCTOR RESOURCES IN CIRRUS

Tools include course-planning guidelines, syllabus models, teaching hints and activities, quizzes and exams, answer keys, instructor rubrics, handouts, and more.

KEY FEATURES

- Alignment with the updated *ASHP/ACPE Accreditation Standards for Pharmacy Technician Education and Training Programs* and *ASHP's Model Curriculum for Pharmacy Technician Education and Training Programs*, Fifth Edition
- Cirrus access to self-assessment opportunities, Watch and Learn Lessons, quizzes, exams, and comprehensive instructor resources
- Practice with compounding calculations, including weight-in-weight calculations and special dilutions
- Coverage of business-related calculations including insurance processing, inventory management, and depreciation
- Practice with unit conversions, ratios, percents, and proportions
- Multiple approaches for solving pharmacy calculation problems, including pediatric dosage problems
- Work Wise tips covering professionalism and soft skills specific to pharmacy technician practice

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Courseware Overview

CHAPTER FEATURES

Learning Objectives establish a clear set of goals for each chapter.

Key terms are set in bold and defined in context and at chapter's end.

Figures illustrate key concepts in colorful ways.

Problem Sets provide helpful self-assessment opportunities.

Take Note identifies important chapter-related information.

Chapter Summary reviews key points at the end of each chapter.

Chapter Review exercises, practice problems, and assessments are automatically scored through Cirrus.

Finding Solutions challenge students to apply skills from the chapter to higher-level problems.

ADDITIONAL FEATURES

Math Morsels and **For Good Measure** offer tips relating to calculation and measurement.

Safety Alerts issue students a warning to give special consideration to a particular practice procedure.

Work Wise features focus on professional habits and soft skills in the workplace.

Name Exchange features provide brand and generic drug names to help students understand and remember the pairs.

CONTENTS

1. Understanding Number Systems and Operations
2. Performing Ratio, Percent, and Proportion Calculations
3. Developing Prescription and Medication Order Literacy Skills
4. Understanding Measurement Systems and Conversions
5. Calculating Doses for Oral Medications
6. Calculating Doses for Injectable Medications
7. Performing Calculations for Compounding
8. Conducting Business Operations
9. Performing Calculations for Sterile Parenteral Solutions

STUDENT COURSEWARE

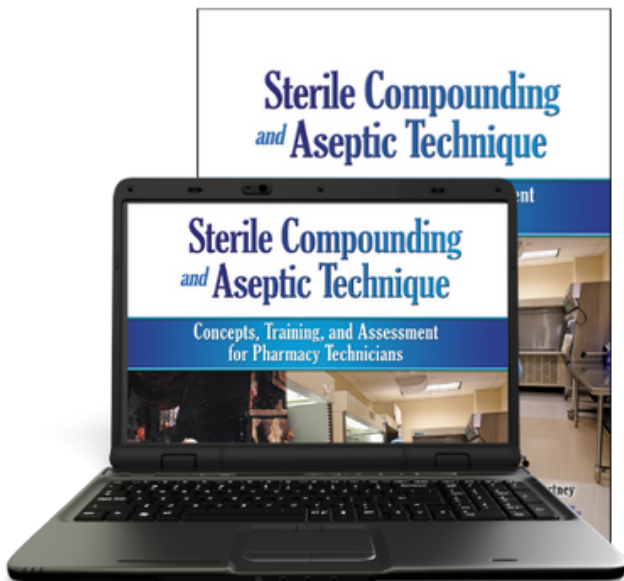
Pharmacy Calculations for Technicians, Seventh Edition

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Lisa McCartney, MEd, CPhT, PhTR



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To strengthen student understanding, Cirrus provides interactive, independent learning experiences, including:

- self-assessment opportunities
- critical-thinking, application, and research activities
- quizzes and exams
- procedural lab videos

INSTRUCTOR RESOURCES IN CIRRUS

Tools include course-planning guidelines, syllabus models, teaching hints and activities, quizzes and exams, answer keys, instructor rubrics, handouts, and more.

Sterile Compounding and Aseptic Technique

NOW INTEGRATED INTO CIRRUS!

This courseware provides instruction and training for the compounding of sterile parenteral preparations, a specialized, advanced practice of pharmacy technicians in hospitals, long-term care facilities, and home health care. This practice requires mastery of aseptic technique, or the procedures that avoid the introduction of pathogens into the sterile compounding environment and the preparations themselves.

This courseware introduces students to the history, concepts, *USP* <797> standards, and procedures of sterile compounding and aseptic technique. It then leads students through a step-by-step exploratory or procedural lab that provides an opportunity for students to demonstrate their understanding of these major concepts.

KEY FEATURES

- Aligns with *USP* <797> standards
- Instructs and trains students in sterile compounding and aseptic technique and its real-world applications in a sterile compounding facility
- Offers brief videos that demonstrate the nine procedural labs
- Provides Process Validation Checklists for the nine procedural labs, ensuring students' competency in performing sterile compounding and aseptic technique practices
- Offers supplemental reference materials in the appendices
- Integrates with LTI-supported learning management systems, including Canvas, Blackboard, D2L, and Moodle

Get this courseware!

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Courseware Overview

CHAPTER FEATURES

- Offers a historical background that provides context for learning chapter content
- Provides thorough and consistent coverage of concepts, training, and assessment of sterile compounding and aseptic technique practices
- Challenges students to verify their understanding of key concepts with a Concepts Self-Check before beginning the procedural lab
- Includes tips, safety alerts, and *USP <797>* standards applicable to the chapter's topic
- Features detailed, accurate photos of sterile compounding facilities, supplies, techniques, and procedures
- Provides independent, small-group, and large-group activities, as well as internet-based exercises, to challenge students' understanding of concepts and techniques

CONTENTS

Unit 1. Exploring the Basics of Sterile Compounding

1. Sterile Compounding as a Pharmacy Technician
2. The Sterile Compounding Environment
3. Sterile Compounding Supplies
4. Medication Orders and Labeling
5. Calculations for Sterile Compounding

Unit 2. Compounding Sterile Preparations

6. Aseptic Garbing, Hand Washing, and Gloving
7. Cleaning the Horizontal Laminar Airflow Hood
8. Large-Volume Parenteral Preparations
9. Small-Volume Parenteral Preparations
10. Ampule-Based Preparations
11. Narcotic Preparations
12. Pediatric Preparations
13. Total Parenteral Nutrition
14. Chemotherapy Products and Procedures

Appendices

- A. Student Answer Key for Concepts Self-Check
- B. Useful Reference Tables
- C. Resources for Chemotherapy Compounding
- D. Process Validation Checklists



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Sterile Compounding and Aseptic Technique

- Access code, digitally delivered: 978-1-79243-120-3
- Bundle: Access code and print text: 978-1-79243-119-7

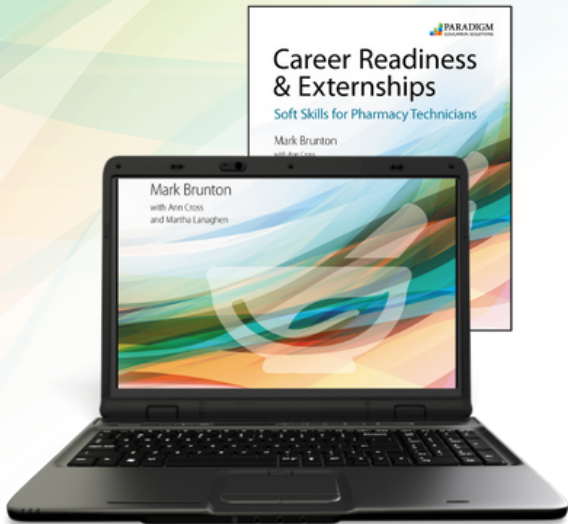
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Career Readiness & Externships

Soft Skills for Pharmacy Technicians



Mark Brunton, MSHE, CPhT, CSPT
with Ann Cross and Martha Lanaghan
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To strengthen student understanding, Cirrus provides interactive, independent learning experiences, including:

- self-assessment quizzes and evaluation opportunities
- critical-thinking, application, and research activities

New Watch and Learn Lessons include video and text to help students comprehend concepts or develop skills.

INSTRUCTOR RESOURCES IN CIRRUS

Tools include course-planning and delivery suggestions, syllabus models, teaching hints and activities, instructor rubrics, handouts, and more.

Like other employers, pharmacy preceptors and supervisors observe a growing trend among externs and entry-level employees. These individuals possess academic knowledge and training but often lack the necessary soft skills, or employability skills, to help them become successful employees valued by patients, colleagues, and supervisors.

Such soft skills include the ability to communicate effectively, think critically, and manage time successfully. These professional competencies must be taught as part of a complete pharmacy technician program.

Paradigm's new courseware, *Career Readiness & Externships: Soft Skills for Pharmacy Technicians*, introduces and reinforces the professional habits and soft skills required to bridge the gap between formal education and employment. This courseware provides a unique pharmacy technician perspective on traditional soft skills and career preparation activities.

Career Readiness & Externships is integrated in Cirrus, a cloud-based learning environment designed to elevate student success and improve instructor efficiency.

FLEXIBLE MODULAR CONTENT TO SUIT YOUR NEEDS

This courseware was designed to provide instructors with the flexibility to use as a stand-alone externship preparation course, as an element that could be divided up and integrated throughout a pharmacy technician program, or as a self-assessment resource for students.

Get this courseware!

To learn more, contact your Account Manager. Find yours at ParadigmEducation.com/Contact/Account-Manager.

Courseware Overview

CONTENT FEATURES

- **Learning Objectives** address the major concepts students should learn in each module.
- **Apply the Skills** activities provide opportunities for students to hone soft skills.
- **Think It Through** challenges students to apply critical-thinking skills in their approach to addressing an issue or solving a problem.
- **Self-Reflection** provides an opportunity for students to assess their own strengths and weaknesses and to consider strategies for improvement.
- **Expand Your Knowledge** offers additional insights into a topic covered in the module.
- **Workplace Wisdom** provides real-world examples that highlight lessons learned or advice from seasoned pharmacy professionals.
- Margin elements, such as **Practice Tips**, **Safety Alerts**, **Name Exchanges**, and **Work Wise**, provide helpful information related to best practices, safety, and work-related advice.
- Digital content includes **Watch & Learn Lessons**, **Application** and **Extension Activities**, and other resources.

MODULES

Each module of the courseware addresses one of nine competencies that support the success of pharmacy technicians:

MODULE 1	Time Management
MODULE 2	Critical Thinking & Problem Solving
MODULE 3	Professional Appearance
MODULE 4	Professional Behavior
MODULE 5	Professional Communications
MODULE 6	Multicultural Awareness & Cultural Competency
MODULE 7	Law & Ethics
MODULE 8	Externship Preparation & Practice
MODULE 9	Career Readiness, Planning, & Management

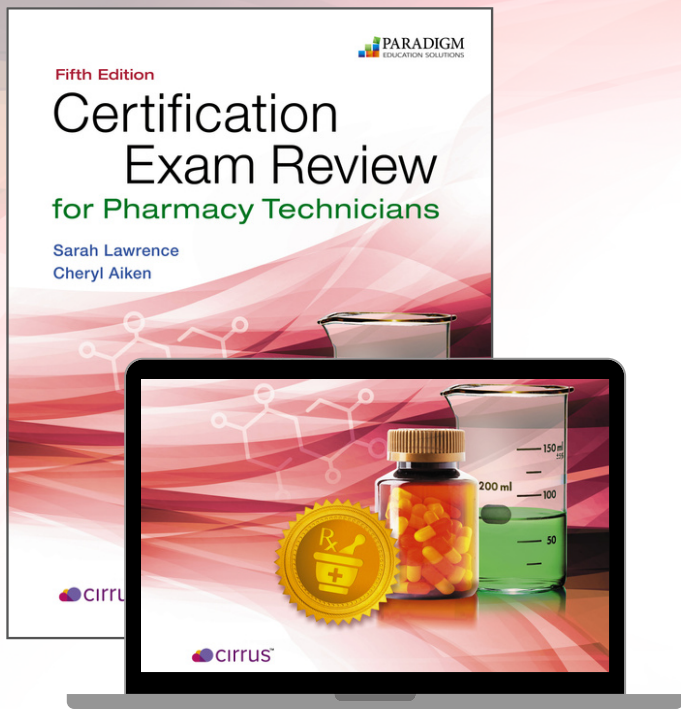
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Career Readiness & Externships

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Certification Exam Review for Pharmacy Technicians

Fifth Edition

This courseware reviews content covered in the Pharmacy Technician Certification Exam (PTCE) and the Exam for the Certification of Pharmacy Technicians (ExCPT). Students learn study and test-preparation strategies and tips for passing one of these high-stakes exams.

This edition of *Certification Exam Review for Pharmacy Technicians* is integrated in Cirrus, a cloud-based learning environment designed to elevate student success and improve instructor efficiency.

Sarah M. Lawrence, PharmD, MA, BCGP, and Cheryl Aiken, PharmD
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- quizzes and exams

New Watch and Learn Lessons include video and text to help students comprehend concepts or develop skills.

INSTRUCTOR RESOURCES IN CIRRUS

Tools include course-planning guidelines, syllabus models, answer keys, and more.

KEY FEATURES

- Alignment with PTCE Content Outline (2020) and ExCPT Content Outline (2016)
- Online exam generator that creates unlimited, timed, practice exams that simulate the test-taking experience for PTCE, ExCPT, or both
- Up-to-date guidelines for nonsterile compounding (*USP* Chapter <795>), sterile compounding (*USP* Chapter <797>), and hazardous compounding (*USP* Chapter <800>)
- Expanded medication section and updated pharmacy law section to reflect revised exam emphasis; new and updated tables
- Cirrus access to self-assessment opportunities, Watch and Learn Lessons, quizzes, exams, and comprehensive instructor resources
- Full length chapter on pharmacy calculations

Get this courseware!

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Courseware Overview

CHAPTER FEATURES

Learning Objectives establish a clear set of goals for each chapter.

Information Tables highlight study information.

An **engaging design** appeals to students.

Pretest and Practice Assessments are automatically scored and available in Cirrus.

ADDITIONAL FEATURES

Study Ideas provide students with practical advice for material review.

Put Down Roots examine the Latin and Greek origins of common terms.

Practice Tips prepare students for professional practice.

Safety Alerts warn students about particular practice procedures.

Name Exchange highlights new or interchangeable terminology.

CONTENTS

Introduction: Preparing for a High-Stakes Exam

1. Medications	PTCE and ExCPT
2. Federal Requirements	PTCE and ExCPT
3. Patient Safety and Quality Assurance	PTCE and ExCPT
4. Order Entry and Processing	PTCE and ExCPT
5. Pharmacy Calculations	PTCE and ExCPT
6. Nonsterile Compounding	PTCE and ExCPT
7. Sterile Compounding	ExCPT
8. Inventory Management	ExCPT

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