Silicon Valley Career Technical Education

Pharmacy Technician

Course Outline

Course Description

This comprehensive 519 hour program will prepare students for entry-level pharmacy technician positions in the community pharmacy. Pharmacy Technicians are trained healthcare professionals who work in both retail and institutional pharmacies under the supervision of a licensed pharmacist. Pharmacy technicians may perform many of the same duties as a pharmacist but they are accountable to the supervising pharmacist who is legally responsible through state licensure for the care and safety of patients served by the pharmacy. Course content includes the origins and history of pharmacy, pharmacy and medical terminology, pharmacy practice in multiple environments, pharmacy calculations and measurements, reading and interpreting prescriptions, defining drugs by generic and brand names, dispensing prescriptions, inventory control, preparing medications using sterile and nonsterile techniques to count, measure and compound drugs and preparing IV medications.

Upon successful completion of the program and internship, students are eligible to apply to become a licensed Pharmacy Technician with the California State Board of Pharmacy. take the Pharmacy Technician Certification Exam. This exam is voluntary in many states; however, successful completion of the exam demonstrates a standard competency level of the individual to function in the role of a pharmacy technician throughout the United States. This program provides education and training necessary to prepare students to work in various pharmacy settings or further their academic goals with a variety of opportunities or careers in the pharmaceutical or healthcare industries.

Course Details

Length of Program and Academic Credits Earned:
Year-long 3 hour course = 519 hours total (~261/semester)
30 total credits (15/semester):
- 20 non-a–g elective credits (10/semester)
- 10 UC a-g "g" elective credits (5/semester)

Pre-Requisites:
- High School Junior or Senior, or 16 years or older
- Completed Algebra I or Integrated Math I (required)
- Biology and Chemistry (recommended)

CTE Classification:
- **Industry Sector:** Health Science and Medical Technology
- **Industry Pathway:** Patient Care
- **CA Basic Education Data System (CBEDS) Code:** 4284

Work-Based Learning:	**Certifications & State Tests:**
Students with a 'B' or above will be eligible for up to 120 hours of internship at a retail pharmacy during second semester	• California State Board of Pharmacy Licensed Pharmacy Technician (PhT) • Pharmacy Technician Certification Board, (CPhT) • National Health Association Pharmacy Technician Certification (ExCPT) • SVCTE Certificate of Completion with successful completion of course with a grade of 'B' or better

Possible Education & Career Pathways

For more career information: www.onetonline.org

College & Career Pathways:	Career Opportunities	O*NET Codes
Post-Secondary: Students with a high school diploma and having successfully completed this course have a number of entry-level career opportunities, as well as continuing their education.	• Pharmacy Aides • Pharmacy Technicians	31-9095.00 29-2052.00
Continuing Education: Including Community College, Training Programs, Certifications, etc: • AA or AS in Science Related Field • Pharmacy Technician Program	• Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	41-4011.00
University Majors & Degrees: • BA or BS in Science Related Field	• Health Specialties Teachers, Postsecondary • Medical and Health Services Managers	25-1071.00 11-9111.00
Post-Baccalaureate Degrees • Masters or Doctorate in Pharmacy	• Pharmacists	29-1051.00

Unit 1: The Profession of Pharmacy — 7.5 hours

Students will learn how pharmacists and pharmacy technicians contribute to a healthcare team. They will be able to distinguish and differentiate among the various workplace environments for pharmacists and pharmacy technicians along with their major roles and responsibilities. This unit will outline the academic and legal requirements for pharmacy technician practice. Possible career paths of a technician will also be discussed. Students will define roles and responsibilities, learn proper work-flow, outline the way associates communicate within industry, and recognize patient care providers. Students will conduct Pharmaceutical Career Research in the following areas:

- The Pharmacy Technician: Roles and Responsibilities
- A Pharmacy Technician's Education
- Credentialing a Pharmacy Technician
- The Pharmacist: Roles and Responsibilities
- A Pharmacist's Education

Standards Alignments:

CCSS: LS 11-12.1, 11-12.2, 11-12.3, 11-12.4, 11-12.5, 11-12.6

Key Assignments	CTE Anchor Standards	CTE Pathway Standards
✓ **Key Assignment: Career Exploration -** Students will research a career related to pharmacy. Students will be required to research job descriptions, educational requirements, salary range, and job forecast as well as write a personal reflection. This is a part of students' preparation for their culminating project and presentation during Back to School Night, SVCTE Career Night and during High School and Middle School Tours. **Assessment:** teacher questioning, gallery walk	1.0, 2.0, 3.0, 5.0, 7.0, 9.0, 11.0	B 1.0, B 2.0, B 3.0, B 5.0, B 9.0, B 11.0, B 12.0, B 13.0
✓ **Key Assignment: Collect and Select -** Students will begin thinking about their futures: Students will select one or more occupation related to Pharmacy and prepare a report and/or presentation addressing questions that are provided by the instructor. Each student will act out the actions of the occupation in a charades-like format until someone in the room is able to name that occupation. Students proceed to act out their occupations until someone else in the room can name the occupation. **Assessment:** rubric, peer feedback	1.0, 2.0, 3.0, 4.0, 5.0, 9.0, 11.0	B 1.0, B 2.0, B 3.0, B 5.0, B 9.0, B 11.0, B 12.0, B 13.0
✓ **Key Assignment: Credential Mapping -** Students will design a /rubric/flowchart/ diagram in PowerPoint or Word which demonstrates the State and National Licensure and Credentialing processes and options. Students will explain and present their maps/charts to the class. **Assessment**: rubric, peer feedback	1.0, 2.0, 3.0, 5.0, 9.0, 11.0	B 1.0, B 2.0, B 4.0, B 5.0

✓ **Key Assignment: Fly on the Wall -** Individually students will choose a community pharmacy with a patient waiting area and will sit and observe that pharmacy for a period of 45 minutes or longer (maximum 1 hour) Essentially becoming a "fly on the wall". Students must document this observation thoroughly noting, but not limited to, volume of patients, interactions between pharmacist and patient, pharmacy technician and patients, interaction between pharmacy personnel, customer service, noting any procedures, problems, issues etc. Students will use a pre-printed form to record observation. Observation will be presented in class via discussion. **Assessment**: Rubric, Observation documentation form	2.0, 3.0, 8.0, 10.0	B 1.0, B 2.0, B 3.0, B 5.0, B 9.0, B 11.0, B 12.0, B 13.0

Unit 2: Origins of Pharmacy 7.5 hours

Wherever civilization arises we find pharmacy, because it fulfils one of man's basic needs. Students will trace the history of pharmacy and pharmaceutical preparations from the time of the Pharaohs of Egypt up to the present day. Students will begin by covering the ancient Egyptians, the Greeks and the Romans, and continue up to present day. Students will understand the history of terms used in pharmacy and associated professions. The Apothecaries – Over the 16th and 17th centuries the art of the apothecary was developing rapidly in Britain as well as on the continent, and with this development there came a desire for the apothecaries or dispensers to form a Guild of their own. Some early 19th century pharmacy greats: This was the age of many famous men, and some who have been directly connected with pharmaceutical history are Robert Boyle, Isaac Newton Students will explore:

- History of medicine
- Origins of pharmacy practice
- Eastern & Western medicine
- Early influences
- Evolution/early pharmacies

Standards Alignments:

CCSS: LS 11-12.1, 11-12.2, 11-12.3, 11-12.4, 11-12.5, 11-12.6

Key Assignments	CTE Anchor Standards	CTE Pathway Standards
✓ **Key Assignment: A Civilized Info-Graphic**- Working in student teams of 2 or 3, students will research an early civilization that had a major impact on the development of pharmacy as we know it. The student teams will identify the civilization, major known contributors to pharmaceutical advancement, cultural elements that led to the developments and the way in which these developments have impacted pharmacy today. Each team will prepare a presentation which must include the above components in an info graph to be shared with the class through a gallery walk.	1.0, 2.0, 4.0, 5.0, 7.0, 9.0, 11.0	B 1.0, B 2.0, B 4.0, B 5.0, B 6.10, B 7.0, B 8.0, B 10.0, B 11.0, B 12.0

Assessment: observation, rubric, self-reflection, peer feedback, gallery walk		
✓ **Key Assignment: Influential Era** - working individually, students will research an influential figure in early pharmacy and create a presentation and timeline illustrating the figure and the era in which they influenced. **Assessment:** rubric, observation, peer, instructor and self- assessment, editing and peer feedback	1.0, 2.0, 4.0, 5.0, 7.0, 9.0, 11.0	B 1.0, B 2.0, B 4.0, B 5.0, B 6.10, B 7.0, B 8.0, B 10.0, B 11.0, B 12.0
✓ **Focus / Biomedical Ethics:** Students will be presented with a current topic and will be asked to participate in a forum for the discussion and debate of issues in bioethics and contribute to ethical solutions for problems and challenges in clinical practice, research and public policy. **Assessment:** Observation, self-reflection and peer feedback	1.0, 2.0, 4.0, 5.0, 7.0, 8.0, 9.0, 10.0, 11.0	A 1.0, A 5.0, A 7.0, A 8.0, A 9.0
✓ **Current Events:** Students will read "Bioethical Scenarios" from the New York Times. Students should be in groups of 3 discussing each scenario. In the groups, each student will take a role - reader, recorder, and reporter. Each group will deliver an in-depth report to the entire class exploring the different avenues of bioethical issues pertaining to each scenario leading to class discussion and debate. **Assessment:** Observation, self-reflection and peer feedback	1.0, 2.0, 4.0, 5.0, 7.0, 9.0, 11.0	B 1.0, B 2.0, B 4.0, B 5.0, B 6.0, B 7.0
✓ **Focus / Medical Ethics:** Through this assignment, students gain perspective on the different fields of medicine and the ethical challenges each presents through all platforms of life. Emphasis is on a range of issues such as: understanding professional liabilities in the framework of the current care environment, encounters associated with healthcare decision-making and end-of-life care, and new concerns ascending from evolving populations, technologies, and systems of care. Student will complete case analyses, which they discuss with their classmates and debate ethical issues including the physician and patient relationship in detail, covering dignity, confidentiality and care. **Assessment:** Observation, self-reflection and peer feedback	1.0, 2.0, 4.0, 5.0, 7.0, 8.0, 9.0, 10.0, 11.0	B 1.0, B 3.0, B 7.0, B 10.0, B 13.0, E 1.0, E 2.0, E 3.0, E 4.0, E 5.0
✓ **Research:** Students will focus on reading assignments, lectures, discussions and practical review of research protocols. Topics include: history of human subjects' protections, regulatory and ethical frameworks for biomedical research, informed consent theory and application, selection of fair research subjects and payment, confidentiality, secondary uses of data and stored tissue, ethics of international research, pediatric and genetic research and conflicts of interest in biomedical research. Students will submit a research paper in the student's area of interest at minimum of 7 pages on APA format. **Assessment:** Observation, self-reflection and peer feedback	1.0, 2.0, 4.0, 5.0, 7.0, 8.0, 9.0, 10.0, 11.0	B 1.0, B 2.0, B 3.0, B 5.0, B 9.0, B 11.0, B 12.0, B 13.0

✓ **Research: Controlled Substance -** Individually, students will research a schedule-1 controlled substance and create a visual aid depicting all the major components, chemical compound, and other relevant information about chosen substance. **Assessment:** Observation, self-reflection and peer feedback	1.0, 2.0, 4.0, 5.0, 7.0, 9.0, 11.0	B 3.2, B 4.0, B 4.4, B 4.5
✓ **Ethics: Henrietta Lacks -** Students read excerpts from The Immortal Life of Henrietta Lacks , or alternative publication/article, which discusses ethical dilemmas presented by the continued use of HeLa cells in numerous biotechnological applications. The primary ethical conflict, as students will discover in the reading, is that the cells were collected without the consent of either Henrietta Lacks or her surviving family. Some questions that should be considered by students include: Who owns the cell line? What rights are involved? Where does the greater good fit in? Students address the ethical conflict and the questions it creates in the model of a Supreme Court case, or similar forum. This mirrors a forum where ethical issues are addressed, discussed, and resolved and where students can verbally state their opinions and utilize their research and scientific knowledge in a range of roles (justices, counselors, expert witnesses, family members, etc.) to ensure all students have an opportunity to participate. The end product is a written paper that takes the form of a legal decision handed down by a justice (examples are easily available online) in response to the court case. **Assessment:** Observation, self-reflection and peer feedback	1.0, 2.0, 4.0, 5.0, 7.0, 8.0, 9.0, 10.0, 11.0	B 1.0, B 2.0, B 4.0, B 5.0, B 6.10, B 7.0, B 8.0, B 10.0, B 11.0, B 12.0

Unit 3: The Evolution of Pharmaceutical Practice: 20th Century – Present — 30 hours

Students will explore:

Development of Contemporary Pharmacies:

- Traditional era
- Scientific era
- Clinical era
- Technological/Medication management era

Types of Contemporary Pharmacies:

- Community
- Retail
- In-Patient
- Nuclear
- Independent

Standards Alignments:

CCSS: LS 11-12.1, 11-12.2, 11-12.3, 11-12.4, 11-12.5, 11-12.6

Key Assignments	CTE Anchor Standards	CTE Pathway Standards

✓ **Key Assignment: Pharmacy Timeline -** Students will work in pairs to develop and construct a 6 foot timeline of pharmacy from origin through contemporary utilizing pictures, objects, articles, etc that showcase pharmacy through the ages. **Assessment:** rubric, guest judging/feedback, peer feedback, observation, visual inspection	1.0, 2.0, 4.0, 5.0, 7.0, 9.0, 11.0	B 1.0, B 2.0, B 4.0, B 5.0, B 6.10, B 7.0, B 8.0, B 10.0, B 11.0, B 12.0
✓ **Key Assignment: We Use That!** - Individually, students will choose a natural/homeopathic remedy from their culture or a culture of their choice and bring the physical remedy into class to explain and demonstrate how the remedy is used by that culture. Students will produce a diagram/visual aid with all pertinent information regarding the homeopathic remedy previously researched. Information may include, but not limited to: cultural indications, historical background, physical attributes. **Assessment:** observation, self-reflection and peer feedback	1.0, 2.0, 5.0, 7.0, 9.0, 11.0	B 1.0, B 2.0, B 4.0, B 5.0, B 6.10, B 7.0, B 8.0, B 10.0, B 11.0, B 12.0

Unit 4: Pharmacy Measurements and Calculations — 30 hours

This unit will provide an in depth exploration of mathematical calculations for Pharmacy and will prepare the student to use exact measurements in compounding and preparing topical products, solutions and suspensions. Students will learn how to convert one metric unit to another and accurately mix and measure dosages. Emphasis will be placed interpreting prescription dosages and quantities. They will learn how these techniques are used in the administration of medications for patient use. This unit will be taught via hands on learning using candies, chocolates, maple syrup, sugar, flour, salts and petroleum jelly. Students are highly encouraged to participate in SkillsUSA Medical Math Competition.
Students will learn:

- The different systems of measurement that are used in pharmacy (metric, avoirdupois, imperial, apothecary and household system)
- Convert one metric unit to another
- Convert percentages to fractions and to and from decimals
- How to convert standard time to 24-hour time and temperatures to and from Fahrenheit and Celsius
- Find an unknown quantity in a proportion
- Dimensional Analysis (unit cancellations)
- The allegation method to prepare compounded products
- To perform dosage calculations using body weight and surface area, volume-in-volume, and weight-in-volume concentration ratios.

Standards Alignments:

CCSS: LS 11-12.6; **RSIT** 11-12.4; **RLST** 11-12.3, 11-12.4, 11-12.5, 11-12.8, 11-12.9; **WS** 11-12.7; **A-SSE** 1, 2; **A-APR** 1, 7
NGSS: PS 1.A, 1.B, 2.C, **LS** 1.A

Key Assignments	CTE Anchor Standards	CTE Pathway Standards

✓ **Lab: Fractions with Candy -** Utilizing Skittle and M&Ms (as medications) with a peer, student will explain the meaning of a fraction and give an example of each type of fraction. Student will convert between improper fractions and whole or mixed numbers, fractions to decimals and decimals to fractions, percent to decimals, fractions to percent, percent to fraction, and decimals to percent. For performance-based measurement on student's ability to identify, assess, and determine the dosage and timing of their administered medications, student will submit a "medication sheet" with hours and dosage calculations. **Assessment:** observation, teacher questioning, quiz	1.0, 2.0, 3.0, 5.0, 6.0, 7.0, 9.0, 11.0	A 1.0, A 2.0, A 3.0, A 5.0, A 6.0, A 7.0
✓ **Lab: Counting with Candy -** Utilizing Skittles, Jelly Beans, M&Ms for medication simulation, students will learn the basic principles of pill counting. Using an industry standard pill counter, students will have to demonstrate the proper procedure for counting medications in common prescription quantities. They will be introduced to the packaging of medication with regard to the appropriate use of vial size with respect to medication quantities. **Assessment:** observation and demonstration, teacher questioning, visual inspection	1.0, 2.0, 3.0, 5.0, 6.0, 7.0, 9.0, 11.0	A 1.0, A 2.0, A 3.0, A 5.0, A 6.0, A 7.0
✓ **Lab: Rainbow Juice -** Using ratio-proportion technique and demonstrate knowledge and ability to accurately calculate dosages of liquids, students will use different flavored juice and use the "medication ordered by physician sheet" for student to decipher, calculate and dispense. Following this exercise, student will generate 5 sample types of medication ordered scenario which will be utilized by all students through Gallery walk. **Assessment:** demonstration, peer assessment, observation, test	1.0, 2.0, 3.0, 5.0, 6.0, 7.0, 8.0, 9.0, 11.0	A 1.0, A 3.0, A 4.0, A 5.3, A 6.0, A 8.0, A 9.0,
✓ **Lab: Reconstituting Powders -** Students will be taught the procedures related to reconstituting powder medication for oral use. Using a Reconstitube, students will demonstrate the skill of accurately measuring diluent and reconstituting placebo powder medications. Students will master and subsequently present proper reconstituting technique and present to the class individually. **Assessment:** observation and demonstration, teacher questioning, visual inspection	1.0, 2.0, 3.0, 5.0, 6.0, 7.0, 8.0, 9.0, 11.0	A 8.0, B 3.0

Unit 5: Anatomy & Physiology — 37 hours

Using an active learning approach and Next Generation Science Standards (NGSS) students will be introduced to the correlation between structure and function in the anatomy and physiology of the human body. This unit provides students the critical thinking skills necessary for understanding body systems, illnesses, and the drugs used to maintain health and treat sickness and disease. Signs and symptoms leading to a diagnosis and treatment plan will be introduced. Students will correlate the major structures of the human body through various diagnostic images and pathophysiology in order to gain an in-depth knowledge of biological concepts. Students will study the medications related to treat conditions that

may arise in these particular body systems. Students will learn the four stages of pharmacokinetics and be able to distinguish between side effects, toxicities, drug interactions, and know the difference between synergistic and additive responses.
Topics include:

- Human growth and Development
- Cellular function
- Skeletal system
- Integumentary
- Muscular system
- Nervous system
- Endocrine system
- Immune system
- Cardiovascular system
- Respiratory system
- Reproductive system
- Digestive system
- Urinary System
- Metabolism
- Tissues
- Special senses

Standards Alignments:

CCSS: LS 11-12.1, 11-12.2, 11-12.4, 11-12.5,11-12.6; **RSIT** 11-12.1, 11-12.4, 11-12.7; **RLST** 11-12.5, 11-12.7, 11-12.9, **WS** 11-12.2, 11-12.4; **AD** 12.7
NGSS: PS 1.A, 1.B, 3.D, **LS** 1.B, 1.C, 1.D, 3.A, 3.B, 4.C, 4.D

Key Assignments	CTE Anchor Standards	CTE Pathway Standards
✓ **Ongoing Labs: Dissection -** Students will work in lab groups on multiple occasions to dissect a cow's eye, sheep's heart and sheep kidney. Using a dissection manual, they will use a variety of lab equipment to identify and label all parts of the organ, generate a lab report to complete including short answer questions and write a narrative summary of their findings. **Assessment:** lab report rubric, student observation of group interaction	2.1, 5.1, 9.3	B 2.1
✓ **Key Assignment: Brain Cap -** Students will read about the different parts of the brain and summarize the function of each part. They will use this information to individually create their own brain cap, label all of the individual brain parts, their function and color code. These brain caps will be displayed in classroom as a reference. **Assessment:** quiz, oral questioning	1.0, 10.1, 11.1	B 2.1, B 5.2
✓ **Key Assignment: Data Collection -** Students will investigate the relationships of anatomy and physiology to specific diseases, and understand the particular drug treatments for those diseases and conditions. Students will collect data and other information from literature review, government websites and scientific journals, and will cite their sources. Students will present their findings in a variety of tables and graphs that depict their data clearly. **Assessment:** rubric	1.0, 2.0, 4.0, 5.0, 6.0, 10.0, 11.0	B 4.0, B 3.2, B 4.4, B 4.5
✓ **Lab: Organ Systems -** In partners or groups while using video demonstration, diagrams and visual aids, students will assemble models simulating organ systems and correctly identify and label all parts. **Assessment:** observation, written test, interactive notebook	1.0, 2.0, 4.3, 10.1, 11.1	B 2.0

✓ **Key Assignment: Disease -** In a group of 2 or independently, students will research a disease or disorder, create a prop (student choice to include PowerPoint, tri-fold board, poster), and present to class and/or community and district partners. **Assessment:** rubric, peer assessment, checklist of work/guidelines, self- assessment	1.0, 2.0, 4.2, 4.3, 9.7, 10.1,10.3, 10.4, 11.1	B 2.0, B 3.4
✓ **Lab: Growing Cells.** Students will perform culture techniques under extreme sterile (aseptic) conditions for a variety of different types of studies such as replication and transcription of DNA, protein synthesis, infection, drug action, membrane flux, cell-cell interaction, contact inhibition, and limitation of growth. Students engage in the scientific practices of designing and carrying out experiments and interpreting data. The goal is for students to understand the intricacy of bio-manufacturing pharmaceuticals in contrast to chemical manufacturing and conduct an inquiry investigation of the factors that affect cell growth and explain their results through a scientific journal-style report. **Assessment:** demonstration, teacher observation, pre- and post- lab assessment, written report	1.0, 2.0, 4.0, 5.0, 6.0, 7.0, 9.0, 10.0, 11.0	A 2.0, A 3.0, A 4.0
✓ **Lab: Blood Experiment.** Students will examine the cellular components of fresh blood utilizing microscopes and micropipettes, to understand the immune response. Students will create a colorful, informative display that illustrates the properties of blood cells and write a detailed report of each cellular components. The lab has three major parts: Preparation; Isolation; Microscopic Observation. **Assessment:** demonstration, teacher observation, pre and post lab assessment	1.0, 2.0, 4.0, 5.0, 6.0, 7.0, 9.0, 10.0, 11.0	A 3.0, A 4.0 8.0

Unit 6: Medical Terminology — 30 hours

This unit is designed to train students in basic knowledge of human body parts, their functions, and diseases through the utilization of Medical Terminology. This unit focuses on the many components of medical terminology and how to break down a medical term by simply knowing the meaning of the root, prefix and/or suffix. The main focus of the unit will be the development of a beginner's medical vocabulary consisting of pronunciation, spelling, and meaning of root words, word parts, prefixes and suffixes. Students will be presented with extensive vocabulary relating to the medical field. This vocabulary is essential to build a knowledge based necessary to communicate effectively with doctors, nurses and other medical and support staff.

- Medical Terms
- Latin roots
- Latin prefix
- Latin suffix

Standards Alignments:

CCSS: LS11-12.1, 11-12.2, 11-12.3, 11-12.4, 11-12.5, 11-12.6; **RLST** 11-12.1-9; **WHSST** 11-12.2
NGSS: PS 1.A, 1.B, 1.C

Key Assignments	CTE Anchor Standards	CTE Pathway Standards

✓ **Key Assignment: Jeopardy -** Learn the roots, suffixes and prefixes of the vocabulary used in medical offices, hospitals and other health settings. Students review the nervous, skeletal, cardiovascular, muscle and other major systems of the human body, and they discuss terms related to physiology, anatomy and pathological conditions using the context of the TV game show *Jeopardy*. Students will set up their own Jeopardy boards, or student can also design a PowerPoint presentation that functions in a similar manner and share it with the entire class. **Assessment:** word sort, oral questioning, pair share, test	1.0, 2.0, 4.0, 7.0, 9.0, 10.0, 11.0	B 1.0, B 2.0, B 4.0, B 5.0, B 6.0, B 7.0, B 10.0
✓ **Key Assignment: Virtual Scavenger Hunt -** Students will go on a virtual scavenger hunt to find pictures and definitions of the terms on their list, and then give a presentation about those terms in a medical dictation to the entire class. **Assessment:** Student conference, exit ticket, test	1.0, 2.0, 7.0, 9.0, 11.0	B 1.0, B 5.0, B 10.0, B 12.0, B 13.0

Unit 7: Pharmacology — 45 hours

Students will have the opportunity to learn basic pharmacologic principles and how a drug works in the different body systems. Students will learn about drug classifications, drug classes, names and strengths of drugs. Students will identify common medications used in the pharmacy, identity a pharmaceutical stock bottle drug label, interpret a prescription or medication order, analyze dosage forms and routes of administration. Identify the process of and elimination from the body. and Identify dosage forms:

- Drug absorption and elimination
- Solutions
- Suspensions
- Capsules
- Suppositories
- Drug sources
- Emulsions
- Drug classification
- Drug uses

Standards Alignments:

CCSS: LS 11-12.1, 11-12.6; **RLST** 11-12.4, 11-12.7; **WS** 11-12.6
NGSS: PS 1.B

Key Assignments	CTE Anchor Standards	CTE Pathway Standards
✓ **Key Assignment: Role Description** - Working in groups, students will discuss why a doctor would prescribe a medication for a given medical condition, the process the patient would follow to fill the order and how the medication would be administered. They will propose and defend their ideas to instructor and the class to be the source of a group discussion and feedback. **Assessment:** instructor observation and feedback, class discussion	5.0, 8.3, 8.7	B 1.2, B 3.1, B 3.2, B 5.0, B 6.0

✓ **Key Assignment: Disease Research:** Students will research the history of the prevention and treatment of disease as it applies to pharmacology. Students will contact the CA local substance abuse agency to determine what informational materials and flyers are available for students of pharmacy. Students will be required to also visit a local pharmacy, clinic or hospital to determine factors and information on the top 25 drugs that they distribute. **Assessment:** oral presentation rubric, peer review feedback, visual product	1.0, 2.0, 4.0, 5.0, 7.0, 8.0, 9.0, 10.0, 11.0	B 3.2, B 4.0, B 4.4, B 4.5
✓ **Key Assignment: Patient Scenario** - Students will be given a typical patient scenario: listing all factors for consideration. A pharmaceutical has been prescribed to the client; students will discuss the pharmacological effect on that particular client. Response will need to consider all the following: Assessment, diagnosis, planning, implementation and follow-up evaluation. The Right Drug; The Right Dose; The Right Patient; The Right Time; The Right Route; The Right Documentation; and the Patient's Right to Refuse. **Assessment:** oral presentation rubric, peer review feedback, visual product	1.0, 2.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0	B 1.0, B 2.0, B 4.0, B 10.0, B 12.0, B 13.0
✓ **Key Assignment: Before and After** - Working in collaborative pairs, students will research an athlete of their choice from a teacher provided list. They will identify the performance enhancing drug used, offer detailed description of the athlete's usage including metabolic and physiological effects, side effects and reasons the drug was used. Students will compare the athlete's career before and after the drug use and appraise how society views this athlete today and how their league is dealing with the use of this drug. Students will design a five minute oral presentation to include a PowerPoint, essay, video or poster to enhance their presentation. **Assessment:** oral presentation rubric, peer review feedback, visual product	4.1, 4.3, 9.3, 10.3	B 5.2, B 9.6

Unit 8: Pharmacy Law, Regulations and Standards — 20 hours

Students will be able to determine state and federal laws and agencies that regulate Pharmacy. Students will be able to differentiate current pharmacy legislation, identify the role of the California State Board of Pharmacy.

- Regulations
- Laws
- Protective Legislation
- Pharmacy code of ethics
- Ethical issues
- Problem solving
- Substance abuse
- Drug dependency

Standards Alignments:

CCSS: LS 11-12.1, 11-12.2, 11-12.3, 11-12.4, 11-12.5, 11-12.6
NGSS: LS 1.A, 1.B

Key Assignments	CTE Anchor	CTE Pathway

	Standards	Standards
✓ **Key Assignment: Early Laws** -Working in groups of 3 or 4, students will perform a live skit, show a pre-recorded video or song which will depict the cause for establishment of early laws and then summarize the law and its regulations. **Assessment**: rubric and observation	1.0, 2.0, 4.0, 5.0, 7.0, 9.0, 10.0, 11.0	B 1.0, B 2.0, B 4.0, B 5.0, B 6.10, B 7.0, B 8.0, B 10.0, B 11.0, B 12.0
✓ **Key Assignment: Schedule 1** - Students will create a rubric chart of commonly abused drugs and categorize them by route of administration, desired effect, withdrawal symptoms, and treatment for overdose. Individually, students will then research a Schedule 1 controlled substance of their choice and create a visual aid depicting all of the major components, chemical compound and other relevant information about chosen substance. They will present their visual creation to the class. **Assessment**: rubric, observation and peer feedback, information check	1.0, 2.0, 4.0, 5.0, 7.0, 9.0. 11.0	B 3.2, B 4.0, B 4.4, B 4.5
✓ **Key Assignment: Addiction -** Students will explore a real-life case of an individual with an addiction to a controlled substance and analyze and produce a case study to include a profile of the individual before, during and after the addiction. Case study must include documentation of the following and a presentation: ● Failure to fulfill major role or obligations at work, school or home ● Risky behavior ● Recurrent substance related problems and attempted rehabilitation ● Legal , financial and social interpersonal problems ● Individuals tolerance and withdrawal history **Assessment**: rubric, observation and peer feedback, review of case study, presentation	1.0, 2.0, 4.0, 5.0, 7.0, 8.0, 9.0, 10.0, 11.0	B 5.2, B 9.6

Unit 9: Drug and Supplement Development — 30 hours

This unit will cover the differences between FDA-approved drugs, herbal remedies and dietary supplements.

- What is a drug?
- Drug classifications
- Drug discoveries
- Prescription drug approval process
- Non-Prescription drug approval process
- Over the Counter (OTC) medication
- Development of new drugs
- National Drug Code Number
- Homeopathic medicine

Standards Alignments:

CCSS: LS 11-12.1, 11-12.2, 11-12.3, 11-12.4, 11-12.5, 11-12.6
NGSS: LS 1.A, 1.B; **PS** 1.A, 1.B

Key Assignments	CTE Anchor Standards	CTE Pathway Standards
✓ **Key Assignment: Research and Development Part 1 -** Students will work individually to virtually create a new drug specifically designed to cure a medical condition of their choice. They will research the medical condition and the current drugs prescribed at this time. They will produce the marketing campaign which will include the product name, illustration of the drug, drug manufacturing company name, drug indications, side effects and precautions. Using this information, they will create a pamphlet or brochure to inform the public of the new drug development. **Assessment:** writing checkpoints, checklist, teacher feedback, class discussion, peer feedback, accuracy check by instructor	4.1, 4.3, 10.3	B 5.2, B 9.2
✓ **Key Assignment: Research and Development Part 2 -** Students will work in teams to select/vote on one of their new drugs developed from their classmates from *Research and Development Part 1* to continue further development as a team. Students will view a variety of current infomercials for similar drugs and create a checklist for necessary content They will then produce and film a video infomercial for their chosen drug to inform the public of the new drug development and its details. **Assessment:** writing checkpoints, checklist, teacher feedback, class discussion, peer feedback, accuracy check by instructor, public feedback	4.1, 4.3, 10.3	B 5.2, B 9.2

✓ **Key Assignment: We Use That!** - Individually, students will choose a natural/homeopathic remedy from their culture or a culture of their choice and bring the physical remedy into class to explain and demonstrate how the remedy is used by that culture. Students will produce a diagram/visual aid with all pertinent information regarding the homeopathic remedy previously researched. Information may include, but not limited to: cultural indications, historical background, physical attributes. Assessment: observation, self-reflection and peer feedback	1.0, 2.0, 5.0, 7.0, 9.0. 11.0	B 1.0, B 2.0, B 4.0, B 5.0, B 6.10, B 7.0, B 8.0, B 10.0, B 11.0, B 12.0

Unit 10: Sterile and Non-Sterile Compounding — 27 hours

Students will utilize a variety of techniques in the classroom lab to perform sterile and non-sterile compounding. This unit will introduce students to the important components of infection control and medical asepsis. Working to reduce the spread of microorganisms in the clinic setting is an important task in any setting. Students will be introduced to standard precautions that can be implemented in the classroom and workplace. Topics will include:

- Manufactured drug product
- Non-sterile preparation
- Sterile compounding
- Role and training requirements
- Standard Compounding Practices
- Needlestick safety and prevention
- Microorganism and Infection process cycle
- OSHA regulations
- Application and removal of sterile disposable gloves
- Compounding equipment and technique
- Preparation techniques
- Guidelines for use of Personal Protective Equipment (PPE)
- Hand washing and application of Alcohol-Based Hand Rub

Standards Alignments:

CCSS: LS 11-12.1, 11-12.6; **RSIT:** 11-12.10; **RLST** 11-12.4, 11-12.7; **WS** 11-12.6
NGSS: PS 1.B

Key Assignments	CTE Anchor Standards	CTE Pathway Standards
✓ **Key Assignment: Infection Cycle** - the class is divided into several groups. Each group create a poster that describes and illustrates the infection process cycle. Students graphically identify where in the cycle the process can be stopped and by what means. Each group will present the posters to the whole class and will be hung in classroom for gallery walk. **Assessment:** think- write, pair-share, rubric, demonstration	1.0, 2.0, 4.0, 5.0, 7.0, 9.0. 11.0	B 10.1, B 10.2, B 10.3, B 10.4, B 10.5, B 10.6

✓ **Lab: What is Clean?** - Students will individually perform antiseptic hand washing, demonstrate proper donning and removal of Personal Protective Equipment to a peer for feedback and then to instructor for quality check. **Assessment:** self reflection, quality check, teacher observation, peer assessment	6.0, 6.3, 6.5, 6.8,	B 10.4, B 10.5
✓ **Lab: Bacteria** - Students will sample various objects (fomites) for the presence of bacteria by growing bacteria on agar in petri dishes. They will analyze their results by comparing the number and different types of bacterial colonies that grew. Students will also study different bacteria such as staphylococcus, E. coli, and other specimens available in the laboratory. This lab will serve as the foundation for students to further explore how bacteria infect human cells to cause disease. Students will create a visual presentation illustrating what they learned about bacteria (how bacteria move, where they live, how they produce, and how bacteria can be 1.0, 2.0, 4.0, 5.0, 7.0, 9.0. 11.0helpful or harmful). **Assessment:** peer/self assessment, student mind map, end of unit assessment	1.0, 2.0, 4.0, 5.0, 6.0, 7.0, 9.0, 10.0, 11.0	A 3.0, A 4.0, A 8.0

Unit 11: Routes of Administration and Dosage Formulations — 30 hours

Students will learn about the various dosage forms, routes of administration and drug delivery systems. Students will examine the advantages and disadvantages of the various routes of drug administration. Demonstrations and correct techniques for administration of topicals, injections, eye and ear drops will be conducted by students. Topics will include:

- Oral
- Transmucosal
- Topical transdermal
- Rectal and vaginal
- Dermal
- Transdermal
- Topical Transdermal
- Parenteral Injections
- Inhalation device
- Diabetic testing supplies
- Buccal
- Intrauterine devices
- Liquid and Enteral
- Otic
- Ophthalmic
- Nasal
- Sublingual
- Ampules

Standards Alignments:

CCSS: LS 11-12.1, 11-12.6; **RSIT:** 11-12.10; **RLST** 11-12.4, 11-12.7; **WS** 11-12.6
NGSS: PS 1.B

Key Assignments	CTE Anchor Standards	CTE Pathway Standards

✓ **Lab: Counting Pills** - Using a pill counting tray and spatula, students will count tablets by 5 filling a variety prescriptions with different quantities and subsequently returning the leftover medication to its original stock bottle while placing the medication to be dispensed to patient in a proper sized vial. Students will work in teams to check each other's' work and offer feedback and suggestions for corrective action when errors are found. **Assessment:** accuracy check, peer check, instructor check, demonstration	6.0, 6.0, 8.3, 10.1	A 1.0, A 2.0, A 3.0, A 5.0, A 6.0, A 7.0, D 6.0, D 9.0
✓ **Key Assignment: What to do?** - Following all safety protocol and proper procedure, the students will role-play a scenario in which one person in the team gets a needlestick. As a group, they will discuss and document immediate steps to take and the role of post-exposure prophylaxis. They will submit their documentation to instructor for assessment. **Assessment:** Teacher's observation, oral questioning, peer assessment	6.0, 6.0, 7.7, 8.3, 10.1	B 10.1, B 10.2, B 10.3, B 10.4, B 10.5, B 10.6
✓ **Lab: Syringe** -Students will correctly label a diagram of a syringe identifying the syringe component parts: syringe tip (luer-lock), barrel, measurement point, calibration marks, piston plunger, plunger, flat knob and the needle components: plastic needle hub, lumen, shaft, heel, bevel and tip. Instructor will give a live demonstration of syringe assembly and identification of all components. Students will work in pairs to assemble and disassemble multiple syringes and check each other's' work for error. **Assessment:** accuracy check, peer check, instructor check**,** demonstration, syringe check for accuracy	6.0, 7.7, 8.3, 10.1	B 2.1, B 2.2, B 2.4
✓ **Lab: Injections** - After instruction and demonstration on proper injection technique for parenteral dosage forms for subcutaneous, intramuscular, intravenous and intradermal injections, students will individually demonstrate to class and instructor proper technique for all 4 forms using a syringe and variety of non-living objects that stimulate skin tissue. Students must consider and demonstrate proper choice of needle gauge and needle angle for a variety of scenarios. Class and instructor will provide feedback on technique. **Assessment:** accuracy check, peer check, instructor check**,** demonstration, syringe check for accuracy	6.0, 6.0, 7.7, 8.3, 10.1	A 8.0, A 8.1, A 8.2, A 8.4, A 8.5, A 8.6, B 3.1, B 3.2
✓ **Lab: Otic and Ophthalmic Administration** - After instruction and demonstration on proper administration of ophthalmic drops and/or ointment and technique used to pull down the conjunctival sac, students will practice proper PPE usage and technique on each other taking turns being patient and deliverer. Students will use skills taught in Unit 10 to reconstitute powdered medication into a liquid suspension to measure for mock administration. Instructor will observe technique with each group and offer feedback if corrective action is necessary.	6.0, 7.7, 8.3, 10.1	A 8.0, A 8.1, A 8.2, A 8.4, A 8.5, A 8.6

Assessment: accuracy check, peer check, instructor check**,** demonstration, syringe check for accuracy, reconstitution check for accuracy		
✓ **Ongoing Compounding Labs:** Ongoing throughout the year, students will work in lab teams to prepare various medication formulations including: capsules, suppositories, ointments, creams, gels and paste. Students will be provided with the compound prescription ingredients and amounts of each component. They will measure and formulate the prescription. Teams will develop a system for quality check and present their system to instructor and quality check and record their findings in their lab notebook. **Assessment:** notebook check, peer feedback, peer observation, instructor observation, formula check, self evaluation	6.0, 7.7, 8.3, 10.1	A 8.0, A 8.1, A 8.2, A 8.4, A 8.5, A 8.6

Unit 12: Community Pharmacy Practice — 45 hours

Ideally, the community pharmacy is and has been a place where local citizens come in and get their prescriptions filled by people they know and trust. This unit covers the critical role of the technician within the community pharmacy practice. Topics will include:

- Components of a prescription
- Types of prescriptions (electronic, written, facsimile, verbal)
- Prescription dispensing
- Billing adjudication
- Pharmacy reimbursement
- Pharmacy Benefits Manager (PBM) databases
- Pharmacy software
- Purchasing
- Inventory control of medications, equipment, and devices
- Components of a drug stock label
- Medication Therapy Management (MTM)
- Medication container label components
- Drug Utilization Review (DUR)
- Patient profile
- Prescription processing
- Dispensing duties
- Retail pharmacy facilities
- Automated filling technology
- Prepackaged drugs

Standards Alignments:

CCSS: LS 11-12.1, 11-12.6; **RSIT** 11-12.10; **RLST** 11-12.4, 11-12.7; **WS** 11-12.6
NGSS: SEP 1, 2, 3, 4, 5, 6, 7, 8; **PS** 1.B

Key Assignments	CTE Anchor Standards	CTE Pathway Standards
✓ **Key Assignment: Accuracy is a Must!** - Students will correctly transcribe and prepare a minimum of 5 prescriptions with 100% accuracy; students will then document the use of the drug, common side effects or warnings, and any other pertinent information. The prescriptions will incorporate the use of translating abbreviations, dosage calculations, and drug knowledge.	5.0, 6.0, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 7.0, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8	B 3.0, B 4.0, B 5.0, B 6.0, B 10.0, B 12.3, B 12.4

Assessment: teacher observation, accuracy check		
✓ **Key Assignment:** Throughout this unit that is comprised of 18 different labs, students will use a pharmacy software program simulation program which will simulate working in a pharmacy using a retail pharmacy software database to process prescriptions, adjudicate 3rd party claims, maintain patient profiles and troubleshoot prescription issues. **Assessment:** teacher observation, accuracy check, quiz, self reflection	4.0, 5.0, 7.0	A 1.0, A 7.0, A 8.0, A 9.0
✓ **Key Assignment:** Students will construct a healthcare delivery system model with a organizational chart diagramming the interdependence of healthcare professions within each system and a brief written description of each. Students will be expected to utilize color to differentiate between institutions. Students will present their chart to the class and instructor then describe their organizational system and color coding. **Assessment:** rubric, teacher and peer feedback, written documentation	1.0, 2.0, 4.0, 5.0, 7.0, 9.0. 11.0	E 1.0, E 1.2, E 1.2
✓ **Key Assignment: We're in the Pharmacy Now!** - Students will work in collaborative teams to take on the roles of patient, pharmacy technician, pharmacist and medical office personnel and simulate a day at work in a retail pharmacy within the classroom mock retail setting. In preparation for the role playing, each of teams will research each position and define their job duties. Students will ad lib a scenario chosen at random in front of the class and instructor for suggestions and feedback. They will each rotate between all roles and perform multiple scenarios. **Assessment:** teacher and peer feedback, written documentation, observation and demonstration	2.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0	B 10.1, B 10.2, B 10.3, B 10.4, B 10.5, B 10.6

Unit 13: Institutional Pharmacy Practice — 30 hours

Students with explore the similarities and differences between the community pharmacy practice and the institutional or hospital practice which has different organizational structures and medication filling/distribution systems.

- Hospital functions
- Hospital organizational framework
- Academic university hospital
- Veterans' hospital
- Rural hospital
- Pharmacy & Therapeutics Committee (P&T)
- Hospital pharmacy department
- Hospital management software
- Electronic health records
- Medications orders
- Dispensing systems
- Unit dose and crash carts
- Specialty cleanroom services
- Proper dispensing procedures

Standards Alignments:

CCSS: LS 11-12.1, 11-12.6; **RSIT:** 11-12.10; **RLST** 11-12.4, 11-12.7; **WS** 11-12.6

NGSS: PS 1.B, **CC** 4		
Key Assignments	**CTE Anchor Standards**	**CTE Pathway Standards**
✓ **Lab: Medical Cart** - Using a cart fill form, individually students will demonstrate their competency to quickly and accurately fill a 24 hour cart (cart fill) and discuss and describe each of the of the procedures to the teacher and class. **Assessment:** accuracy check, instructor check**,** demonstration and explanation, form completion	6.0, 6.0, 8.3, 10.1	B 12.4
✓ **Lab: Floor Stock** - Using a Floor Stock Request Form (FSRF), students will work in pairs to demonstrate and discuss the rationale and procedures for filling and checking floor stock (narcotic and non-narcotic) in the classroom mock hospital pharmacy. Students will exhibit in their demonstration familiarity with key terms used for filling and checking floor stock. Key terms include, but are not limited to Unit, Fill #, Par Level, etc. **Assessment:** accuracy check, instructor check**,** demonstration and explanation, form completion	6.0, 6.0, 8.3, 10.1	B 10.0
✓ **Key Assignment: Emergency Crash Scene -** Working collaboratively, each group will brainstorm a mock emergency scenario in the hospital involving a crash cart. Students will write a skit showing how it should be handled and what medications will be used in the emergency crash cart. Each group will perform their skit for their peers. The classroom audience will then provide feedback, praise and suggestions on how to better handle the situation. **Assessment:** perform theatrical skits, teacher observation, role play	10.5	B 6.0, B 7.2, B 7.3
✓ **Lab:Charging and Refilling Crash Cart** -Working in pairs, students will take turns identifying, discussing and demonstrating the rationale and protocol for preparing and refilling on a Crash Cart after use. Students will also complete a Charge Form for items used by the patient **Assessment:** accuracy check, peer check, instructor check**,** demonstration and explanation	6.0, 6.0, 8.3, 10.1	B 6.0, B 7.2, B 7.3
✓ **Lab: Preparing Oral Syringes:** Individually, students will demonstrate competence in the dose calculation and preparation of oral syringes in a variety of quantities. In front of the teacher and class, students will discuss and subsequently demonstrate this process and rationale for each preparation. **Assessment:** accuracy check, peer check, instructor check**,** demonstration and explanation	6.0, 6.0, 8.3, 10.1	B 3.0, B 4.0, B 5.0, B 6.0, B 10.0, B 12.3, B 12.4

Unit 14: Health Care Provider CPR — 15 hours

After completion of this unit, students will be certified in Basic and Healthcare Provider CPR.

- Resuscitation efforts
- AED Automatic External Defibrillator
- Choking Relief
- American Heart Association Exam Prep
- Terminology/Acronyms

Standards Alignments:

CCSS: RLST 11-12.3; **AD** 12.7
NGSS: LS 1.A, 2.D

Key Assignments	Anchor Standards	Pathway Standards
✓ **Certification:** Students will participate in the instructor led course for the American Heart Association Basic Life Supports which trains participants to promptly recognize several life-threatening emergencies, give high-quality chest compressions, deliver appropriate ventilations and provide early use of an AED. Upon successful completion of this course, students will receive certification. **Assessment:** written exam at 84% or better, skills testing	10.0, 11.0	B 12.4
✓ **Key Assignments:** Working collaboratively, each group will brainstorm a mock emergency scenario involving a medical assistant and write a skit showing how it should be handled. Each group will perform their skit for their peers. The classroom audience will then provide feedback, praise and suggestions on how to better handle the situation **Assessment:** perform theatrical skits, teacher observation, role play	5.0, 6.0, 8.0, 9.0	B 9.1, B 9.3, B 9.6

Career Readiness & Professionalism (Ongoing) — 15 hours

Students will develop personal and professional skills in the classroom that will transfer to the workplace.

- Time management and organization
- Interpersonal skills
- Technology
- Creative thinking
- Problem solving
- Resume
- Job applications
- Effective interview skills
- Pharmaceutical Career Research
- Educational requirements
- Credentialing information
- The Pharmacist: roles and responsibilities
- The Pharmacy Technician: roles and responsibilities

Standards Alignments:
CCSS: LS: 11-12.1; **RSIT** 11-12.1, 11-12.2, 11-12.7, 11-12.10; **RLST** 11-12.7, 11-12.8, 11-12.9; **WS** 11-12.2, 11-12.6, 11-12.8; **WHSST** 11-12.5, 11-12.8, 11-12.9

Key Assignments	CTE Anchor Standards	CTE Pathway Standards
✓ **Key Assignment: Interview Me! -** Students will participate in mock interviews with peers and instructors to increase their communication, interpersonal and employability skill-set. **Assessment:** rubric, observation of role playing, peer and self- assessment	1.0, 2.0, 3.0, 4.1, 4.2, 5.1, 5.2, 5.6, 6.0, 7.4, 7.7, 8.4, 8.5, 8.7, 9.6, 10.1, 10.2, 10.4	B 1.0, B 2.0, B 3.0, B 5.0, B 9.0, B 11.0, B 12.0, B 13.0
✓ **Key Assignment: Portfolio -** Students will prepare a portfolio including a cover letter and resume through workshop, self and peer editing, and teacher instruction and demonstration. **Assessment:** rubric, observation, peer and self- assessment	1.0, 2.0, 3.0, 4.1, 4.2, 5.1, 5.2, 5.6, 6.0, 7.4, 7.7, 8.4,8.5,8.7, 9.6, 10.1, 10.2,10.4, 11.5	B 1.0, B 2.0, B 4.0, B 7.0, B 9.0, B 10.0, B 12.0
✓ **Key Assignment: Interactive Notebook -** Students will create and organize a classroom binder and interactive notebook to take with them to their externships including all vital information necessary for optimal job performance. **Assessment:** rubric, grading form sheet, interactive notebook, student documentation	1.0, 2.1, 3.3, 4.6, 5.5, 6.0, 7.2, 8.1, 9.1, 9.6, 10.1, 10.2,10.4, 11.5	B 1.0, B 2.0, B 4.0, B 7.0, B 9.0, B 10.0, B 12.0

Internship — 120 hours

The internship is an off-campus, experiential-learning component for the Pharmacy Technician program. The student will be supervised and evaluated by a licensed pharmacist and are are designed to be completed in a retail pharmacy setting. As an intern, the student will apply and enhance the knowledge and skills learned in the program. This internship requires 120 hours of on-site training. During an internship, students will have the opportunity to participate in multiple projects, and interact with a variety of co-workers in the pharmacy. Requirements must be met and permission must be granted by the instructor prior to internship only students who have grade of a 'B' or better may participate.

Standards Alignments:
CCSS: LS 11-12.1, 11-12.2, 11-12.3, 11-12.4, 11-12.5; **RSIT** 11-12.1, 11-12.2,11-12.7, 11-12.10; **RLST** 11-12.7, 11-12.8, 11-12.9, **WS** 11-12.2, 11-12.6, 11-12.8; **WHSST** 11-12.5, 11-12.8, 11-12.9

Key Assignments	CTE Anchor Standards	CTE Pathway Standards

✓ **Key Assignment:** Under the supervision of their SVCTE instructor, students will be placed in a community pharmacy setting and assist the pharmacist while gaining real-world and hands-on experience in the community pharmacy field. This internship will last for 120 hours. **Assessment:** weekly time card, work supervisor comments, visitation by the teacher, mid evaluation and final evaluation.	1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0	B 12.0, B 13.0

Instructional Materials

Textbooks:	**Electronic Media/Supplemental Print Materials/Online Resources:**
Drug Facts and Comparisons 2015 Facts & Comparisons Publisher © 2015 ISBN-13: 978-1574393606 **Reference Books:** ***Pharmacy Practice for Technicians 6th Edition*** Ballington & Anderson - Paradigm Educational Solutions © 2017 ISBN-978-0-76386-795-9 ***Pharmacy for Technicians 6th Edition*** Ballington, Laughlin, McKennon- Paradigm Educational Solutions © 2017 ISBN-978-0-76386-776-8 ***Pharmacy Labs for Technicians 2nd Edition*** Sparks & McCartney - EMC Publishing © 2013 ISBN-978-0-76385-239-9	• Center for Disease Control and Prevention: www.cdc.gov • Department of Health: http://www.doh.gov.ph/ • Department of Health: http://www.health.ri.gov • Medication Reference: www.drugs.com • Supplemental Pharmacy Publications: www.powerpak.com • Supplemental Pharmacy Publications: www.USpharmacist.com • Pharmacy Reference: www.online.factsandcomparisons.com • CPR/First Aid: www.heart.org/cprinschools • CPR/First Aid: www.heart.org/cprinschools • CPR/First Aid: www.heart.org/cprfaqs

Standards Assessed in this Course

CTE Anchor Standards:

1.0 Academics: Academics standards are aligned to pathways; see below.

2.0 Communications: Acquire and use accurately sector terminology and protocols at the career and college readiness level for communicating effectively in oral, written, and multimedia formats.

3.0 Career Planning and Management: Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans.

4.0	Technology: Use existing and emerging technology, to investigate, research, and produce products and services, including new information, as required in the sector workplace environment.
5.0	Problem Solving and Critical Thinking: Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques.
6.0	Health and Safety: Demonstrate health and safety procedures, regulations, and personal health practices and determine the meaning of symbols, key terms, and domain-specific words and phrases as related to the sector workplace environment.
7.0	Responsibility and Flexibility: Initiate, and participate in, a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the sector workplace environment and community settings.
8.0	Ethics and Legal Responsibilities: Practice professional, ethical, and legal behavior, responding thoughtfully to diverse perspectives and resolving contradictions when possible, consistent with applicable laws, regulations, and organizational norms.
9.0	Leadership and Teamwork: Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution.
10.0	Technical Knowledge and Skills: Apply essential technical knowledge and skills common to all pathways in the sector following procedures when carrying out experiments or performing technical tasks.

Health Science and Medical Technology Sector — Patient Care Pathway Standards:

B1.0	**Recognize the integrated systems approach to health care delivery services: prevention, diagnosis, pathology, and treatment**
B1.1	Know relationship and use of an integrated healthcare delivery system.
B1.2	Understand the range between prevention, diagnosis, pathology, and treatment procedures.
B1.3	Understand the significance of nontraditional approaches to health care in relationship to delivery systems.
B1.4	Illustrate the value of preventive and early intervention in relationship to health care practices.
B1.5	Describe the importance of reimbursement systems in relationship to the delivery of patient care.
B2.0	**Understand the basic structure and function of the human body and relate normal function to common disorders.**
B2.1	Know basic human body structure and function in relationship to specific care between prevention, diagnosis, pathology, and treatment.
B2.2	Describe basic stages of growth and development.
B2.3	Recognize common disease and disorders of the human body.
B2.4	Compare normal function of the human body to the diagnosis and treatment of disease and disorders.
B3.0	**Know how to apply mathematical computations used in health care delivery system.**
B3.1	Apply mathematical computations related to health care procedures (metric and household, conversions and measurements).
B3.2	Analyze diagrams, charts, graphs, and tables to interpret health care results.
B3.3	Record time using the 24-hour clock.
B4.0	**Recognize and practice components of an intake assessment relevant to patient care.**
B4.1	Conduct basic interview to acquire new knowledge (e.g., medical and family histories).
B4.2	Identify and summarize major life events as they impact health care practices and patient outcomes.

B4.3	Observe patient actions, interests, and behaviors while documenting responses.
B4.4	Collect and synthesize information or data about the patient's symptoms and vital signs.
B4.5	Evaluate information gathered and connect patient data to appropriate system of care.
B5.0	**Know the definition, spelling, pronunciation, and use of appropriate terminology in the healthcare setting.**
B5.1	Use medical terminology in patient care appropriate to communicate information and observations.
B5.2	Accurately spell and define occupationally specific terms related to health care.
B5.3	Use roots, prefixes, and suffixes to communicate information.
B5.4	Use medical abbreviations to communicate information.
B5.5	Know the basic structure of medical terms.
B5.6	Demonstrate the correct pronunciation of medical terms.
B5.7	Practice word building medical terminology skills.
B6.0	**Communicate procedures and goals to patients using various communication strategies to respond to questions and concerns.**
B6.1	Observe and document the ability of patients to comprehend and understand procedures and determine how to adjust communication techniques.
B6.2	Use active listening skills (e.g., reflection, restatement, and clarification) and communication techniques to gather information from the patient.
B6.3	Formulate appropriate responses to address the patient concerns and questions in a positive manner.
B6.4	Employ sensitivity and withhold bias when communicating with patients.
B6.5	Report patient's progress and response to treatment goals.
B6.6	Maintain written guidelines of the Health Insurance Portability and Accountability Act (HIPAA) in all communications.
B7.0	**Apply observation techniques to detect changes in the health status of patients.**
B7.1	Demonstrate observation techniques.
B7.2	Differentiate between normal and abnormal patient health status.
B7.3	Document the patient findings and report information appropriately.
B7.4	Plan basic care procedures within the scope of practice to assist with patient comfort.
B8.0	**Demonstrate the principles of body mechanics as they apply to the positioning, transferring, and transporting of patients.**
B8.1	Explain the principles of body mechanics.
B8.2	Determine appropriate equipment for transportation and transfer, including the modification of equipment and techniques to accommodate the health status of the patient.
B8.3	Demonstrate appropriate transport and transfer methods to accommodate the health status of the patient.
B8.4	Evaluate equipment for possible hazards.
B8.5	Integrate proper body mechanics, ergonomics, safety equipment, and techniques to prevent personal injury to patients and clients.
B9.0	**Implement wellness strategies for the prevention of injury and disease.**
B9.1	Know and implement practices to prevent injury and protect health for self and others.

B9.2 Determine effective health and wellness routines for health care workers (i.e., stress management, hygiene, diet, rest, and drug use).
B9.3 Identify practices to prevent injuries and protect health, for self and others (i.e., seatbelts, helmets, and body mechanics).
B9.4 Know how to access available wellness services (i.e., screening, exams, and immunizations).
B9.5 Identify alternative/complementary health practices as used for injury and disease prevention.
B9.6 Explore consequences of not utilizing available wellness services and behaviors that prevent injury and illness.

B10.0 Comply with protocols and preventative health practices necessary to maintain a safe and healthy environment for patients, health care workers, co-workers, and self within the healthcare setting.

B10.1 Describe the infection control cycle with consideration of the various types of microorganisms.
B10.2 Demonstrate use of facility policies and procedures of infection control while performing patient care.
B10.3 Evaluate potential causes and methods of transmitting infections and how to apply standard precautionary guidelines.
B10.4 Demonstrate the use of appropriate personal protective equipment (PPE).
B10.5 Practice proper hand hygiene.
B10.6 Use various manual and mechanical decontamination and sterilization techniques and procedures.
B10.7 Document and analyze sanitation and infection control procedures.

B11.0 Comply with hazardous waste disposal policies and procedures, including documentation, to ensure that regulated waste is handled, packaged, stored, and disposed of in accordance with federal, state, and local regulations.

B11.1 Describe basic emergency procedures used to respond to a hazardous spill.
B11.2 Explain how waste is handled, packaged, stored, and disposed of in accordance with federal, state, and local regulations including hazardous chemicals, biohazards, and radioactive materials.
B11.3 Adhere to the health care setting's waste management program (e.g., recycling and reduction of regulated medical, solid, hazardous, chemical, and radioactive waste materials).
B11.4 Apply protective practices and procedure for airborne and blood-borne pathogens for equipment and facilities and identify unsafe conditions for corrective action.

B12.0 Adhere to the roles and responsibilities, within the scope of practice, that contribute to the design and implementation of treatment planning.

B12.1 Understand scope of practice and related skills within prevention, diagnosis, pathology, and treatment occupations.
B12.2 Describe the various roles and responsibilities of health care workers as team members in an integrated health care delivery system
B12.3 Demonstrate the knowledge and delivery of specific skills and procedures as outlined within the scope of practice appropriate for patient care in prevention, diagnosis, pathology, and treatment.
B12.4 Follow appropriate guidelines for implementation of various procedures.

B13.0 Research factors that define cultural differences between and among different ethnic, racial, and cultural groups and special populations.

B13.1 Utilize culturally appropriate community resources.
B13.2 Recognize complementary and alternative medicine as practiced within various cultures.

B13.3	Develop ethnographic skills, by location and information retrieval, carefully observe social behavior, and manage stress and time.
B13.4	Ask questions and explore aspects of global significance.
B13.5	Analyze data using relevant concepts.
B13.6	Know when and how to incorporate trained interpreters to facilitate communication and improve patient outcomes.
A.	**Biotechnology Pathway Standards:**
	The standards for the applications of the Biotechnology pathway relate to occupations and functions relevant for understanding and solving biomedical problems and creating products to improve the quality of human life. The standards represent knowledge and skills necessary to succeed in diverse careers in this pathway.
A 3.0	**Demonstrate competencies in the fundamentals of molecular cell biology, including deoxyribonucleic acid (DNA) and proteins and standard techniques for their purification and manipulation.**
A 3.1	Define and describe the structure and function of DNA ribonucleic acid (RNA) and proteins, explain the consequences of DNA mutations on proteins.
A 3.2	Describe enzyme structure and function, diagram the impact of enzymes and catalysis on reaction rates, and recognize the emerging role of enzymes in replacing industrial chemicals.
A 3.3	Employ standard techniques of DNA extraction, purification, restriction digests, bacterial cell culture, and agarose gel electrophoresis and document and evaluate results.
A 3.4	Employ standard protein techniques, including antibody production, enzyme assays, spectrophotometry, gel electrophoresis, and chromatography and document and evaluate results.
A 3.5	Predict outcomes of DNA and protein separation protocols.
A 4.0	**Recognize basic concepts in cell biology and become familiar with the laboratory tools used for their analysis.**
A 4.1	List and describe the structure and function of cellular organelle.
A 4.2	Describe conditions that promote cell growth under aseptic conditions in the laboratory and workplace. A4.3 Use various methods to monitor the growth of cell cultures.
A 4.4	Explain the basic concepts of cell growth and reproduction, DNA replication, mitosis, meiosis, and protein synthesis.
A 4.5	Discuss the structure and function of the macromolecules that compose cells, including carbohydrates, lipids, DNA, RNA, and protein molecules.
A 4.6	Distinguish between prokaryotic cells, eukaryotic cells, and viruses.
A 4.7	Conduct indicator tests for the common macromolecules of the cell.
A 8.0	**Follow sustainable and safe practices with high regard for quality control.**
A 8.1	Follow written protocols and oral directions to perform a variety of laboratory and technical tasks.
A 8.2	Recognize laboratory safety hazards using safe practices to avoid accidents.
A 8.3	Locate and use Material Safety Data Sheets (MSDS).
A 8.4	Outline the appropriate responses to a laboratory accident including identification of location and use of emergency equipment.

A 8.5	Practice laboratory and personal safety including the location and use of emergency equipment (personal protective equipment, no food or drink, no open-toe shoes).
A 8.6	Properly and safely use and monitor a variety of scientific equipment, including pH meters, microscopes, spectrophotometers, pipets, micropipets, and balances.
A 8.7	Determine which equipment is appropriate to use for a given task and the units of measurement used. A8.8 Perform specimen collection, label samples, and prepare samples for testing. A8.9 Handle, transport, and store samples safely.

Public and Community Health Pathway Standards:

The standards for the Public and Community Health pathway apply to occupations or functions involved primarily in environmental health, community health and health education, epidemiology, disaster management, and geriatrics. The standards specify the knowledge and skills needed by professionals pursuing careers in this pathway.

E 1.0	**Understand the context and scope of public health on improving health and quality of life in personal, community, and the global population.**
E 1.3	Identify the roles and responsibilities of public health in addressing populations, health disparity, and disaster prevention and management.
E 1.4	Explain how public health can utilize health information and health communications to improve the health of populations.
E 1.5	Explain how public health can utilize social and behavioral interventions to improve the health of populations.
E 1.6	Explain how public health can utilize health policy and law to improve the health of populations.
E 1.7	Explain how public health assesses the options for intervention to improve the health of a population.
E 1.8	Explain the impact of the environment and communicable diseases on the health of populations.
E 1.9	Compare the scope of current public health policies with past practices.
E 1.10	Defend health decisions, individual rights, and social responsibilities.
E 2.0	**Design, promote, and implement community health programs which result in health-positive behaviors among all individuals, families, groups in a community, and the global environment.**
E 2.1	Know public policies that have an impact on people's health.
E 2.2	Identify and document factors influencing people's health status through a strong grounding in social and behavioral theory.
E 2.3	Understand various strategies to improve the health status of individuals and the community.
E 2.4	Understand the many health disparities barriers to access among underserved communities.
E 2.5	Develop specific competencies for work in underserved and/or linguistically isolated communities.
E 2.6	Demonstrate competency in working with diverse cultures and communities.
E 2.7	Demonstrate ways in which enhancing and maintaining personal health and well-being are established.
E 2.8	Explain fiscal and organizational resources to ensure optimal health programs and service delivery in communities.
E 2.9	Expand health knowledge to provide information and referrals and advocacy on a range of health topics more effectively.
E 2.10	Conduct outreach and health education at community sites with various cultural groups.
E 2.11	Evaluate the process and outcome of community-based health education programs.
E 2.12	Research the social, cultural, and behavioral factors influencing health outcomes.

E 3.0	**Examine gerontology and its social implications using a lifespan perspective that focuses on older adults' needs/concerns along life's continuum in various environments.**
E 3.1	Understand how the demographics of the older population affect various aspects of our society.
E 3.2	Recognize the contributions that aging persons make to their communities.
E 3.3	Define the life course perspective and describe how age, gender, race, and ethnicity influence the life course.
E 3.4	Identify a range of available services for elders in most communities.
E 3.5	Understand health disparities among older adults and their impact on society.
E 3.6	Understand the role of service providers and the use of community recreation and health services in their involvement with older persons.
E 3.7	Understand common threats to loss of independence: falls, medication management, and lifestyle.
E 3.8	Advocate for technology to enhance older adults' function, independence, and safety.
E 3.9	Assess how policies, regulations, and programs differentially impact older adults and their caregivers, particularly among historically disadvantaged populations.
E 3.10	Differentiate between normal changes in functioning due to aging and pathological changes leading to disease.
E 3.11	Analyze the impact of an aging society on the nation's health care system.
E 4.0	**Promote the protection, sustainability, and enhancement of the overall environmental quality of life.**
E 4.1	Identify the various environmental factors that affect a community's health and safety such as water quality, air quality, food supply, industrial hygiene, and solid and hazardous waste disposal.
E 4.2	Identify human health hazards that may cause sickness or impaired health/well-being.
E 4.3	Identify the carriers or vectors that promote the transfer of these agents from the environment to the human.
E 4.4	Interpret the principles of environmental health practices.
E 4.5	Summarize health conditions that are caused or aggravated by environmental conditions.
E 4.6	Discuss emerging global environmental health problems.
E 4.7	Analyze current legislation and regulation regarding environmental issues.
E 4.8	Explore approaches to control major environmental health problems.
E 5.0	**Predict and evaluate rates, risk factors, and health status indicators of morbidity and mortality, disease determinants, and causation.**
E 5.2	Describe the basic epidemiological concepts of rates, causation, and public health surveillance.
E 5.3	Generate hypotheses of patterns of disease and injuries regarding person, place, and time.
E 5.4	Research data regarding disease or injuries, including rates, risk factors, disease determinants, and causation of morbidity and mortality.
E 5.5	Explore the effects of disease, injury, and violence on longevity and quality of life.
E 5.6	Evaluate methods to prevent, detect, cure, and minimize disease, injury, and violence in the population.
E 6.0	**Integrate knowledge and skills necessary as a member of a Community Emergency Response Team (CERT) to demonstrate the response required to meet your community's immediate needs in emergencies or disasters.**
E 6.1	Describe the roles and responsibilities of a member of a Community Emergency Response Team (CERT) in immediate response.
E 6.2	Describe potential hazards and their effect on the community.

E 6.3 Describe prevention strategies in homes, workplaces, and communities.
E 6.4 Identify planning and size-up requirements for potential search and rescue situations.
E 6.5 Explain how the community has a role in disaster preparedness and response.
E 6.7 Employ basic assessment, triage, and treatment as defined by CERT protocols under simulated disaster conditions.
E 6.8 Demonstrate working as a team, applying safe techniques for debris removal, and victim extrication.
E 6.9 Describe the post-disaster emotional environment and the steps that rescuers can take to relieve their own stressors and trauma and those of disaster survivors.

Mental and Behavioral Pathway Standards:

F 1.0 Recognize and interpret principles of community engagement.
F 1.1 Identify and describe prevention and early intervention barriers to mental health care.
F 1.2 Define the psycho-educational approach and describe how it is used as a tool to help consumers and their families learn more about managing their mental illness.
F 1.3 Define the principles of community engagement and how they apply to community- based participatory research.
F 1.4 Use and apply community-based participatory research methods to increase community participation and resources.
F 1.5 Develop and explore basic outreach approaches that can be successful in increasing awareness about mental health services.
F 1.6 Research and organize community resources that promote community wellness.
F 1.7 Advocate community inclusion and social roles such as; supported housing, employment, education, parenting, citizenship, and anti-stigma.
F 2.0 Demonstrate the ability to build relationships by communicating empathy.
F 2.1 Describe the elements of active listening.
F 2.2 Demonstrate active listening by connecting new knowledge or experiences with prior knowledge and problem solving.
F 2.3 Differentiate between giving advice and active listening by constructing real-life examples.
F 2.4 Build strong verbal knowledge to frame language in ways that increase engagement.
F 2.5 Recognize complex language semantics and make appropriate adaptations for the community being served.
F 2.6 Build on communication by using motivational interviewing as an engagement tool.
F 3.0 Develop and employ collaboration skills that engage others and build trust.
F 3.1 Define collaboration in a mental health context and build on prior knowledge by recalling collaborative experiences.
F 3.2 Employ aspects of collaborative leadership that enhances decision making and consensus building.
F 3.3 Explore and practice collaborative methods for working with special populations to increase their community capacity.
F 3.4 Design innovative strategies to monitor and evaluate engagement.
F 4.0 Recognize and differentiate between the stages of mental health recovery.
F 4.1 Define four stages of mental health recovery (hope, empowerment, self-responsibility, and meaningful role in life) and demonstrate impact on complex mental health problems.
F 4.2 Demonstrate the ability to formulate goals related to each of the four stages of recovery using a multiple-step process of goal setting.

F 4.3	Compare and contrast a psychosocial rehabilitation and recovery model that supports each individual's potential for recovery verses a medical model that views abnormal behavior as the result of physical problems and should be treated medically.
F 4.4	Integrate and apply four stages of recovery by designing a recovery plan based on goals that require real-world scenarios.
F 4.5	Assess the implementation of the recovery plan and formulate alternative approaches to reach desired outcomes.
F 4.6	Advocate for hope and respect, and believe that all individuals have the capacity for learning and growth.
F 4.7	Examine ways in which one's recovery from mental illness can be measured.
F 5.0	**Communicate and practice leadership and accountability behaviors.**
F 5.1	Identify strategies to work under pressure and cope with stress.
F 5.2	Develop a basic understanding of various leadership styles that promote positive change in mental health services.
F 5.3	Compare and contrast different leadership styles and accountability in mental health.
F 5.4	Construct multiple steps to solve complex problems using real-world scenarios in mental health services.
F 6.0	**Analyze and interpret elements of positive psychology (e.g., hope, resilience, strengths, creativity, community building, and supportive spirituality).**
F 6.1	Recall the recovery model and communicate how positive psychology impacts a mental health consumer's recovery.
F 6.2	Interpret key terms from the positive psychology perspective in relationship to holistic wellness.
F 6.3	Assess the impact of positive psychology's elements on risk reduction and integrated primary care.
F 6.4	Build on the discovered strengths and capabilities of individuals.
F 7.0	**Formulate and implement quality care and treatment plans.**
F 7.1	Define and describe practices that help individuals improve the quality of all aspects of their lives, including social, occupational, educational, spiritual, and financial.
F 7.2	Identify and provide evidence for an effective collaborative approach in mental health recovery that is inclusive of the individual in need.
F 7.3	Practice promoting health and wellness, encouraging individuals to develop and use individualized wellness plans.
F 7.4	Design a treatment plan that addresses the unique needs of individuals, consistent with their values, hopes and aspirations.
F 7.5	Adhere to consistent documentation of implemented interventions and progress.
F 8.0	**Synthesize, understand, and predict the impact of mental health disparities across consumer populations.**
F 8.1	Define mental health disparities.
F 8.2	Organize and summarize knowledge on the impact of mental health disparities among different populations.
F 8.3	Analyze causes for mental health disparities using current research methods and literature.
F 8.4	Synthesize research articles related to mental health disparities and produce a statement problem on what causes such disparities.
F 9.0	**Design a practice model of a personal support network by utilizing prior knowledge of recovery concepts and using natural supports within communities.**
F 9.1	Identify community-based self-help/peer support groups.
F 9.2	Communicate with self-help/peer support groups in the community and generate information about their specific functions and responsibilities to the community they serve.

F 9.3 Compare and contrast self-help/peer support groups to determine strengths and gaps in service delivery.
F 9.4 Design a practice self-help/peer support group model that fills in the identified gaps and builds on the identified strengths.
F 9.5 Examine the role that natural supports such as spiritual organizations, community centers, and other community-related resources play in an individual's mental health recovery.

F 10.0 Formulate an argument and predict how electronic health records can transform quality of care and promote a green economy.

F 10.1 Access and become familiar with basic electronic health records functions.
F 10.2 Analyze the effect of electronic health records on the quality of care and a green economy.
F 10.3 List and describe at least five ways that electronic health records will advance a green economy.
F 10.4 Distinguish between interoperability at the local primary care level and interoperability with statewide mental health systems in using electronic health records.

F 11.0 Recognize and respect the various cultures of a community and other factors that indicate its diversity in all aspects of communicating, designing, and implementing patient care.

F 11.1 Identify and understand the patterns of communication including the use of languages. F11.2 Communicate and listen effectively across cultures and all levels of care.
F 11.3 Demonstrate appropriate judgment on when and how to use trained interpreters.
F 11.4 Research factors that define cultural differences between and among different ethnic, racial, and special populations.
F 11.5 Illustrate how to incorporate culturally appropriate community resources.
F 11.6 Design and execute an ethnographic approach focusing on information retrieval, observing social behavior, managing stress and time, ask questions, explore aspects of global significance, and analyze data using relevant concepts.

F 12.0 Evaluate the purpose and components of a treatment plan related to the consumer's health status.

F 12.1 Understand the roles of a patient advocate to ensure treatment quality and resources. F12.2 Explain the components of a treatment plan.
F 12.3 Select appropriate equipment and instruments in accord with the treatment plan.
F 12.4 Adhere to the roles and responsibilities, within scope of practice, that contribute to the design and implementation of a treatment plan.
F 12.5 Prioritize and organize work in accordance with the patients' treatment plans.
F 12.6 Determine the resources available for the effective implementation of treatment plans for patients.

F 13.0 Identify and apply leadership styles in personal growth and development. F13.1 Develop goal setting that leads to professional and career growth.

F 13.2 Participate in student leadership and skill development activities such as California Health Occupations Students of America (Cal-HOSA).
F 13.3 Employ self-regulation strategies that include self-monitoring and self-evaluation in approaching new and challenging tasks.
F 13.4 Build and employ self-confidence to empower self and others. F13.5 Refine and upgrade technical and clinical skills.
F 13.6 Create and design a working portfolio that will be used for interviews for both post-secondary and employment acceptance.

Common Core State Standards

Language Standards – LS – (Standard Area, Grade Level, Standard #)

LS 11-12.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
LS 11-12.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
LS 11-12.3	Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
LS 11-12.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 11–12 reading and content, choosing flexibly from a range of strategies.
LS 11-12.5	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
LS 11-12.6	Acquire and accurately use general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Reading Standards for Informational Text – RSIT – (Standard Area, Grade Level, Standard #)

RSIT 11-12.7	Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.

Reading Standards for Literacy in Science and Technical Subjects – RLST – (Standard Area, Grade Level, Standard #)

RLST 11-12.3	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
RLST 11-12.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
RLST 11-12.7	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
RLST 11-12.8	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
RLST 11-12.9	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

Writing Standards – WS – (Standard Area, Grade Level, Standard #)

WS 11-12.2	Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.
WS 11-12.6	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

WS 11-12.7	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
WS 11-12.8	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

Reading Standards for Informational Text – RSIT – (Standard Area, Grade Level, Standard #)

RSIT 11-12.10	By the end of grade 11, read and comprehend literary nonfiction in the grades text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 12, read and comprehend literary nonfiction at the high end of the grades 11-CCR text complexity band independently and proficiently.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects – WHSST – (Standard Area, Grade Level, Standard #)

WHSST 11-12.1.	Write arguments focused on discipline-specific content.
WHSST 11-12.2	Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes
WHSST 11-12.7.	Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
WHSST 11-12.8	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
WHSST 11-12.10.	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Math Standards – Algebra – A-APR – Arithmetic with Polynomials and Rational Expressions (Standard Area, Grade Level, Standard #)

A-APR 1	Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication: add, subtract, and multiply polynomials, and divide polynomials by monomials. Solve problems in and out of context.
A-APR 7	Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.

Math Standards – Algebra – A-SSE – Seeing Structure in Expressions (Standard Area, Grade Level, Standard #)

A-SSE 1	Interpret expressions that represent a quantity in terms of its contex
A-SSE 2	Use the structure of an expression to identify ways to rewrite it.

Silicon Valley
Career Technical Education

California History/Social Science Standards:

Principles of American Democracy and Economics – AD

AD 12.7 Students analyze and compare the powers and procedures of the national, state, tribal, and local governments.

Next Generation Science Standards:

Scientific and Engineering Practices

SEP 1	Asking questions (for science) and defining problems (for engineering)
SEP 2	Developing and using models
SEP 3	Planning and carrying out investigations
SEP 4	Analyzing and interpreting data
SEP 5	Using mathematics and computational thinking
SEP 6	Constructing explanations (for science) and designing solutions (for engineering)
SEP 7	Engaging in argument from evidence
SEP 8	Obtaining, evaluating, and communicating information

Disciplinary Core Ideas: Life Sciences

LS 1.C	From Molecules to Organisms: Organization for Matter and Energy Flow in Organism
LS 1.D	From Molecules to Organisms: Information Processing
LS 2.D	Ecosystems: Social Interactions and Group Behavior
LS 3.A	Heredity: Inheritance and Variation of Traits
LS 3.B	Variation of traits
LS 4.C	Adaptation
LS 4.D	Biological Evolution: Biodiversity and Humans
PS 1.A	Structure and Properties of Matter
PS 2.C	Stability and Instability of Systems
PS 3.D	Energy in chemical processes and everyday life

Crosscutting Concepts

CC 4.	Systems and System Models