

Pharmacy Science - 1 Year Program: Scope & Sequence

Semester 1

PT101 - Pharmacy Science I (89 days)

District Pre-Assessment

Unit Name: (1) History & Foundations of Pharmacy (5 Days)

- History and future of pharmacy
- Abbreviations
- Roles and responsibilities
- Requirements for licensure and certification
- CTSO Integration (Leadership Skills): CTSO Kick-off, Pharmacy Science HOSA Competition
- Professional Skills: 1.A-D; 2.A-C; 4.A-F; 6.B; 8.A-B,D,F-I
- Academic Standards: ELA.11-12.RL.4,7,9; ELA.11-12.RI.4,10; ELA.11-12.W.4,5; ELA.11-12.SL.1; ELA.11-12.L.4; HS.L1U3.23
- Work-Based Learning: Guest Speaker
- Technical Standard: 2.10, 2.11, 2.12, 8.4, 10.4

Unit Name: (2) Pharmacy Law (5 Days)

- Pharmacy law: state & federal
- Controlled substances policies and procedures
- CTSO Integration (Leadership Skills): Officer Elections, Parliamentary Procedure HOSA Competition, Pharmacy Science HOSA Competition
- Professional Skills: 1.A-D; 3.D; 4.A-F; 6.B; 8.A-B,D-I
- Academic Standards: ELA.11-12.RL.4,7,9; ELA.11-12.RI.4,10; ELA.11-12.W.4,5; ELA.11-12.SL.1, ELA.11-12.L.4
- Work-Based Learning: Virtual field trip
- Technical Standard: 1.4-5, 2.1-15, 9.1

Unit Name: (3) Medical Terminology (14 Days)

- Pharmacy terminology
- Building and interpreting medical terms
- CTSO Integration (Leadership Skills): Officers meeting (POW), Officer Training, Medical Terminology HOSA Competition, Health Career Display HOSA competition
- Professional Skills: 1.A-D; 2.A-C; 4.A-F; 6.B; 8.A-B,D,F-I
- Academic Standards: ELA.11-12.RL.4,7,9; ELA.11-12.RI.4,10; ELA.11-12.W.4,5; ELA.11-12.SL.1, ELA.11-12.L.4
- Work-Based Learning: Virtual field trip
- Technical Standard: 1.6

Unit Name: (4) Dosage Forms (5 Days)

- Forms of medication
- Routes of administration
- Stability and storage of medications
- CTSO Integration (Leadership Skills): Monthly Officer Meeting/ Monthly Chapter Meeting, Pharmacy Science HOSA Competition
- Professional Skills: 1.A-D; 2.A-C; 4.A-F; 6.B; 8.A-B,D,F-I
- Academic Standards: ELA.11-12.RL.4,7,9; ELA.11-12.RI.4,10; ELA.11-12.W.4,5; ELA.11-12.SL.1; ELA.11-12.L.4
- Work-Based Learning: Guest Speaker
- Technical Standard: 1.8-10, 9.4-5, 5.3

Unit Name: (5) Dosage Calculations (9 Days)

- Measurement systems
- Dosage calculations
- Calculating doctor orders
- CTSO Integration (Leadership Skills): Medical Math HOSA Competition, Leadership HOSA Rally
- Professional Skills: 1.C-D; 3.A,C,D; 4.A-F; 5.A; 8.A-I; 9.A-C
- Academic Standards: CAM.5.NF.B.3,6,7; CAM.5.MD.A.1; CAM.6.RP.A.3; CAM.6.EE.A.2; CAM.7.EE.B.3; CAM.7.RP.A.3; CAM.A-CED.A.1
- Work-Based Learning: Mentorship
- Technical Standard: 3.1-7

Unit Name: (6) Introduction to Pharmacology (4 Days)

- Pharmacokinetics
- Pharmacodynamics
- Medication safety & error prevention
- Drug actions & interactions
- CTSO Integration (Leadership Skills): Pharmacology HOSA Competition, Pharmacy Science HOSA Competition, Advisory Council Meeting
- Professional Skills: 1.A-D; 2.A-C; 3.A-D; 4.A-F; 6.B; 8.A-B,D,F-I
- Academic Standards: ELA.11-12.RL.4,7,9; ELA.11-12.RI.4,10; ELA.11-12.W.4,5; ELA.11-12.SL.1; HS.L1U1.20
- Work-Based Learning: Guest Speaker
- Technical Standard: 1.1-5, 1.7, 4.1-6, 6.1, 6.3,

Unit Name: (7) Pharmacology: Integumentary System & Special Senses (8 Days)

- Basic anatomy and physiology
- Brand/generic drug names, indications, and common side effects
- Diseases and treatments
- CTSO Integration (Leadership Skills): Monthly Officer Meeting/ Monthly Chapter Meeting, Pharmacology HOSA Competition, Pharmacy Science HOSA Competition
- Professional Skills: 1.A-C; 2.A-C; 3.A-E; 4.A-F; 5.D-E; 6.A-C; 8.A-B,D,F-I
- Academic Standards: ELA.11-12.RL.4,7,9; ELA.11-12.RI.4,10; ELA.11-12.W.2-10; ELA.11-12.SL.1-6; ELA.11-12.L.4,6
- Work-Based Learning: Field Trip (GCU)
- Technical Standard: 1.1-3, 1.6, 4.2 - 4.6, 4.8

Unit Name: (8) Pharmacology: Respiratory System (5 Days)

- Basic anatomy and physiology
- Brand/generic drug names, indications, and common side effects
- Diseases and treatments
- CTSO Integration (Leadership Skills): Fall Leadership Conference, Community service event, Pharmacology HOSA Competition, Pharmacy Science HOSA Competition
- Professional Skills: 1.A-C; 2.A-C; 3.A-E; 4.A-F; 5.D-E; 6.A-C; 8.A-B,D,F-I
- Academic Standards: ELA.11-12.RL.4,7,9; ELA.11-12.RI.4,10; ELA.11-12.W.2-10; ELA.11-12.SL.1-6; ELA.11-12.L.4,6
- Work-Based Learning: Service Learning Project
- Technical Standard: 1.1-3, 1.6, 4.2 - 4.6, 4.8

Unit Name: (9) Safety Protocols (6 Days)

- Handling and disposal
- Exposure and prevention
- CTSO Integration (Leadership Skills): Advisory Council Meeting, Health care issues HOSA competition
- Professional Skills: 1.A-D; 2.B; 3.A-E; 4.A-F; 5.A-B; 6.B; 8.A-I
- Academic Standards: ELA.11-12.RL.4,7,9; ELA.11-12.RI.4.10; ELA.11-12.W.4,5; ELA.11-12.SL.1; ELA.11-12.L.4
- Work-Based Learning: Simulated Lab Experience
- Technical Standard: 2.1, 2.9, 2.15, 6.1-3, 9.4-5

Unit Name: (10) Sterile Compounding (13 Days)

- Aseptic Technique
- Intravenous Preparation
- Complex mathematical calculations
- CTSO Integration (Leadership Skills): Regional OLT Monthly Officer Meeting/ Chapter Meeting, Pharmacy Science HOSA Competition
- Professional Skills: 1.A-D, 2.B, 3.A-E, 4.A-F, 5.A-B, 6.B, 8.A-I
- Academic Standards: ELA.11-12.RL.4,7,9; ELA.11-12.RI.4,10; ELA.11-12.W.4,5; ELA.11-12.SL.1; ELA.11-12.L.4; A1.A-CED.A.4, CAM.5.MD.A.1; CAM.6.RP.A.3
- Work-Based Learning: Simulated Lab Experience
- Technical Standard: 5.1-5, 5.7-8, 3.4

Unit Name: (11) Pharmacology: Digestion System & Nutrition (11 Days)

- Basic anatomy and physiology
- Brand/generic drug names, indications, and common side effects
- Diseases and treatments
- CTSO Integration (Leadership Skills): Pharmacology HOSA Competition, Pharmacy Science HOSA Competition
- Professional Skills: 1.A-C; 2.A-C; 3.A-E; 4.A-F; 5.D-E; 6.A-C; 8.A-B,D,F-I
- Academic Standards: ELA.11-12.RL.4,7,9; ELA.11-12.RI.4,10; ELA.11-12.W.2-10; ELA.11-12.SL.1-6; ELA.11-12.L.4,6
- Work-Based Learning: Guest Speaker (Midwestern)
- Technical Standard: 1.1-3, 1.6, 4.2 - 4.6, 4.8

Semester Exam

Semester 2

PT201 - Pharmacy Science II (93 days)

Unit Name: (12) Community Pharmacy (13 Days)

- Roles and Responsibilities
- Inventory
- Documentation, profile, data entry
- Vaccines and preventive care
- Patient Services and Communications
- Billing and Insurance
- CTSO Integration (Leadership Skills): State OLT, Community Service Event, Pharmacy Science HOSA Competition
- Professional Skills: 1.A-C; 2.A-C; 3.A-E; 4.A-F; 5.A-E; 6.A-C; 7A-C; 8.A-I; 9A-C
- Academic Standards: ELA.11-12.RL.4,7,9; ELA.11-12;RI.4,10; ELA.11-12.W.4,5; ELA.11-12.SL.1; ELA.11-12.L.4; HS.L1U1.20; CAM.5.MD.A.1; CAM.6.RP.A.3
- Work-Based Learning: Simulated Lab Experience, Field Trip (MOMS)
- Technical Standard: 1.1-10, 2.1-15, 3.1-3, 3.5-6, 4.1-3, 4.6,5.2-4, 5.9, 6.1-3, 7.1-11, 8.1-4, 9.1-7, 10.1-4,

Unit Name: (13) Pharmacology: Cardiovascular/Urinary Systems (9 Days)

- Basic anatomy and physiology
- Brand/generic drug names, indications, and common side effects
- Diseases and treatments
- CTSO Integration (Leadership Skills): Monthly Officer Meeting/ Monthly Chapter Meeting, Pharmacology HOSA Competition, Pharmacy Science HOSA Competition
- Professional Skills: 1.A-C; 2.A-C; 3.A-E; 4.A-F; 5.D-E; 6.A-C; 8.A-B,D,F-I
- Academic Standards: ELA.11-12.RL.4,7,9; ELA.11-12.RI.4,10; ELA.11-12.W.2-10; ELA.11-12.SL.1-6; ELA.11-12.L.4,6
- Work-Based Learning: Simulated Lab Experience
- Technical Standard: 1.1-3, 1.6, 4.2 - 4.6, 4.8

Unit Name: (14) Emergency Preparedness (4 Days)

- CPR/AED and First Aid
- Certification: CPR |AED, American Heart Association
- CTSO Integration (Leadership Skills): Region 2 Conference, CPR/First aid HOSA Competition
- Professional Skills: 1.A-C, 3.A-E, 4.A-F, 5.A-E, 8.A-I
- Academic Standards: 11-12. RL.4,7,9, RI. 4 10, W. 4,5, SL. 1, L. 4
- Work-Based Learning: Simulated Lab Experience
- Technical Standard: 2.14-15

Unit Name: (15) Pharmacology: Musculoskeletal System (5 Days)

- Basic anatomy and physiology
- Brand/generic drug names, indications, and common side effects
- Diseases and treatments
- CTSO Integration (Leadership Skills): Monthly Officer Meeting/ Monthly Chapter Meeting, Pharmacology HOSA Competition, Pharmacy Science HOSA Competition
- Professional Skills: 1.A-C; 2.A-C; 3.A-E; 4.A-F; 5.D-E; 6.A-C; 8.A-B,D,F-I
- Academic Standards: ELA.11-12.RL.4,7,9; ELA.11-12.RI.4,10; ELA.11-12.W.2-10; ELA.11-12.SL.1-6; ELA.11-12.L.4,6
- Work-Based Learning: Guest Speaker
- Technical Standard: 1.1-3, 1.6, 4.2 - 4.6, 4.8

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Unit Name: (16) Hospital Pharmacy (10 Days)

- Administration/structure
- Floor stock
- Automated/manual systems
- Policies and procedures
- CTSO Integration (Leadership Skills):Pharmacy Science HOSA Competition, Advisory Council Meeting
- Professional Skills: 1.A-C; 2.A-C; 3.A-E; 4.A-F; 5.A-E; 6.A-C; 7A-C; 8.A-I; 9A-C
- Academic Standards: ELA.11-12.RL.4,7,9; ELA.11-12.W.4,5; ELA.11-12.SL.1; ELA.11-12.L.4
- Work-Based Learning: Simulated Lab Experience
- Technical Standard: 1.1-1.10, 2.1-7, 2.9-15, 3.1-4, 3.7, 4.1-6, 5.1-9, 6.1-2, 7.5, 7.7-10, 8.1, 8.3-4, 9.1-7,

Unit Name: (17) Pharmacology: Nervous System (10 Days)

- Basic anatomy and physiology
- Brand/generic drug names, indications, and common side effects
- Diseases and treatments
- CTSO Integration (Leadership Skills): Monthly Officer Meeting/ Monthly Chapter Meeting; Pharmacology HOSA Competition, Pharmacy Science HOSA Competition
- Professional Skills: 1.A-C; 2.A-C; 3.A-E; 4.A-F; 5.D-E; 6.A-C; 8.A-B,D,F-I
- Academic Standards: ELA.11-12.RL.4,7,9; ELA.11-12.RI.4,10; ELA.11-12.W.2-10; ELA.11-12.SL.1-6; ELA.11-12.L.4,6
- Work-Based Learning: Field trip (Midwestern)
- Technical Standard: 1.1-3, 1.6, 4.2 - 4.6, 4.8

Unit Name: (18) Extemporaneous Compounding (14 Days)

- Terminology and Equipment
- Non-sterile techniques
- Creams/lotions/lip balms
- CTSO Integration (Leadership Skills): Monthly Officer Meeting/ Monthly Chapter Meeting, Pharmacy Science HOSA Competition
- Professional Skills: 1.A-C; 3.A-E; 4.A-F; 5.A-E; 8.A-I
- Academic Standards: ELA.11-12.RL.4,7,9; ELA.11-12.W.4,5; ELA.11-12.SL.1,ELA.11-12.L.4
- Work-Based Learning: Simulated Lab Experience, Family Day
- Technical Standard: 1.6, 1.8-9,3.1-2, 5.4-6, 5.9, 7.7, 9.4,

ADE Technical Skills Assessment

Unit Name: (19) Pharmacology: Endocrine/Reproductive Systems (14 Days)

- Basic anatomy and physiology
- Brand/generic drug names, indications, and common side effects
- Diseases and treatments
- CTSO Integration (Leadership Skills): CTSO Award Banquet, Pharmacology HOSA Competition, Pharmacy Science HOSA Competition
- Professional Skills: 1.A-C; 2.A-C; 3.A-E; 4.A-F; 5.D-E; 6.A-C; 8.A-B,D,F-I
- Academic Standards: ELA.11-12.RL.4,7,9; ELA.11-12.RI.4,10; ELA.11-12.W.2-10; ELA.11-12.SL.1-6; ELA.11-12.L.4,6
- Work-Based Learning: Guest Speaker
- Technical Standard: 1.1-3, 1.6, 4.2 - 4.6, 4.8

District Post-Assessment

Unit Name: (20) Career Preparation (14 Days)

- Certifications: American Heart Association CPR/AED certification, Pharmacy Technician Board Certification
- CTSO Integration (Leadership Skills): Resumes, Job Application, Mock Interviews, Simulated Lab Experience (virtual extern)
- Professional Skills: 1.A-C; 3.A-E; 4.A-F; 5.A-E; 8.A-I
- Academic Standards: ELA.11-12.RI.2,7,10; ELA.11-12.W.4,5,7; ELA.11-12.SL.4,6
- Work-Based Learning: Resumes, Job Application, Mock Interviews, Simulated Lab Experience (virtual extern)
- Technical Standard: 2.11-12

Certifications:

American Heart Association CPR/AED Certification
Pharmacy Technician Board Certification (PTCB) or
National Healthcareer Association (NHA)

Arizona Department of Education (ADE)

Common AZCCR Math Standards (CAMS)

English Language Arts Standards (ELAS)