PHARMACY TECHNOLOGY 900
MODESTO JUNIOR COLLEGE – WORKFORCE DEVELOPMENT
PHARMACY TECHNICIAN TRAINING PROGRAM

COURSE INTRODUCTION

MODULE DESCRIPTION:
This module describes the Modesto Junior College Workforce Development Pharmacy Technician Training Program and its goals and objectives. It discusses career opportunities for pharmacy technicians, validates the faculty, describes the course curriculum and organization, and specifies course mechanics, including requirements for immunizations, attendance, behavior, and dress. The standards and requirements for successful course completion are stipulated.

LEARNING OBJECTIVES
After successfully completing this module, you will be able to:

1) Describe the organization of the Technician Training Program.
2) List four areas where a pharmacy technician may expect to practice.
3) Understand the overall goals of the training program.
4) Explain the performance requirements of the program.
5) State the requirements to begin the Externship.
6) Describe the requirements for successful completion of the program.

PROGRAM DESCRIPTION
The purpose of this program is to qualify you to register and be licensed by the California State Board of Pharmacy as a Pharmacy Technician and to prepare you for an entry-level position to work as a Pharmacy Technician. You will attend lectures, actively participate in learning teams, work in a laboratory setting, and complete experiential training in a variety of actual pharmacy practice sites.

California law requires you to register and be licensed as a Pharmacy Technician with the California State Board of Pharmacy in order to work as a Pharmacy Technician. In addition, this course will provide the initial groundwork for taking the examination for national certification administered by the Pharmacy Technician Certification Board (PTCB). Successful completion of the PTCB examination entitles a technician to the designation CPhT (Certified Pharmacy Technician).

The Modesto Junior College Pharmacy Technician Career Training Program is fully accredited by the Pharmacy Technician Accreditation Commission (PTAC) and the American Society of Health-System Pharmacists (ASHP).

This Course Introduction is a guide to the structure, content, and sequence of topics for the Pharmacy Technician Training Program at Modesto Junior College. Successful completion of this curriculum will give you the theory, application, and practical hands-on experience
necessary for an entry-level position as a pharmacy technician capable of working in a variety of pharmacy settings. The Program Director and Advisory Committee may alter and/or add additional course content not specified in this outline.

CAREER OPPORTUNITIES

The primary responsibility of any employee in the field of pharmacy is to ensure that patients receive the proper drug therapy for their specific medical condition. To achieve this goal, pharmacy personnel in hospitals, community pharmacies, and other health care settings perform a variety of duties designed to deliver the correct drug in the correct amount by the correct route to the correct patients at the correct time. Pharmacy technicians assist pharmacists in a number of capacities to fulfill these obligations.

The role of pharmacy technicians and professionals working within the pharmacy environment has changed dramatically in both personal focus and professional responsibility. Changes in healthcare technology and legislation have created striking new requirements on the practice of pharmacy. In order to fulfill these new clinical roles, pharmacists delegate many technical functions to supportive personnel.

Today, pharmacy technicians work in a variety of environments, such as hospitals, health maintenance organizations (HMOs), independent or chain retail pharmacies, urgent care or multi-specialty clinics, skilled nursing or long-term-care pharmacies, hospice, government, or the pharmaceutical industry. The roles for Pharmacy Technicians will continue to expand as the professional scope of pharmacy grows.

PROGRAM GOAL STATEMENTS

The goals of this training program conform to the ASHP Accreditation Standard learning goals and are designed to imbue you with the skills necessary to work proficiently in an inpatient or outpatient setting providing pharmacy services to consumers. The goals cover areas defined in the table below - Appendix N. Upon successful completion of this program, you will be able to:

<table>
<thead>
<tr>
<th>Goal Number</th>
<th>Goal Statement</th>
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<tbody>
<tr>
<td>1</td>
<td>Demonstrate ethical conduct in all job-related activities.</td>
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<tr>
<td>2</td>
<td>Present an image appropriate for the profession of pharmacy in appearance and behavior.</td>
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<td>3</td>
<td>Communicate clearly when speaking and in writing.</td>
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<td>4</td>
<td>Demonstrate a respectful attitude when interacting with diverse patient populations.</td>
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<tr>
<td>5</td>
<td>Apply self-management skills, including time management, stress management, and adapting to change.</td>
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<tr>
<td>6</td>
<td>Apply interpersonal skills, including negotiation skills, conflict resolution, and teamwork.</td>
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<tr>
<td>7</td>
<td>Apply critical thinking skills, creativity, and innovation to solve problems.</td>
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Personal/Interpersonal Knowledge and Skills

Foundational Professional Knowledge and Skills
<table>
<thead>
<tr>
<th></th>
<th>Demonstrate understanding of healthcare occupations and the health care delivery system.</th>
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<tbody>
<tr>
<td>9</td>
<td>Demonstrate understanding of wellness promotion and disease prevention concepts, such as use of health screenings; health practices and environmental factors that impact health; and adverse effects of alcohol, tobacco, and legal and illegal drugs.</td>
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<tr>
<td>10</td>
<td>Demonstrate commitment to excellence in the pharmacy profession and to continuing education and training.</td>
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<tr>
<td>11</td>
<td>Demonstrate knowledge and skills in areas of science relevant to the pharmacy technician’s role, including anatomy/physiology and pharmacology.</td>
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<tr>
<td>12</td>
<td>Perform mathematical calculations essential to the duties of pharmacy technicians in a variety of contemporary settings.</td>
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<td>13</td>
<td>Demonstrate understanding of the pharmacy technician’s role in the medication-use process.</td>
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<tr>
<td>14</td>
<td>Demonstrate understanding of major trends, issues, goals, and initiatives taking place in the pharmacy profession.</td>
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<tr>
<td>15</td>
<td>Demonstrate understanding of non-traditional roles of pharmacy technicians.</td>
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<tr>
<td>16</td>
<td>Identify and describe emerging therapies.</td>
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### Processing and Handling of Medications and Medication Orders

<table>
<thead>
<tr>
<th></th>
<th>Assist pharmacists in collecting, organizing, and recording demographic and clinical information for direct patient care and medication-use review.</th>
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<tbody>
<tr>
<td>17</td>
<td>Receive and screen prescriptions/medication orders for completeness, accuracy, and authenticity.</td>
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<tr>
<td>19</td>
<td>Assist pharmacists in the identification of patients who desire/require counseling to optimize the use of medications, equipment, and devices.</td>
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<tr>
<td>20</td>
<td>Prepare non-patient-specific medications for distribution (e.g., batch, stock medications).</td>
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<tr>
<td>21</td>
<td>Distribute medications in a manner that follows specified procedures.</td>
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<tr>
<td>22</td>
<td>Practice effective infection control procedures, including preventing transmission of blood borne and airborne diseases.</td>
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<tr>
<td>23</td>
<td>Assist pharmacists in preparing, storing, and distributing medication products requiring special handling and documentation (e.g., controlled substances, immunizations, chemotherapy, investigational drugs, drugs with mandated Risk Evaluation and Mitigation Strategies (REMS)).</td>
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<tr>
<td>24</td>
<td>Assist pharmacists in the monitoring of medication therapy.</td>
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<tr>
<td>25</td>
<td>Prepare patient-specific medications for distribution.</td>
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<tr>
<td>26</td>
<td>Maintain pharmacy facilities and equipment, including automated dispensing equipment.</td>
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<tr>
<td>27</td>
<td>Use material safety data sheets (MSDS) to identify, handle, and safely dispose of hazardous materials.</td>
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### Sterile and Non-Sterile Compounding

<table>
<thead>
<tr>
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<th>Prepare medications requiring compounding of sterile products.</th>
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<tbody>
<tr>
<td>28</td>
<td>Prepare medications requiring compounding of non-sterile products.</td>
</tr>
</tbody>
</table>
30 Prepare medications requiring compounding of chemotherapy/hazardous products.

### Procurement, Billing, Reimbursement and Inventory Management

| 31 | Initiate, verify, and assist in the adjudication of billing for pharmacy services and goods, and collect payment for these services. |
| 32 | Apply accepted procedures in purchasing pharmaceuticals, devices, and supplies. |
| 33 | Apply accepted procedures in inventory control of medications, equipment, and devices. |
| 34 | Explain pharmacy reimbursement plans for covering pharmacy services. |

### Patient- and Medication-Safety

| 35 | Apply patient- and medication-safety practices in all aspects of the pharmacy technician’s roles. |
| 36 | Verify measurements, preparation, and/or packaging of medications produced by other healthcare professionals (e.g., tech-check-tech). |
| 37 | Explain pharmacists’ roles when they are responding to emergency situations and how pharmacy technicians can assist pharmacists by being certified as a Basic Life Support (BLS) Healthcare Provider. |
| 38 | Demonstrate skills required for effective emergency preparedness. |
| 39 | Assist pharmacists in medication reconciliation. |
| 40 | Assist pharmacists in medication therapy management. |

### Technology and Informatics

| 41 | Describe the use of current technology in the healthcare environment to ensure the safety and accuracy of medication dispensing. |

### Regulatory Issues

| 42 | Compare and contrast the roles of pharmacists and pharmacy technicians in ensuring pharmacy department compliance with professional standards and relevant legal, regulatory, formulary, contractual, and safety requirements. |
| 43 | Maintain confidentiality of patient information. |

### Quality Assurance

| 44 | Apply quality assurance practices to pharmaceuticals, durable and non-durable medical equipment, devices, and supplies. |
| 45 | Explain procedures and communication channels to use in the event of a product recall or shortage, a medication error, or identification of another problem. |

### LEARNING OBJECTIVES

Specific learning objectives are included with the syllabus materials for each learning module. These objectives define the scope of content and level of learning detail required of the student. These learning objectives also define the focus and scope of quiz and examination questions.
FACULTY

Program Director
The Program Director administers the Technician Training Program. The Director is a pharmacist who is responsible for the overall administrative control and guidance of the program. He or she develops program goals, objectives, and curriculum, ensures compliance with regulatory agencies, chairs the advisory committee, approves qualified practice sites, assigns preceptor responsibility, coordinates with faculty, and validates admission and completion criteria.

Program Specialist
The Modesto Junior College Office of Workforce Development provides a Program Specialist to assist the students with operational and administrative issues related to registration, payment of fees, completion of non-academic requirements, and certification upon successful course completion.

Advisory Committee
An Advisory Committee oversees the training program. The Advisory Committee has responsibility and authority to approve the course curriculum and internship practice sites and validate program admission and completion criteria.

Faculty
The faculty comprises practicing pharmacists and technicians and other professionals who are experts in their respective fields.

Program Organization
Curriculum Map
The modular design of this curriculum accommodates the variety of environments that technicians may practice in and the diversity of information that technicians must master. Each module teaches those objectives that logically fit together in this design.

The modules of instruction in this curriculum map the content of the program into a proper sequence to enhance learning. Each module builds upon the previous. All modules at a given level are a clear prerequisite for advancement to the next level of study; you should master each module before progressing to the next level.

Required Textbooks
This course has required textbooks that are included in the cost of the course tuition. An understanding of the content of these textbooks is essential to a complete understanding of the course curriculum. Reading assignments may be given by the faculty, but even if they are not specified, you are responsible to study the relevant text content.

Course Syllabus
This Course Syllabus provides you with an outline of the content with learning objectives for each module. These learning objectives provide a focus for what the important points are for each topic. There may also be lists of important terms and abbreviations to know and a schedule of modules and class meetings. The Course Syllabus is a tool to supplement instruction in the classroom setting or on the job. There may be additional handouts provided during the course of instruction that you may add to this Course Syllabus.

Note-taking
This Course Syllabus and the required textbooks provide course goals and learning objectives and an outline of course content. However, they are not complete. The faculty
presents content, information, and materials during the course of instruction, which are not included herein. You are responsible to learn this additional information. The best way to insure that you have complete course content is to attend all lectures and take your own notes.

QUIZZES & EXAMINATIONS

A faculty member may give a quiz at any time during the course of instruction. Quizzes will cover a smaller amount of material than an examination and will be limited to course content that the lecturer has discussed recently or other materials as assigned. Quizzes are unannounced.

There is a pharmaceutical calculations competency examination on which you must achieve an absolute score of 70% or greater to complete this module successfully. If you do not achieve a passing score on the first attempt, you will be allowed one retake. If you fail to pass this competency examination on the second attempt you will fail this course and be dismissed from the class. **There are no exceptions.**

There are 9 major examinations during the course of instruction covering the curriculum. Each will be two to three hours in length and will cover module learning objective materials. Dates of lectures covering course outline materials for examinations and examination dates are specified in the course calendar. All quizzes and examinations are closed book. Calculators are permitted, but calculators on smart devices (pads, tablets, phones, etc.) are not permitted. **Please Note:** The National PTCB Exam (Pharmacy Technician Certification Board) is your final exam.

Evaluations, quizzes, and examinations will comprise the course grade as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Quizzes</td>
<td>10%</td>
</tr>
<tr>
<td>Attendance</td>
<td>5%</td>
</tr>
<tr>
<td>Homework</td>
<td>5%</td>
</tr>
<tr>
<td>Laboratories</td>
<td>15%</td>
</tr>
<tr>
<td>Resume &amp; Interview</td>
<td>5%</td>
</tr>
<tr>
<td>Dose Calculations Examination</td>
<td>10%</td>
</tr>
<tr>
<td>Examinations I-IX</td>
<td>50%</td>
</tr>
</tbody>
</table>

All examinations, except the pharmacy calculations competency examination, will be graded with a passing score defined as the 60th percentile. This means you must achieve 60% of the highest score achieved on each quiz, examination, or parameter to pass. The pharmacy calculations competency requires an absolute score of 70% or greater to pass.

SUCCESS HINTS

- **Attend all class sessions.**
- **Arrive on time.**
- **Come to class prepared to learn.** Complete reading assignments before coming to class. Lecture should not be the first time you encounter the material; review prior to class helps you clear up any confusing points or misconceptions.
- **Take good notes** to supplement lecture, textbook, and course syllabus materials.
- **Ask questions** during class.
- **Study** on a regular basis:
  - **Review** notes and laboratory reports as soon as possible after class.
  - **Rewrite** classroom notes and laboratory reports to clarify and complete content.
  - **Prepare flash cards** to aid memorization of drug names and terminology.
- **Use your Learning Team** early on and be prepared when you meet with the group. Weekly meetings are advised.
- **Meet with the instructor** or contact by email to clarify key concepts.
- **Manage your time.** You will need to study a minimum of 1-2 hours for each 1 hour of class time. It is effective to study in short blocks of ~1 hour, then take a break and return to study refreshed.
- **Study a key concept** and test your depth of knowledge:
  1. Study each key concept from class notes repeatedly in a variety of ways.
  2. Take a blank sheet of paper and write down everything you know about that key concept from memory.
  3. Compare your answer against the course syllabus, learning objectives, your lecture notes, textbooks, and worksheets; correct errors and repeat this process until you are successful.

**COURSE MECHANICS**

**Course Calendar & Class Schedule**

The course calendar and class schedule lists dates and topics for each session. While we have tried to make this schedule as complete and accurate as possible, lecture topics, dates and times of classes, topic sequence, and faculty are subject to change due to the variable nature of the lecturers’ work schedules and the Modesto Junior College calendar.

**Academic Integrity Policy**

Modesto Junior College expects that all faculty and students will adhere to high standards of personal and academic honesty. This means that all academic work will be done by the student to whom it is assigned without unauthorized aid of any kind. Faculty members, for their part, will exercise care in the planning and supervision of academic work so that honest effort will be positively encouraged.

Academic dishonesty consists of, but is not limited to:

A. **Cheating.** Cheating is defined as using or attempting to use, giving or attempting to give, and obtaining or attempting to obtain, materials or information, including computer material pertaining to a quiz, examination, or other work that students are expected to do themselves.

B. **Plagiarism.** Plagiarism is defined as the use of another’s words or ideas without acknowledgement/approval.

Penalties for violation of these standards of conduct may result in sanctions including dismissal from the MJC Workforce Development Pharmacy Technician Career Training Program.

**Dress, Grooming & Hygiene Standards**

It is the policy of this institution to inculcate and maintain a professional bearing as a preparatory step toward employment in a healthcare setting. The image students present to faculty, staff, preceptors, patients, and fellow students, in part, helps maintain this atmosphere. Students are expected to maintain a level of personal hygiene and professional dress compliant with program policy while in the classroom or on duty at Externship sites. Please refer to Handout G - Grooming, Dress, and Hand Hygiene Standards, the policy provided to you in this Course Syllabus for specific requirements.

**Attendance & Timeliness Policy**

You are expected to participate in every scheduled session and be responsible for learning the materials presented at each class session. No assignments will be accepted late. There
are no scheduled make-up sessions or alternative dates for examinations. Make-up examinations are at the discretion of the Program Director.

In addition, we are training you to be a responsible employee. Therefore, we expect you will arrive at the scheduled starting time and attend all classes just as you would arrive on time for work and be present for all scheduled work days.

In order to track your attendance and timeliness, you are required to sign in on an attendance sheet at the beginning of each class. Being absent from class is defined as either not attending class or leaving class early. Tardiness is defined as arriving late for class or returning to class late from a break.

For the purpose of calculating compliance with the attendance policy, three tardinesses are the equivalent of one absence. Three absences from scheduled lectures will result in a 1st written warning. Six absences will result in a 2nd written warning. Nine absences will result in dismissal from the program without refund of tuition.

**HOLIDAYS**

Please check the course calendar for specific holiday observances, including Winter Recess. When you are on externship, you will observe the holiday schedule of your externship site; that means that if your externship site is open on a holiday and they expect you to work, you will work.

**PARKING**

Modesto Junior College parking regulations are in effect 24 hours a day from 7:00 a.m. Monday through 5:00 p.m. Friday at the Morris Building Workforce Development offices on the East Campus and the classrooms on the West Campus. Students may park in designated areas on the East and West Campuses. Persons who park on campus are required to purchase a parking permit ($30/semester). You may also purchase a $2 daily permit from any campus parking ticket dispenser. Do not park without a valid parking permit displayed in your vehicle as you will be cited by Public Safety. Do not ask the Program Director or any MJC Workforce Development personnel to “fix” your ticket.

**STUDENT COURSE STANDING**

The standing of a student in the course is defined by their scholastic performance and compliance with policies and procedures. A student is in “Good Standing” if their grade scores are at or above the 60th percentile for all graded course work at the time of evaluation of standing, they have passed the Pharmacy Calculations Competency Examination, and they have no written warnings for policy & procedure violations. A student is not in Good Standing if their grades are below a cumulative 60th percentile, they have failed the Pharmacy Calculations Competency Examination, or have verbal or written warnings in their file.
Drop Course, Tuition Refund, and Repeat Course Policies

Students may withdraw registration for the program on or before the official drop date of April 26, 2017, which is also listed in the course calendar.

Tuition paid will be refunded according to this Refund Policy:

- Students who have paid the entire registration fee up front who drop on or before the official drop date will be refunded the tuition amount less a $1500 administrative fee.
- Students who have signed a Payment Plan Option B with MJC Workforce Development, which requires a minimum of a $2,500 down payment and four equal payment installments of $965, who drop on or before the official drop date will be refunded the amount actually paid less a $1500 administrative fee.
- Any student who drops after the official drop date will not receive tuition refund.
- A student, who has been dismissed from the program, whether before or after the drop date, will not receive any tuition refund.
- Please Note: This training program requires that you have a clean background check, that you pass a drug screening, and/or an orientation. Your tuition covers the costs of a background check and drug screening – the MJC Workforce Development Program Specialist will provide you with this information in class. Failure to have a clean background, and pass the drug screening will mean immediate dismissal from the training program entirely and the student will not be eligible for a tuition refund.

Students in Good Standing who drop the course after the official drop date may reapply for the next course offering and will have priority status with the Admissions Committee. Students who are not in Good Standing may reapply for the next class offering and will be evaluated for readmission without special consideration. There is no guarantee that students in this status will be readmitted to the program.

Every student who has dropped after the drop date who is readmitted to the program will be required to repay the full tuition amount and comply with all course admission requirements current at the time of their readmission.

Name Badges

Students are required to wear program-provided name badges at all times while in class or on Externship. Pharmacy personnel, including technician trainees, are required by law to wear a name badge that also indicates their license or training status whenever they are in a pharmacy. The name badge should be worn above the waist with the identifying information facing out so others can read it. Students failing to wear their name badge may be asked to leave the classroom or worksite and counted as absent for that session.

Class Locations

Lectures and laboratories are held in John Muir Hall, Room 260, (West Campus), 2201 Blue Gum Avenue.

1 California Business & Professions Code, §4115.5: Pharmacy Technician Trainee; Placement; Supervision; Requirements
REQUIREMENTS FOR PROGRAM COMPLETION

The school will award a Certificate of Achievement to you if you successfully complete the program. **Modesto Junior College will not issue a certificate to any individual who fails to complete the prescribed program or to meet the intent of this standard.**

The student is eligible for this certificate only after successful completion of all class, laboratory, and externship requirements. To complete the course of study for the pharmacy technician certificate successfully, you must demonstrate an acceptable level of competency in the intellectual, technical, and emotional realms encompassed by this program.

Specifically, in order to develop the level of competency required of a practicing pharmacy technician, you must do the following:

1) Participate in all phases of the educational program and demonstrate an understanding of classroom lectures, laboratory exercises, and experiential rotations through examination and experiential preceptor evaluation:
   - Attain an absolute grade of 70% or greater on the pharmaceutical calculations competency examination;
   - Attain a grade of 60th percentile or greater in all classroom work;
   - Attain a grade of 60th percentile or greater in all laboratory work; and
   - Attain a grade of “S” in each rotation of the externship.

2) Function appropriately in interpersonal communications and relationships by demonstrating good judgment, empathy, reliability, and emotional stability when interacting with other healthcare personnel and patients in stressful situations.

3) Communicate effectively with patients, pharmacy staff, and other professionals.

4) Function appropriately in pharmacy practice:
   - Review, evaluate, & prioritize workload to meet patient requirements;
   - Support pharmacists in the provision of pharmaceutical care to patients; and
   - Correctly, safely, and effectively operate a variety of pharmacy equipment.

5) Meet the attendance requirements of the program.

6) Complete all experiential learning requirements within one year of start date of the Externship.

CURRICULUM OUTLINE

There are six major divisions of material comprising this course. The modules contained in each division combine to provide a comprehensive curriculum that prepares the student for an entry level position as a pharmacy technician. These divisions are the following:

- Pharmacy Technology – Introductory Topics
- Pharmacy Operations & Management
- Pharmaceutical Calculations
- Specialized Services
- Pharmacology
- Experiential Learning

The Course Modules information below describes curriculum modules in more detail.
COURSE MODULES

**Pharm 901: Introduction to Pharmacy Technology, Introductory Topics**

**Course Goal:** Upon satisfactory completion of this course, the student will be prepared to function as a Pharmacy Technician in retail, homecare, and acute care settings, be able to comply with laws governing the practice of pharmacy, and practice in an ethical manner.

**Description:** Fundamental concepts of pharmacy technology, law, and ethics. Topics include development of study & customer service skills including determination of need for patient counseling, adapting to the delivery of pharmacy services for the culturally diverse; history of healthcare and pharmacy; pharmacist-technician relationship and the benefits of active involvement in local, state, and national technician and other professional organizations; terminology and abbreviations; drug classification; federal and state laws and legal accountability; professional ethics; and résumé preparation and job interviewing.

*Admission to the course is prerequisite.*

**Pharm 902: Pharmacy Operations & Management**

**Course Goal:** Upon satisfactory completion of this course, the student will be able to prepare medication for distribution in a variety of health-system settings, including knowledge of all aspects of drug, device & supplies purchase and medication, device, and equipment inventory control; receipt, storage, transport, repackaging, labeling and dispensing of drugs; interpreting medication orders and prescriptions; and compounding non-sterile products.

**Description:** Fundamental concepts of pharmacy operations & management. Topics include medication distribution systems, use of computerized patient record systems, patient data maintenance, interpretation of prescriptions and preparation of drug products for dispensing, and maintenance of quality.

*Pharm 901 is prerequisite.*

**Pharm 903: Pharmaceutical Calculations & Critical Thinking (Lab)**

**Course Goal:** Upon satisfactory completion of this course, the student will be able to accurately calculate patient doses; convert between systems of measurement; and calculate mark-up, pricing, profit, and inventory turnover.

**Description:** Fundamental concepts of pharmaceutical calculations. Topics include math review of mathematical concepts and operations, number systems; systems of measure & conversions; reading prescriptions and using critical thinking; calculating drug dosages; percent strengths, dilutions, alligations; formulas and compounding, dry powder reconstitution; IV infusions & injectable drug doses; and business calculations.

*Admission to the course is prerequisite.*
**PHARM 904: SPECIALIZED SERVICES**

**COURSE GOAL:** Upon satisfactory completion of this course, the student will be equipped to: prepare sterile products using correct aseptic technique, preparation of chemotherapeutic agents, non-sterile compounding, Computer Systems Lab, Retail Pharmacy, Basic Life Support, Long Term Care (Lab) and Emergency Preparedness.

**DESCRIPTION:** FUNDAMENTAL CONCEPTS OF SPECIALIZED SERVICES LISTED ABOVE

Topics include appropriate aseptic technique, compounding, and preparation of chemotherapeutic agents; simulation of retail pharmacy experience; understanding functions in long term care; and what your role is in an emergency situation while at work. *Pharm 903 is prerequisite.*

**PHARM 905: PHARMACOLOGY**

**COURSE GOAL:** Upon satisfactory completion of this course, the student will be able to describe and discuss the different classes of drugs with respect to their basic effects, toxicities, doses, routes of administration, and disposition in the body.

**DESCRIPTION:** FUNDAMENTAL CONCEPTS OF DRUG PHARMACOLOGY

Topics include Fundamentals of drug classification and actions; major body organ systems and the use of drugs to manage diseases of those systems; use of drugs to achieve specific therapeutic endpoints such as relief of pain, eradication of infection & management of poisonings; and the place of over-the-counter medications and herbals in mitigation of diseases.

*Admission to the course is prerequisite.*

**PHARM 906: CLINICAL EXTERNSHIP**

**COURSE GOAL:** Upon satisfactory completion of this course, the student will be prepared to function as a Pharmacy Technician in retail and acute care settings, be able to comply with laws governing the practice of pharmacy, and practice in an ethical manner.

**DESCRIPTION:** EXPERIENTIAL LEARNING IN A HANDS-ON ENVIRONMENT UNDER DIRECT SUPERVISION OF LICENSED PHARMACIST PRECEPTORS

Mandatory rotations of 340 hours in the following breakdown below: Community and Acute Care practice environments; elective rotation in area of student choice at contracted practice sites.

- Community/Retail 120 hours
- Institutional/Hospital 120 hours
- Elective hours 100 hours

Pharm 901, 902 & 903 are prerequisite for the community rotation; Pharm 904 is prerequisite for the acute care rotation.