LCHEC
Lampasas County Higher Education Center
Live here. Learn here.

Course Catalog

Catalog Vol. 21
Published November 2, 2021
Effective November 2, 2021 through April 2, 2022

TABLE OF CONTENTS

Contents

HISTORY

The Lampasas County Higher Education Center's mission is to provide opportunities for quality career training, community education, and higher education for Lampasas County and surrounding counties.

The Education Foundation for the Lampasas County Higher Education Center (LCHEC) was formed in 2009 by a group of community leaders to establish a place for residents of rural Lampasas County and surrounding counties to take college courses and workforce training. In January 2010, Central Texas College offered the first classes at LCHEC. In the spring of 2011, LCHEC offered its first non-credit community education classes. Through partnerships with outside companies, LCHEC began offering workforce training classes in the spring of 2011. In the spring of 2013, LCHEC began offering its own workforce training classes. LCHEC also offers proctored Texas Success Initiative and college distance learning exams by appointment for a nominal fee.

The Education Foundation for the Lampasas County Higher Education Center is a 501(c) (3) nonprofit organization.

APPROVALS

Approved and Regulated by the Texas Workforce Commission, Career Schools and Colleges, Austin, Texas.

The Lampasas County Higher Education Center (LCHEC) Nurse Aide Training Program is approved by the Texas Department of Health and Human Services as meeting the minimum requirements for nurse aide training in accordance with 40 Texas Administrative Code, §94.1-94.13 of the licensing Standards for Nurse Aides. The LCHEC Nurse Aide Program number is #5584.

Approved for veterans' education benefits by the Texas Veterans Commission. The Lampasas County Higher Education Center Department of Veterans Affairs (VA) Facility Code is 3-5-1374-43.

DESCRIPTION OF AVAILABLE SPACE, FACILITIES AND EQUIPMENT

The Lampasas County Higher Education Center is housed in space in the former Lampasas Middle School, leased to the Center by the Lampasas Independent School District. LCHEC workforce training classes take place in six classrooms, four of each with tables and chairs for 25 students, wireless Internet access, a computer and projector for instruction, two sinks, and equipment as appropriate for the classes being offered. The fifth and sixth classrooms are equipped with tables and chairs for 16 students, wireless Internet access, and a computer and projector for instruction. Restrooms are near the classrooms. Free parking is next to the building.

A LISTING OF EDUCATION FOUNDATION FOR THE LAMPASAS COUNTY HIGHER EDUCATION CENTER BOARD OF DIRECTORS

Mandy Walsh, L.E.D.C. Director, President
Jo Ann San Miguel, Secretary
Dorleen Hooten, Ed.D.
Carolyn Reed
Kie Hankins

A LISTING OF KEY STAFF AND FACULTY

Derrick Berrios
Director

Dustie Green
Personal Assistant

Bonnie Loden
Business Support Specialist

Malinda K. Galley, LVN, CPT, CMAA, CMBCS
Area of Instruction: Nurse Aide

Jonathan Jenney
Area of Instruction: Information Technologies Technician

Shawn Jenney, LVN, CMA
Area of Instruction: Phlebotomy

Kimberly Kuklies, RN
Program Director: Nurse Aide Training

Judy Chance, RN, M. S. N.
Area of Instruction: Clinical Medical Assistant
Patient Care Technician

Shannon Salinas, CPT
Area of Instruction: Phlebotomy Technician

FEES, TUITIONS AND/OR SPECIAL CHARGES

Clinical Medical Assistant (CMA)

Tuition	$3,031.00
Registration	$100.00
Student Completer Form Deposit	$50.00
Books	$167.00
Supplies	$397.00
10-panel Drug Screen	$50.00
National Healthcareer Association Certification Exam for Clinical Medical Assistant (CCMA)	$155.00
Basic Life Support (BLS) Certification	$50.00
TOTAL COST	**$4,000.00**

Additional Expenses:

TB Test (varies by healthcare provider)

Scrubs for Clinicals (cost varies)

Information Technologies Technician

Tuition	$2,780.00
Registration	$100.00
Student Completer Form Deposit	$50.00
Books	$320.00
TOTAL COST	**$3,250.00**

Additional Expenses:

CompTia A+ Certification Exam ($205 for both exams through Pearson Vue)

CompTia Network + ($294 through Pearson Vue)

CompTia Security + ($320 through Pearson Vue)

Cisco INCD Exams ($165 through Pearson Vue)

Medical Billing and Coding Specialist (MBCS)

Tuition	$908.00
Registration	$100.00
Student Completer Form Deposit	$50.00
Books	$75.00
National Healthcareer Association Certification Exam for Medical Billing and Coding Specialist (CMBCS)	$117.00
TOTAL COST	**$1,250.00**

Nurse Aide (NA)

Tuition	$715.00
Registration	$100.00
Student Completer Form Deposit	$50.00
Books	$40.00
Background Check	$15.00
Supplies	$125.00
TOTAL COST	**$1,045.00**

Additional Expenses:

Scrubs (cost varies)

TB Test (varies by healthcare provider)

DADS Certification exam: $115.00 (payable to Prometric)

Patient Care Technician (PCT)

Tuition	$990.00
Registration	$100.00
Student Completer Form Deposit	$50.00
Books	$210.00
Background Check	$15.00
10-panel Drug Screen	$50.00
Basic Life Support (BLS) Certification	$50.00
National Healthcareer Association Certification Exam for Phlebotomy Technician (CPCT/A)	$155.00
Supplies	$280.00
TOTAL Cost	**$1,900.00**

Additional Expenses:

TB Test (varies by healthcare provider)

Phlebotomy Technician (PB)

Tuition	$788.00
Registration	$100.00
Student Completer Form Deposit	$50.00
Books	$107.00
National Healthcareer Association Certification Exam for Phlebotomy Technician (CPT)	$117.00
Supplies	$298.00
Lab Coat	$40.00
TOTAL Cost	**$1,500.00**

SCHOOL CALENDAR

Holidays 2021/2022

LCHEC will be closed and no classes will be held on the following days (unless otherwise stipulated by the instructor):

February 21, 2022	President's Day
March 21-25, 2022	Spring Break
May 30, 2022	Memorial Day
September 5, 2022	Labor Day
October 10, 2022	Columbus Day
November 11, 2021	Veterans Day
November 25-26, 2021	Thanksgiving Holiday
December 20-30, 2021	Christmas Holiday
January 1, 2022	New Year's Day
January 17, 2022	Martin Luther King, Jr. Day

Hours of operation and class schedules

The LCHEC office is open Monday through Friday, 9 am to 5 pm.

Classes will be held in the daytime, usually from 9 am to 4 pm with an hour break for lunch, or in the evening, usually from 5 pm to 10 pm. Five to ten-minute breaks will be granted hourly by individual instructors. Class schedules will be announced as available. Enrollment period for each program ends seven days prior to the start of the program.

ENROLLMENT POLICY

Requirements for admission:

1. High school diploma or certification of high school equivalency (GED) for all students with the exception of the Nurse Aide, for which at least an eighth grade education is required.
2. Students must be at least 18 years old for all programs, with the exception of Nurse Aide, for which students must be at least 16 years old. Students under the age of 18 must have a parent or guardian's consent plus compulsory school age requirements.
3. Any student enrolling in the Nurse Aide training program cannot be on the Employee Misconduct Registry (EMR) and the Nurse Aide Registry (NAR). NATCEPs are required to check both the EMR and the NAR and to conduct a criminal history background check for all applicants. Applicants found to be listed on the EMR, or who are listed on the NAR in "revoked" status, or who have a criminal history that would bar employment in a DADS-licensed facility or agency are prohibited from enrolling in a nurse aide training program.
4. Students must pass a criminal background check for the Nurse Aide, Clinical Medical Assistant, and Patient Care Technician programs.
5. Clinicals and externships for some programs have additional requirements. Please refer to the catalogue description and/or enrollment policy for individual programs.
6. A $50 Student Completer Form deposit is required at registration. This deposit is refunded to the student upon LCHEC's receipt of the completed form from the student within a year of program completion, otherwise this refund is forfeited to LCHEC.

CREDIT POLICY

LCHEC will review prior education and work experience. Our programs are based on completing a certain number of classroom hours, the requirements for which have been set by state licensing agencies. We cannot guarantee credit or transferability.

Exceptions may be made in the case of a student dropping out prior to finishing the course. Upon re-enrollment, credit will be given for satisfactorily completed work at LCHEC only.

CANCELLATION POLICY

A full refund will be made to any student who cancels the enrollment contract within 72 hours (until midnight of the third day excluding Saturdays, Sundays and legal holidays) after the enrollment contract is signed. A full refund will also be made to any student who cancels enrollment within the student's first three scheduled class days, except that the school may retain not more than $100 in any administrative fees charged, as well as items of extra expense that are necessary for the portion of the program attended and stated separately on the enrollment agreement.

REFUND POLICY

1. Refund computations will be based on scheduled course time of class attendance through the last date of attendance. Leaves of absence, suspensions and school holidays will not be counted as part of the scheduled class attendance.
2. The effective date of termination for refund purposes will be the earliest of the following:
    (a)   The last day of attendance, if the student is terminated by the school;

(b)   The date of receipt of written notice from the student; or

(c)   Ten school days following the last date of attendance.

3.   If tuition and fees are collected in advance of entrance, and if after expiration of the 72-hour cancellation privilege the student does not enter school, not more than $100 in any administrative fees charged shall be retained by the school for the entire residence program or synchronous distance education course.

4.   If a student enters a residence or synchronous distance education program and withdraws or is otherwise terminated after the cancellation period, the school or college may retain not more than $100 in any administrative fees charged for the entire program. The minimum refund of the remaining tuition and fees will be the pro rata portion of tuition, fees, and other charges that the number of hours remaining in the portion of the course or program for which the student has been charged after the effective date of termination bears to the total number of hours in the portion of the course or program for which the student has been charged, except that a student may not collect a refund if the student has completed 75 percent or more of the total number of hours in the portion of the program for which the student has been charged on the effective date of termination.[1] In accordance with the Texas Veterans Commission and the Code of Federal Regulation, students receiving Veteran Education Benefits are exempt from this policy.

5.   Refunds for items of extra expense to the student, such as books, tools, or other supplies are to be handled separately from refund of tuition and other academic fees. The student will not be required to purchase instructional supplies, books and tools until such time as these materials are required. Once these materials are purchased, no refund will be made. For full refunds, the school can withhold costs for these types of items from the refund as long as they were necessary for the portion of the program attended and separately stated in the enrollment agreement. Any such items not required for the portion of the program attended must be included in the refund.

6.   A student who withdraws for a reason unrelated to the student's academic status after the 75 percent completion mark and requests a grade at the time of withdrawal shall be given a grade of "incomplete" and permitted to re-enroll in the course or program during the 12-month period following the date the student withdrew without payment of additional tuition for that portion of the course or program.

7.   A full refund of all tuition and fees is due and refundable in each of the following cases:

(a)   An enrollee is not accepted by the school;

(b)   If the course of instruction is discontinued by the school and this prevents the student from completing the course; or

(c)   If the student's enrollment was procured as a result of any misrepresentation in advertising, promotional materials of the school, or representations by the owner or representatives of the school.

A full or partial refund may also be due in other circumstances of program deficiencies or violations of requirements for career schools and colleges.

8.   REFUND POLICY FOR STUDENTS CALLED TO ACTIVE MILITARY SERVICE.

A student of the school or college who withdraws from the school or college as a result of the student being called to active duty in a military service of the United States or the Texas National Guard may elect one of the following options for each program in which the student is enrolled:

---

[1] More simply, the refund is based on the precise number of course time hours the student has paid for, but not yet used, at the point of termination, up to the 75% completion mark, after which no refund is due. Form PS-1040R provides the precise calculation. In accordance with the Texas Veterans Commission and the Code of Federal Regulation, students receiving Veteran Education Benefits are exempt from this policy.

(a) If tuition and fees are collected in advance of the withdrawal, a pro rata refund of any tuition, fees, or other charges paid by the student for the program and a cancellation of any unpaid tuition, fees, or other charges owed by the student for the portion of the program the student does not complete following withdrawal;

(b) A grade of incomplete with the designation "withdrawn-military" for the courses in the program, other than courses for which the student has previously received a grade on the student's transcript, and the right to re-enroll in the program, or a substantially equivalent program if that program is no longer available, not later than the first anniversary of the date the student is discharged from active military duty without payment of additional tuition, fees, or other charges for the program other than any previously unpaid balance of the original tuition, fees, and charges for books for the program; or

(c) The assignment of an appropriate final grade or credit for the courses in the program, but only if the instructor or instructors of the program determine that the student has:

    (1) satisfactorily completed at least 90 percent of the required coursework for the program; and

    (2) demonstrated sufficient mastery of the program material to receive credit for completing the program.

9. The payment of refunds will be totally completed such that the refund instrument has been negotiated or credited into the proper account(s), within 60 days after the effective date of termination.

Attendance and Progress and Grading Policy

Attendance

Satisfactory student attendance is established when the student is present in the assigned classroom for the required amount of scheduled time. Students must attend the requisite number of hours to obtain their certificate of completion. Therefore, attendance at every class session is strongly encouraged.

If a student exhibits unprofessional behavior such as tardiness to clinical, class, or skills lab, instructor will give a verbal warning for the first offense. For the second offense, the student will receive a written warning and will be placed on probation. For the third offense, the student will be terminated from the program.

A student terminated from the program due to continuous violation of LCHEC's policy on absences, tardiness to clinical, and professional conduct may be readmitted to the program upon satisfactory explanation regarding the cause of the behavior and resolution of the problem. After counseling with the School Director and Instructor, a student may be readmitted on a probationary basis.

If a student is dismissed due to tardiness or not attending a minimum of 80% of the scheduled course and wants to re-enroll, the student must write a letter requesting re-enrollment and must speak to the school director to obtain approval for re-enrollment. The student may not re-enroll until after a minimum of one progress evaluation period.

The attendance policy (absent 20% of the total program and/or being absent five consecutive days) will apply throughout the student's stay in school.

A student who was terminated or requested leave of absence for good cause must meet with the instructor and staff prior to readmission. The instructor and staff must determine that the student is prepared to continue his or her studies and is able to make satisfactory progress while doing so. Students in programs with course time of 40 hours or less are not eligible for leaves of absence. Students in programs with course time of 200 hours or less may be on leave of absence for a total of 30 calendar days. Students in programs with course time of more than 200 hours may be on leave of absence for a total of 60 calendar days. Students may have no more than two leaves of absence in a 12-month calendar period. School attendance records shall clearly define the dates of the leave of absence. A written statement as to why the leave of absence was granted, signed by both the student and the school director indicating approval, shall be placed in the student's permanent file. Students receiving veterans' education benefits when the LOA has expired. For VA students, the attendance policy (20% of the total program and/or being absent five consecutive days) will apply throughout the student's stay in school. All violations of the attendance policy will be reported to DVA on VA Form 22-1999b within 30 days at such time the student exceeds the allowed number of absences.

Any student who must drop out for personal reasons may be readmitted and, at the discretion of the instructor, be given credit for subjects completed during the previous session. No student will be issued a certificate until he or she has successfully attended the full hours of classroom instruction plus the review session for the national or state certification exam (if there is one).

Progress and Grading Policy

A student will make satisfactory progress as long as the student attends every class, pays attention, and participates in class discussion and in hands-on training, and achieves a passing grade (at least 70%) on all tests. A student will be terminated for disruptive behavior or failure to pay attention and participate. Progress periods are one-week long. Student progress will be assessed at the end of each week of the program. Instructors will communicate with students whose progress is unacceptable.

Students must maintain a 70% average throughout the program in order to earn a course completion certificate and to be eligible to take the certification exam. Evaluation of each student's progress is on a weekly basis with key evaluations taking place midway through the program and at the end of the program. If, at the midpoint of the program, the student is not making satisfactory progress (has not maintained a 70% average or above on homework and tests), he or she will be placed on academic probation through the next two subject tests and will be counseled on his or her academic progress in the program. Students receiving veterans' education benefits who are not making satisfactory progress in the class will be reported to the Veterans Administration as not meeting the standard and so not meeting the requirements for receiving VA benefits. If the student passes the two tests following placement on probation, the student will be declared off of probation and can continue in the program. If the student fails the two tests subsequent to placement on probation, the student will be judged failing the course and will be advised of termination. If the student finds he or she must drop out due to difficulties completing and passing the course, the student may be readmitted to a duplicate course held at LCHEC at a later date (but within 12 months of initial enrollment). Any amount of course costs paid for the first class may be credited to the second class at LCHEC within that 12-month period.

Students will be given written progress reports by their instructors.

LCHEC Student Conduct Policy

Students must maintain a professional attitude and appearance or be subject to disciplinary action including termination.
Behavior resulting in immediate termination:

- Cheating on a test
- Performance of a skill or a behavior that causes physical injury to residents at a clinical site
- Aggressive or violent behavior to staff, faculty or students
- Refusal to follow instructors' direction and instructions during clinical
- Alcohol and drug use
- Carrying weapons in the classroom or building
- No use of tobacco products on campus, including campus parking

Students will not be readmitted after termination for the reasons listed above.

Placement Assistance

LCHEC will attempt to assist graduates with job searches but cannot guarantee job placement. Interview practice and assistance with resume writing will be offered to students as part of their program.

Requirements for Graduation

Students who have met the minimum GPA requirement of a 70% average in all coursework, who have completed all required course hours in classroom and/or laboratory, and who have not violating any of the policies of LCHEC may graduate and be eligible to take the relevant certification exam. A course completion certificate will be issued to the student by LCHEC once the student has finished paying all course fees and outstanding balances.

Student Grievances

Any student with a grievance or complaint regarding an instructor or fellow student is encouraged to file a formal complaint. LCHEC takes very seriously any concerns and complaints by its students and will make every attempt to resolve the matter in an expeditious and just manner.

- Any student who has a complaint regarding another student is encouraged to take this complaint to the class instructor.
- Complaints regarding the class instructor are to be directed to the School Director. Contact name and information regarding the School Director is available on the website and from the class instructor.
- All complaints and grievances must be submitted in writing, including the name and the telephone number of the person submitting the complaint.
- LCHEC will contact the complainant within 72 hours and will investigate the claim thoroughly. Strenuous attempts will be made by LCHEC to address and resolve the complaint within seven business days.
- Complaints may be addressed to derrick.berrios@LCHEC.net or 512-556-8226.

Texas Workforce Commission Student Complaint Policy

This school has a Certificate of Approval from the Texas Workforce Commission (TWC). The TWC-assigned school number is: S 4320 .

The school's programs are approved by TWC, and Nurse Aide Training is also approved by the Texas Department of Aging and Disability Services (DADS). The DADS-assigned nurse aide program number is #5514.

Students must address their concerns about this school or any of its educational programs by following the grievance process outlined in the school's catalog. Schools are responsible for ensuring and documenting that all students have received a copy of the school's grievance procedures and for describing these procedures in the school's published catalog. If, as a student, you were not provided with this information, please inform school management.

Students dissatisfied with this school's response to their complaint or who are not able to file a complaint with the school, can file a formal complaint with TWC, as well as with other relevant agencies or accreditors, if applicable. Information on filing a complaint with TWC can be found on TWC's Career Schools and Colleges Website at http://csc.twc.state.tx.us/.

True and Correct Statement

I hereby certify that the statements and information in this catalog are true and correct to the best of my knowledge and belief.

Derrick Berrios

Director, Lampasas County Higher Education Center

PROGRAM OUTLINES

CLINICAL MEDICAL ASSISTANT (CMA)

Objective

The Clinical Medical Assistant program trains students in the skills necessary for employment in any modern medical facility. Students will become proficient in a variety of clinical and laboratory procedures and many administrative roles. Clinical medical assistants perform routine administrative and clinical tasks to keep physician, podiatry, chiropractic and other health practitioner officers running smoothly. Students will study medical terminology, pharmacology, basic EKG, phlebotomy, and medical billing.

Career Opportunities

Graduates of this program may find employment in clinics, hospitals, and laboratories where both administrative and technician skills are required. According to the U.S. Bureau of Labor Statistics, Clinical Medical Assistants earn a median annual salary of $30,880 in Texas. The median annual salary for a Clinical Medical Assistant in the U.S. is $31,540.

Classroom Procedures

Students will spend 214 hours in the classroom (117 lecture and 97 lab hours) and 100 hours in clinicals (externship) to obtain proficiency in the skills necessary for performing the duties of a Clinical Medical Assistant. The total program is 314 hours. The classroom portion of the program meets in the classes meet on an alternating schedule: twice one week and four times the next, from 6:15 – 9:15 pm, for 17 weeks plus 1 day and 1 hour, with a 5 – 10 minute break every hour. Clinical hours vary according to clinical site, but usually meet for seven weeks, four days a week, from 8 am – 3 pm each day with an hour for lunch. There is a minimum of 5 and a maximum of 10 students for each program session for the classroom. Maximum number of students at each clinical/externship site varies according to site. Coordinator contact: 1 x week.

Program Length and Content

Module	Subject	Hours Lecture	Hours Lab	Hours Externship	Total
CMA-101	Patient Care	45	34	0	79
CMA-102	Communications	15	10	0	25
CMA-103	Office Administration	18	0	0	18
CMA-104	Medical Law and Ethics	10	0	0	10
CMA-105	Phlebotomy	19	20	0	39
CMA-106	EKG Monitoring	7	26	0	33
CMA-107	CMA Clinicals/Externship	0	0	100	100
CMA-108	National Clinical Medical Assistant Certification Exam Review	3	3		6
CCMA-109	Basic Life Support for Healthcare Providers	0	4	0	4
	TOTAL Hours	**117**	**97**	**100**	**314**

Course Descriptions

CMA-101 – Patient Care
Prerequisite: None
Clock Hours: Lecture -45 /Lab -34

Students will learn to perform CLIA-waived laboratory procedures, identify abnormal patient values for triage purposes, obtain patient vital signs using manual and automatic devices, administer medications, explain the phlebotomy procedure to be performed on the patient, review the requisition for testing requirements and patient identity, determine venipuncture site accessibility based on patient age and condition, verify patient compliance with testing requirements, and prepare the patient for monitoring.

CMA-102 – Communications
Prerequisite: CMA 101
Clock Hours: Lecture -15 /Lab-10

In this course, participants will learn to document medical information using approved medical terminology, communicate with other health care professionals using medical terminology, adhere to HIPAA regulations regarding protected health information (PHI), reinforce patient understanding of medical information, observe the chain of command in a health care setting, report abnormal patient values to appropriate health care providers, conduct written communication with patients and other health care professionals, conduct communication with patients and fellow health care professionals using information technology, explain general office procedures to patients, modify communication with patients based on special considerations, and locate community resources and information for patients/employers.

CMA-103 – Office Administration
Prerequisite: CMA 102
Clock Hours: Lecture - 18

In this course, participants will learn to manage patient medical records, obtain patient information and consent for services, schedule inpatient and outpatient admissions and procedures, manage appointment scheduling, adhere to HIPAA regulations concerning insurance, respond during patient refusal of treatment, perform office opening and closing procedures, manage physician's professional schedule, maintain human resources documentation, manage inventory of office supplies, and perform basic diagnostic and procedural coding.

CMA-104 – Medical Law and Ethics
Prerequisite: CMA 103
Clock Hours: Lecture - 10

In this course participants will learn to address patient concerns according to the Patient's Bill of Rights, maintain safety in the workplace according to regulatory standards (OSHA, Joint Commission, CLIA), follow chain of custody protocol (e.g., drug testing, rape kits), report illegal or unsafe activities in the health care environment to proper authorities (e.g., neglect of patients, harassment, substance abuse, fraud), and recognize and respond to emergency situations (e.g., fire, hostage, biological hazard).

CMA-105 – Phlebotomy
Prerequisite: CMA 104
Clock Hours: Lecture - 19 /Lab -20

Participants in this course will learn to demonstrate proper venipuncture and capillary specimen collection based on patient age and condition, demonstrate appropriate infant heel stick procedures, perform the steps used in collecting a blood culture, explain proper specimen labeling technique, maintain patient safety during the collection process, recognize complications of phlebotomy procedures and identify problematic patient signs,

explain how best to avoid pre-analytical errors when collecting blood specimens, prepare samples for transportation to testing laboratory, and discuss handling requirements for non-blood specimens.

CMA-106- EKG Monitoring
Prerequisite: CMA 105
Clock Hours: Lecture- 7 /Lab -26
In this course, students will learn to describe proper lead placement when acquiring various EKG tracings; list the EKG waveforms; identify specific waveforms on the EKG; measure the duration of waveforms on the EKG; identify the direction of wave deflection; determine T wave symmetry; determine P wave symmetry; measure the heart rate from the EKG tracing; differentiate artifact from expected EKG tracing waveforms; describe how to eliminate artifact from an EKG; interpret arrhythmias originating in the atria, ventricles, and accessory pathway; recognize pacer spikes on the EKG; identify ischemic changes on the EKG; describe the proper response for life-threatening arrhythmias; and describe how to maintain the EKG machine.

CMA-107 –CMA Clinicals/Externship
Prerequisite: CMA 106
Clock Hours: Externship - 100
Students will perform a total of 100 clinical hours in external sites identified and arranged by the instructor or the program director.

CMA-108 – National Clinical Medical Assistant Certification Exam Review
Prerequisite: CMA-107
Clock Hours: Lecture – 3/Lab - 3
In this course, students will review what they learned during the program in order to prepare for the national certification exam.

CMA-109 – Basic Life Support for Health Care Providers
Prerequisite: None
Clock Hours: Lab – 4
This course is designed to provide a wide variety of healthcare professionals the ability to recognize several life-threatening emergencies, provide CPR, use an AED, and relieve choking in a safe, timely, and effective manner. This course will be scheduled during the course but prior to clinicals (externship).

Information Technologies Technician

Objective

The Information Technologies Technician program will groom students in the skills necessary for employment as an Information Technologies Technician: Systems Administrator, Information Technologies Technician: Information Assurance, Information Technologies Technician: Security Officer level 1, Information Technologies Technician: Network Administrator, or Information Technologies Technician: Help Desk Technician. The student will become proficient in skills required for certification through the following examinations: CompTia A+ 220-901 and 220-902, CompTia Network+ N10-007, CompTia Security+ SY0-401, INCD 1 100-105(Cisco Certified Entry Level Technician CCENT), and INCD 2 200-105(Cisco Certified Network Associate CCNA). Students will learn basic computer hardware setup, design, and function; basic networking theory and application, local area network (LAN) switching; fundamentals of networks and network devices (routers, servers, other systems); IP addressing and network address translation (NAT) network; systems; and computer or network troubleshooting and repair.

Career Opportunities

Graduates of this program may find employment in Network Operation Centers (NOC), Network and Security Operation Centers (NOSC), Network Technologies Centers or other businesses as Information Technology (IT) support or Information Technology specialist, or Help Desk Call Centers. According to the U.S. Bureau of Labor Statistics, the mean annual salary for an Information Technologies Technician in Texas is $47,500–$69,000.

Classroom Procedures

Admissions requirements for this program are as follows: High School Diploma, GED or equivalent. Students will spend 300 hours in the classroom, and classroom lab [See following for hour breakdown]. The program will last approximately 18.75 weeks, with classes being conducted in the evening, four days a week (Mon, Tues, Weds, Thurs) from 5:00pm-9:00pm with a 5 to 10-minute break every hour. There is a minimum of 5 and a maximum of 10 students for each program session for the classroom. Certification exams for CompTia A+, CompTia Network+, CompTia Security+, INCD 1 Cisco Certified Entry Level Technician/CCENT), and INCD 2 (Cisco Certified Network Associate/CCNA) are administered through a Pearson Vue approved testing center. Minimum acceptable test scores are A+ 220-901: 75%, A+ 220-902: 78%, Network+: 80%, Security+: 83%, INCD 1: 80%, INCD 2: 82%.

Program Length and Content

Module	Subject	Hours Lecture	Hours Lab	Total
A+-101	Computer Hardware	24	1	25
A+-102	Networking	9	2	11
A+-103	Mobile Devices	8	0	8
A+-104	Hardware and Networking Troubleshooting	11	0	11
A+ -201	Windows Operating Systems	8	0	8
A+ -202	Other Operating Systems and Technologies	8	0	8
A+ -203	Security	6	0	6
A+ -204	Software Troubleshooting	6	0	6
A+ -205	Operational Procedures	2	0	2
N+-101	Network Technologies	19	10	29
N+-102	Network Operations	11	0	11
N+-103	Network Security	8	0	8
N+-104	Troubleshooting	11	0	11
N+-105	Industry Standards, Practices, and Network Theory	2	0	2
S+-101	Network Security	11	0	11
S+-102	Compliance and Operational Security	11	0	11
S+-103	Threats and Vulnerabilities	10	0	10
S+-104	Application, Data, and Host Security	9	0	9
S+-105	Access Control and Identity Management	6	0	6
S+-106	Cryptography	10	0	10
INCD1-101	Network Fundamentals	6	0	6
INCD1-102	Ethernet LANs and Switches	9	4	13
INCD1-103	IPv4 Addressing and Subnetting	6	0	6
INCD1-104	Implementing IP Version 4	5	4	9
INCD1-105	Advanced IPv4 Addressing Concepts	4	2	6
INCD1-106	IPv4 Services	5	4	9
INCD1-107	IP Version 6	6	3	9
INCD2-201	LAN Switching	3	3	6
INCD2-202	IP Version 4 Routing	7	4	11
INCD2-203	IP Version 4 Routing Protocols	4	3	7
INCD2-204	Wide Area Networks	3	3	6
INCD2-205	IP Version 6	3	3	6
INCD2-206	Network Management	3	0	3
	TOTAL Hours	254	46	300

Course Descriptions

A+-101 – Computer Hardware
Prerequisite: None
Clock Hours: Lecture – 24 / Lab - 1
Students will gain a basic understanding of computer hardware components in coordination with the following:
- Given a scenario, configure settings and use BIOS/UEFI tools on a PC.
- Explain the importance of motherboard components, their purpose and properties. Compare and contrast various RAM types and their features.
- Install and configure PC expansion cards.
- Install and configure storage devices and use appropriate media.
- Install various types of CPUs and apply the appropriate cooling methods.
- Compare and contrast various PC connection interfaces, their characteristics and purpose.
- Install a power supply based on given specifications.
- Given a scenario, select the appropriate components for a custom PC configuration to meet customer specifications or needs.
- Compare and contrast types of display devices and their features.
- Identify common PC connector types and associated cables.
- Install and configure common peripheral devices.
- Install SOHO multifunction device/printers and configure appropriate settings.
- Compare and contrast differences between the various print technologies and the associated imaging process.
- Given a scenario, perform appropriate printer maintenance.

A+-102 – Networking
Prerequisite: A+-101
Clock Hours: Lecture – 9 / Lab - 2
Students will learn to identify and utilize Network Technologies such as:
- Network Cables and Connectors
- Compare and Contrast Network Connectors and Cables speeds, maximum lengths, and uses
- Properties of TCP/IP protocols
- Common TCP and UDP ports and protocols
- Wi-Fi Standards and their Encryption Types
- How to install and configure SOHO routers
- Internet Connection types
- Network Architecture Devices
- Networking Tools

A+-103 – Mobile Devices
Prerequisite: A+-102
Clock Hours: Lecture - 8

Students will learn to:
- Install and configure laptop hardware and components.
- Explain the function of components within the display of a laptop.
- Given a scenario, use appropriate laptop features.

- Explain the characteristics of various types of other mobile devices.
- Compare and contrast accessories & ports of other mobile devices.

A+-104 – Hardware and Networking Troubleshooting
Prerequisite: A+-103
Clock Hours: Lecture - 11
Students will learn essential investigation and problem solving and have the ability:
- Given a scenario, troubleshoot common problems related to motherboards, RAM, CPU and power with appropriate tools.
- Given a scenario, troubleshoot hard drives and RAID arrays with appropriate tools.
- Given a scenario, troubleshoot common video, projector and display issues.
- Given a scenario, troubleshoot wired and wireless networks with appropriate tools.
- Given a scenario, troubleshoot and repair common mobile device issues while adhering to the appropriate procedures.
- Given a scenario, troubleshoot printers with appropriate tools.

A+-201 – Windows Operating Systems
Prerequisite: A+- 104
Clock Hours: Lecture - 8
Students will learn basic Command Line Interface and various function tools for Operating Systems and Networking by:
- Compare and contrast various features and requirements of Microsoft OS's (Windows Vista, Win7, Windows 8, Windows 8.1).
- Given a scenario, install Windows PC operating systems using appropriate methods.
- Given a scenario, apply appropriate Microsoft command line tools.
- Given a scenario, use appropriate Microsoft operating system features and tools.
- Given a scenario, use Windows Control Panel utilities.
- Given a scenario, install and configure Windows networking on a client/desktop.
- Perform common preventive maintenance procedures using the appropriate Windows OS tools.

A+-202 – Other Operating Systems and Technologies
Prerequisite: A+-201
Clock Hours: Lecture - 8
Student will learn Mac OS, Android, Apple IOS, Windows Mobile OS, Linux OS and different services for each by:
- Identify common features and functionality of the Mac OS and Linux operating systems.
- Given a scenario, setup and use client-side virtualization.
- Identify basic cloud concepts.
- Summarize the properties and purpose of services provided by networked hosts.
- Identify basic features of mobile operating systems.
- Install and configure basic mobile device network connectivity and email.

A+-203 – Security
Prerequisite: A+-202
Clock Hours: Lecture - 6
Student will learn Common Security Threats and Vulnerabilities known and in production on the Internet and hardening techniques to defend against them by:
- Identify common security threats and vulnerabilities.
- Compare and contrast common prevention methods.
- Compare and contrast differences of basic Windows OS security settings.
- Given a scenario, deploy and enforce security best practices to secure a workstation.
- Compare and contrast various methods for securing mobile devices.
- Given a scenario, use appropriate data destruction and disposal methods.
- Given a scenario, secure SOHO wireless and wired networks.

A+-204 – Software Troubleshooting
Prerequisite: A+-203
Clock Hours: Lecture - 6
Students will learn necessary tools and assistance applications in order to identify and repair Operating Systems. Students will:
- Given a scenario, troubleshoot PC operating system problems with appropriate tools.
- Given a scenario, troubleshoot common PC security issues with appropriate tools and best practices.
- Given a scenario, troubleshoot common mobile OS and application issues with appropriate tools.
- Given a scenario, troubleshoot common mobile OS and application security issues with appropriate tools.

A+-205 – Operational Procedures
Prerequisite: A+-204
Clock Hours: Lecture - 2
Students will learn general safety, and environmental concerns, and acceptable use in a business world:
- Given a scenario, use appropriate safety procedures.
- Given a scenario with potential environmental impacts, apply the appropriate controls.
- Summarize the process of addressing prohibited content/activity, and explain privacy, licensing, and policy concepts.
- Demonstrate proper communication techniques and professionalism.
- Given a scenario, explain the troubleshooting theory.

N+-101 – Network Technologies
Prerequisite: A+-205
Clock Hours: Lecture – 19 / Lab - 10
Students will learn Intermediate and advanced concepts of installing a production network and ensure its availability, confidentiality, and integrity.
- Explain the functions and applications of various network devices.
- Compare and contrast the use of networking services and applications.
- Install and configure the following network services/applications.
- Explain the characteristics and benefits of various WAN technologies.

- Install and properly terminate various cable types and connectors using appropriate tools.
- Differentiate between common network topologies.
- Differentiate between network infrastructure implementations.
- Given a scenario, implement and configure the appropriate addressing scheme.
- Explain the basics of routing concepts and protocols.
- Identify the basics elements of unified communication technologies.
- Compare and contrast technologies that support cloud and virtualization.
- Given a set of requirements, implement a basic network.

N+-102 – Network Operations
Prerequisite: N+-101
Clock Hours: Lecture - 11
Students will learn to monitor and analyze network traffic, apply appropriate network monitoring tools in order to contain network hardening and support:
- Given a scenario, use appropriate monitoring tools.
- Given a scenario, analyze metrics and ports from monitoring and tracking performance tools.
- Given a scenario use appropriate resources to support configuration management.
- Explain the importance of implementing network segmentation.
- Given a scenario, install and apply patches and updates.
- Given a scenario, configure a switch using proper features.
- Install and configure wireless LAN infrastructure and implement the appropriate technologies in support of wireless capable devices.

N+-103 - Network Security
Prerequisite: N+-102
Clock Hours: Lecture - 8
Students will learn concepts related to Network Security from inside and outside the network, in addition to hardening techniques to secure the network. This includes:
- Compare and contrast risk related concepts.
- Compare and contrast common network vulnerabilities and threats.
- Given a scenario, implement network hardening techniques.
- Compare and contrast physical security controls.
- Given a scenario, install and configure a basic firewall.
- Explain the purpose of various network access control models.
- Summarize basic forensic concepts.

N+-104 – Troubleshooting
Prerequisite: N+-103
Clock Hours: Lecture - 11
Students will learn the very core of customer service in technical support to the network. Student will learn how to identify, troubleshoot, and repair errors, correct configurations, and other issues related to network connectivity. This includes:
- Given a scenario, implement the network troubleshooting methodology.
- Given a scenario, analyze and interpret the output of troubleshooting tools.
- Given a scenario, troubleshoot and resolve common wireless issues.
- Given a scenario, use the appropriate network monitoring resource to analyze traffic.

- Given a scenario, troubleshoot and resolve common fiber cable issues.

N+-105 – Industry Standards, Practices, and Network Theory
Prerequisite: N+-104
Clock Hours: Lecture - 2
Students will understand peripheral and lateral concerns to networking in the workplace. These industry standards cover a wide range of information including:
- Analyze a scenario and determine the corresponding OSI Layer
- Explain the basics of Network theory and concepts
- Given a scenario deploy the appropriate wireless standard.
- Given a scenario, deploy the appropriate wired connectivity standard
- Given a scenario, apply the appropriate policies or procedures.
- Summarize safety practices
- Given a scenario, install and configure equipment in the appropriate location using best practices
- Explain the basics of change management procedures
- Compare and contrast the ports and protocols

S+-101 – Network Security
Prerequisite: N+-105
Clock Hours: Lecture - 11
Students will learn advanced methods of security application of both wired and wireless networks:
- Implement security configuration parameters on network devices and other technologies
- Apply and implement secure network administration principles
- Explain network design elements and compounds
- Implement and use common protocols
- Implement wireless networks in a secure manner

S+-102 – Compliance and Operational Security
Prerequisite: S+-101
Clock Hours: Lecture - 11
Students will learn business risk models, and the importance of data integrity, loss mitigation, and recovery systems:
- Explain the importance of risk related concepts
- Security Implications of integrating systems and data with third parties
- Implement appropriate risk mitigation strategies
- Common incident response procedures
- Physical Security and Environmental controls
- Compare and contrast aspects of business continuity

S+-103 – Threats and Vulnerabilities
Prerequisite: S+-102
Clock Hours: Lecture - 10
Students will learn common threats and vulnerabilities to networks and systems. Included is hardening defense and security types to defeat common threats:
- Explain types of malware

- Summarize various types of attacks
- Summarize social engineering attacks and the associated effectiveness with each attack
- Analyze and differentiate among types of wireless attacks
- Explain types of application attacks
- Analyze and differentiate among types of mitigation and deterrent techniques
- Implement assessment tools and techniques to discover security threats and vulnerabilities
- Within the realm of vulnerability assessments, explain the proper use of penetration testing versus vulnerability scanning

S+-104 – Application, Data, and Host Security
Prerequisite: S+-103
Clock Hours: Lecture - 9
Students will learn individual host security measures, to include mobile devices, data integrity in retrospect to ownership, and guarding against threats inside the network:
- Explain the importance of application security
- Mobile security concepts and technologies
- Carry out appropriate procedures to establish host security
- Explain the appropriate controls to ensure data security
- Explain the appropriate methods to mitigate security risks in static environments.

S+-105 – Access Control and Identity Management
Prerequisite: S+-104
Clock Hours: Lecture - 6
Students will learn different safeguards for user accounts and business data. Centered on protection from insider threat:
- Compare and contrast the function and purpose of authentication services
- Explain the fundamental concepts and best practices related to authentication, authorization and access control
- Password, account policy, and credential enforcement

S+-106 – Cryptography
Prerequisite: S+105
Clock Hours: Lecture - 10
Students will learn cryptographic tools, effects, and application of security features utilizing cryptographic features:
- Given a scenario, utilize general cryptography concepts
- Use and apply appropriate cryptographic tools and products
- Explain the core concepts of Public Key infrastructure

INCD1-101 – Network Fundamentals
Prerequisite: S+-106
Clock Hours: Lecture - 6
Students will learn the Cisco Networking fundamentals and introduction to manage Cisco devices for Layer 2 and Layer 3 network devices, to include:
- The TCP/IP and OSI Networking Models
- Fundamental of Ethernet LANs

- Fundamentals of WANs
- Fundamentals of IPv4 addressing and routing
- Fundamentals of TCP/IP transport, applications and security

INCD1-102 – Ethernet LANs and Switches
Prerequisite: INCD1-101
Clock Hours: Lecture – 9 / Lab - 4
Students will learn necessary skills to engineer, install, operate, and maintain their local LAN utilizing Layer 2 technologies, principles, and standards:
- Building Ethernet LANs with Switches
- Installing and Operating Cisco LAN Switches
- Configuring Ethernet Switching
- Implementing Ethernet Virtual LANs
- Troubleshooting Ethernet LANS

INCD1-103 – IPv4 Addressing and Subnetting
Prerequisite: INCD1-102
Clock Hours: Lecture - 6
Students will learn properties and application of IP addressing inside a growing LAN, following standards and guidelines as determined by requirements from the users:
- Perspectives on IPv4 subnetting
- Analyzing classfull IPv4 networks
- Analyzing subnet masks
- Analyzing existing subnets

INCD1-104 – Implementing IP Version 4
Prerequisite: INCD1-103
Clock Hours: Lecture - 5 / Lab - 4
Students will learn the expanding nature of their networks into a WAN environment, focusing on how the data moves through the Layer 3 Devices:
- Operating Cisco Routers
- Configuring IPv4 addresses and routes
- Learning IPv4 routes with OSPFv2
- Configuring and verifying host connectivity

INCD1-105 - Advanced IPv4 Addressing Concepts
Prerequisite: INCD1-104
Clock Hours: Lecture – 4 / Lab - 2
Students will learn design of networks as it applies to segmentation of subnets dependent on the restricted number of users and services:
- Subnet design
- Variable length subnet masks
- Route summarization

INCD1-106 – IPv4 Services
Prerequisite: INCD1-105
Clock Hours: Lecture – 5 / Lab - 4
Students will learn necessary control measures to ensure availability and security of local resources as well as access to the internet:
- Basic IPv4 Access Control Lists
- Advanced IPv4 ACLs and device security
- Network address translation

INCD1-107 – IP Version 6
Prerequisite: INCD1-106
Clock Hours: Lecture 6 / Lab - 3
Students will learn the evolving internet and networking concepts behind the transition to IPv6, as it relates to their LAN networks and WAN connections:
- Fundamentals of IP Version 6
- IPv6 Addressing and Subnetting
- Implementing IPv6 Addressing on Routers
- Implementing IPv6 Addressing on Hosts
- Implementing IPv6 Routing

INCD2-201 – LAN Switching
Prerequisite: INCD1-107
Clock Hours: Lecture 3 / Lab - 3
Students will learn advanced techniques to ensure availability of LAN resources and management of Layer 2 devices:
- Spanning Tree Protocol Concepts
- Spanning Tree Protocol Implementation
- Troubleshooting LAN Switching

INCD2-202 – IP Version 4 Routing
Prerequisite: INCD2-201
Clock Hours: Lecture - 7 / Lab - 4
Students will learn various advanced techniques to identify, troubleshoot and correct problems in the Layer 3 routing, and how to implement VPNs in the network:
- Troubleshooting IP Routing Part I
- Troubleshooting IP Routing Part II
- Creating Redundant First Hop Routers
- Virtual Private Networks

INCD2-203 – IP Version 4 Routing Protocols
Prerequisite: INCD2-202
Clock Hours: Lecture – 4 / Lab - 3
Students will learn concepts and applications of the WANs major routing protocols, the difference between them, and their individual uses:
- Implementing OSPF for IPv4
- Understanding EIGRP Concepts

- Implementing EIGRP for IPv4
- Troubleshooting IPv4 Routing Protocols

INCD2-204 – Wide Area Networks
Prerequisite: INCD2-203
Clock Hours: Lecture – 3 / Lab - 3
Students will learn rarely used but still available WAN architecture types, their major functions, configuration, and troubleshooting of these technologies:
- Implementing Point-To-Point WANs
- Frame-Relay concepts
- Frame-Relay implementation
- Other types of WANs

INCD2-205 – IP Version 6
Prerequisite: INCD2-204
Clock Hours: Lecture – 3 / Lab - 3
Students will learn advanced theories and techniques for implementation and configuration of IPv6 in the modern Network community:
- Troubleshooting IPv6 routing
- Implementing OSPF for IPv6
- Implementing EIGRP for IPv6

INCD2-206 – Network Management
Prerequisite: INCD2-205
Clock Hours: Lecture - 3
Students will learn various tools to utilize while monitoring system and network health, use log files to generate trends and reports, and use this data to improve performance or suggest change of features:
- Managing network devices
- Managing IOS files
- Managing IOS licensing

MEDICAL BILLING AND CODING SPECIALIST (MBCS)

Objective

A Medical Billing and Coding Specialist's main focus is converting a medical procedure, diagnosis, or symptom to specific codes for submitting a claim for reimbursement. As a Medical Billing and Coding Specialist, you will learn the following tasks:

- Accurately locate documentation in the patient record to support coding and billing process
- Accurately assign codes for diagnoses and procedures
- Submit claims for reimbursement based on payer policies and procedures
- Coach providers on the best documentation practices to support quality coding and optimal reimbursement.

Career opportunities

Graduates of this program may find entry-level employment as a Billing and Coding Specialist with hospitals, doctors' offices, clinics, medical billing agencies, and institutional settings. Students will receive a certificate of completion from LCHEC at the end of training and will take the Billing and Coding exam offered by the National Healthcareer Association. According to the U.S. Bureau of Labor Statistics, the median annual salary for a Medical Billing and Coding Specialist is $36,000 in Texas and $37,470 in Killeen.

Classroom procedures

Students will spend 165 hours in the classroom in order to obtain proficiency in the skills necessary for performing the duties of a Billing and Coding Specialist. Class meets four days a week from 9 am to 1 pm with a 5 to 10-minute break every hour for 10.5 weeks. The evening class meets twice a week from 5:50 to 9:30 pm with a 5 to 10-minute break every hour for 20 weeks and 1.5 days or three times a week from 5:30 to 9:30 pm with a 5 to 10-minute break every hour for 13 weeks and 2 days.

Program Length and Content

Module	Subject	Hours Lecture	Hours Lab	Hours Externship	TOTAL
MBCS-101	Diagnostic Coding: International Classification of Diseases	28	0	0	28
MBCS-102	Service and Procedural Coding: Current Procedural Terminology (CPT)	9	0	0	9
MBCS-103	HCPC Coding System	9	0	0	9
MBCS-104	Understanding Insurance Policies	10	0	0	10
MBCS-105	Medicare and Medicaid	14	0	0	14
MBCS-106	Insurance Claim Forms	0	14	0	14
MBCS-107	Accounts Receivable	14	0	0	14
MBCS-108	Legal Issues	14	0	0	14
MBCS-109	Putting It All Together	0	28	0	28
MBCS-110	Test Review	5	5	0	10
MBCS-111	Test Preparation	10	5	0	15
	Total Hours	**113**	**52**	**0**	**165**

Course Descriptions

MBCS-101 – Diagnostic Coding: International Classification of Diseases (ICD-9)
Prerequisite: None
Clock Hours: Lecture – 28
Students will learn about diagnostic coding, to include:

- History
- Purpose
- Coding Compliance
- Contents of ICD-9
- Convention of ICD-9
- Locating and ICD-9
- Neoplasm Table
- Suspected Conditions
- Chronic Conditions
- Coding for late effects
- V Codes
- E Codes
- Poisoning and Adverse Effect of Drugs
- Table of Drugs and Chemicals
- CMS Guidelines for ICD-9 Coding
- ICD-10

MBCS-102 – Service and Procedural Coding: Current Procedural Terminology (CPT)
Prerequisite: MBCS-101
Clock Hours: Lecture - 9
Students will learn about the following:

- Introduction to CPT
- HIPAA
- Understanding CPT
- E&M Coding
- Modifiers
- Hospital and Outpatient Coding

MBCS-103 – HCPC Coding System
Prerequisite: MBCS-102
Clock Hours: Lecture - 9
Students will learn:

- Levels of Codes
- Types of Codes
- Modifiers
- Drug Table

MBCS-104 – Understanding Insurance Policies
Prerequisite: MBCS-103
Clock Hours: Lecture - 10
Students will learn about:

- Insurance Carriers and Policies
- Insurance Health Plans
- PPOs
- Workers Compensation

MBCS-105 – Medicare and Medicaid
Prerequisite: MBCS-104
Clock Hours: Lecture - 14
Students will learn about:

- Medicare Part A
- Medicare Part B
- Medicare Part C
- Medicare Part D
- Eligibility Requirements
- Medicare Identification Cards
- Medicare Payment System
- Explanation of Benefits
- Penalties and Fines
- Medicaid

MBCS-106 – Insurance Claim Forms
Prerequisite: MBCS-105
Clock Hours: Lab - 14
Students will learn:

- HIPAA and Electronic Claim Submissions
- Standard for Code Sets
- Electronic Claims
- CMS-1500
- POS Codes and Definitions

MBCS-107 – Accounts Receivable
Prerequisite: MBCS-106
Clock Hours: Lecture -14
Students will learn:

- Insurance Participation
- Medicare and Reimbursement
- Allowed Amounts
- Third Party Payers
- Medicaid

MBCS-108 – Legal Issues
Prerequisite: MBCS-107
Clock Hours: Lecture – 14
Students will learn:

- Medical Ethics
- Medical Records
- Protected Health Information: The HIPAA Privacy Rule
- Federal Law and State Laws
- Subpoenas
- Workers' Compensation Claims
- Record Retention
- Collections
- Fraud and Abuse
- Tips for a Clean Practice

MBCS-109 – Putting It All Together
Prerequisite: MBCS-108
Clock Hours: Lab - 28
Students will participate in:

- Insurance Claims and Forms Exercises
- Role Playing
- Pre-Tests
- Billing and Coding Scenarios

MBCS-110 – Test Review
Prerequisite: MBCS-109
Clock Hours: Lecture – 5/Lab-5
Students will review subjects presented over the course to prepare for their final exam and for their certification exam through National Healthcareer Association.

MBCS-111 – Test Preparation
Prerequisite: MBCS-110
Clock Hours: Lecture – 10/ Lab -5
Students will take their final examination in preparation for the certification exam through National Healthcareer Association.

NURSE AIDE (NA)

Objective

The Nurse Aide training program prepares students with the knowledge, skills, and abilities essential for the provision of basic care to residents in long-term care facilities. After completing this course, participants will be able to:

- Provide basic care to residents of long-term care facilities
- Communicate and interact effectively with residents and their families, with sensitivity to the psychosocial needs of residents
- Assist residents in attaining and maintaining maximum functional independence
- Protect, support, and promote the rights of residents
- Provide safety and preventive measures in the care of residents
- Demonstrate skill in observing, reporting, and documentation
- Function effectively as a member of the health care team.

Career Opportunities

Graduates of this program may find entry-level employment as a nurse aide or nurse assistant in a long-term care facility. According to the U.S. Bureau of Labor Statistics, in Texas, nurse aides earn an annual mean wage of $26,390.

Classroom Procedures

This training program (#4109) prepares students to take the National Nurse Aide Assessment Program (NNAAP) written (or oral) and skills evaluation for Texas Nurse Aides, administered by the NACES Plus and PearsonVue. This program is regulated by the Texas Department of Aging and Disability Services (DADS) and is comprised of 60 hours of classroom and skills lab and 40 hours of clinicals (externship) at a long-term care facility. This training program uses the Texas Department of Aging and Disability *Services' Texas Curriculum for Nurse Aides in Long-Term Care Facilities* (4th ed., 2013).   The day class meets in the classroom Monday through Thursday, from 9 am to 4 pm or 10 am to 5 pm (half-hour lunch) for 2 weeks and 2 days, with clinicals meeting at the nursing facility for 6 days from 8:30 am to 3 pm (half-hour lunch) and for 1 day from 8:30 am to 12:30 pm. The night class meets in the classroom Monday through Thursday from 5:15 to 9:30 pm for 4 weeks, with clinicals meeting at the nursing facility for 6 days from 8:30 am to 3 pm (half-hour lunch) and for 1 day from 8:30 am to 12:30 pm.

Program Length and Content

Module	Subject	Hours Lecture	Hours Lab	Hours Externship	Total
NA-101	Introduction	1	0	0	1
NA-102	Role of Nurse Aide in Long-Term Care	1	0	0	1
NA-103	Safety Measures	3	0	0	3
NA-104	Emergency Measures	1	1	0	2
NA-105	Infection Control	3	0	0	3
NA-106	Resident Rights & Independence	2	0	0	2
NA-107	Communication & Interpersonal Skills	2	0	0	2
NA-108	Taking Care of Yourself	2	0	0	2
NA-109	Body Mechanics, Positioning, & Moving Residents	1	1	0	2
NA-110	Care of the Resident's Environment	2	1	0	3
NA-111	Assisting Residents with Bathing	2	1	0	3
NA-112	Toileting and Perineal Care	1	1	0	2
NA-113	Skin Care	2	0	0	2
NA-114	Hygiene and Grooming	1	2	0	3
NA-115	Nutrition	2	0	0	2
NA-116	Hydration	2	0	0	2
NA-117	Elimination	1	1	0	2
NA-118	Promoting a Restraint-Proper Environment	2	0	0	2
NA-119	Vital Signs, Height, and Weight	2	2	0	4
NA-120	Observing, Reporting, and Documenting	1	0	0	1
NA-121	Admissions, Transfer & Discharge	1	0	0	1
NA-122	Coping with Death	2	0	0	2
NA-123	Introduction to Restorative Services	1	0	0	1
NA-124	Role of the Nurse Aide in Restorative Care	1	1	0	2
NA-125	Psychosocial Needs of Residents	1	0	0	1
NA-126	Culture Change	1	0	0	1
NA-127	Specific Behavior Problems	1	0	0	1
NA-128	Cognitive Impairment	1	0	0	1
NA-129	Clinical Preparation	1	0	0	1
NA-130	NA Clinicals	0	0	40	40
NA-131	Conflict Resolution	1	0	0	1
NA-132	Technologies	1	0	0	1
NA-133	Completion: Resumes, Applications; Practice Written Exams; Practice Skills Exams	2	0	0	2
NA-134	Review	1	0	0	1
	TOTAL	**49**	**11**	**40**	**100**

Course Descriptions

NA-101 – Introduction
Prerequisite: None
Clock Hours: Lecture - 1
Students will learn how today's nurse aide came about, how they are essential to the health care team, and how it can be an entry point to a nursing profession. Students will receive a copy of the Texas Nurse Aide Candidate Handbook and will learn about the importance of updating nurse aide certification by submitting employment verification. Students will learn the intent of OBRA, who can work as a nurse aide in a nursing facility, the benefits of this course to residents, nurse aides, and long-term care facilities, and the resident's right to privacy of person and condition.

NA-102 – Role of the Nurse Aide in Long-Term Care
Prerequisite: NA-101
Clock Hours: Lecture - 1
Students will learn the importance of the job of the nurse aide and the essential basic skills they provide to the nursing facility. They will learn the qualities of an effective nurse aide, the responsibilities of nurse aides, the relationship fo the nurse aide to the health care team, and the relationship of the nurse aide to residents.

NA-103 – Safety Measures
Prerequisite: NA-102
Clock Hours: Lecture - 3
Students will learn the most common causes of accidents and how to communicate with residents about safety. They will learn about physical changes in the elderly that increase the risk of accidents and guidelines for providing a safe environment. Students will learn the difference between "accidents" and "incidents", what to do about unsafe or broken, and the proper uses and hazards of chemicals in the workplace. Students will learn the role of the nurse aide in answering call signals, in identifying residents, in oxygen safety, in fire prevention and safety, and in other natural disasters inherent to the area.   They will learn about the Safe Medical Device Act of 1991, the Texas Concealed Handgun Law, and the Occupational Safety and Health Administration (OSHA).

NA-104 – Emergency Measures
Prerequisite: NA-103
Clock Hours: Lecture- 1/Lab - 1
Students will learn general measures for emergency care. They will learn about procedural guidelines for fainting and falls, seizures, and clearing the obstructed airway (Heimlich maneuver).

NA-105 – Infection Control
Prerequisite: NA-104
Clock Hours: Lecture - 3
Students will learn about infection, the chain of infection, and general approaches to prevent and control infections. They will learn about common infectious diseases.

NA-106 – Resident Rights & Independence
Prerequisite: NA-105
Clock Hours: **Lecture - 2**
Students will learn considerations for care, the rights of residents, the role of the nurse aide in respecting and promoting resident rights and independence, and the role of the nurse aide in protecting residents from abuse, neglect, and misappropriation of property.

NA-107- Communication & Interpersonal Skills
Prerequisite: NA-106
Clock Hours: Lecture - 2
Students will learn about communication and the communication process. They will learn the importance of communication and about communicating with the family and friends of residents. Students will learn how to answer the telephone in a long-term care facility. They will learn about changes due to aging that affect communications; communication styles and goals; and techniques for effective (goal-oriented) communication. They will learn communication and interpersonal skills.

NA-108 – Taking Care of Yourself
Prerequisite: NA-107
Clock Hours: Lecture - 2
Students will learn how to manage physical illness and how to prevent and manage injuries. They will learn how to manage their time and how to protect themselves legally. They will learn about emotional health and personal and vocational adjustments.

NA-109 – Body Mechanics, Positioning, & Moving Residents
Prerequisite: NA-108
Clock Hours: Lecture – 1/Lab- 1
Students will learn about body mechanics and body alignment. They will learn how to position residents in proper body alignment and how to move and lift residents. They will learn about bed mobility. They will also learn about ambulation and ambulation aids.

NA-110 – Care of the Resident's Environment
Prerequisite: NA-109
Clock Hours: Lecture – 2/Lab - 1
Students will learn considerations for care; the role of the nurse aide in the use and care of equipment and supplies in the resident's room; the role of the nurse aide in environmental control; and the role of the nurse aide in bed making.

NA-111- Assisting Residents with Bathing
Prerequisite: NA-110
Clock Hours: Lecture – 2/Lab- 1
Students will learn considerations for care and the role of the nurse aide in assisting residents with bathing.

NA-112 – Toileting and Perineal Care
Prerequisite: NA-111
Clock Hours: Lecture – 1/Lab - 1
Students will learn about assisting residents with toileting and assisting with perineal care and incontinent care.

NA-113 – Skin Care
Prerequisite: NA-112
Clock Hours: Lecture - 2
Students will learn considerations for care and the role in preventing skin breakdown.

NA-114 – Hygiene and Grooming
Prerequisite: NA-113
Clock Hours: **Lecture – 1/Lab - 2**
Students will learn about assisting with oral care. They will also learn about hair care, shampooing the hair, shaving the resident, fingernail care, dressing and undressing the resident, and applying knee high elastic (compression) stockings. They will learn about encouraging and assisting the resident with hand washing. They will also learn about other grooming, such as cosmetics.

NA-115 – Nutrition
Prerequisite: NA-114
Clock Hours: **Lecture - 2**
Students will learn about considerations for care and assisting residents with nutrition.

NA-116 – Hydration
Prerequisite: NA-115
Clock Hours: **Lecture -2**
Students will learn about considerations for care and about assisting residents with hydration.

NA-117 – Elimination
Prerequisite: NA-116
Clock Hours: Lecture – 1/Lab- 1
Students will learn about urinary and bowel elimination, bladder incontinence, and collecting specimens.

NA-118 – Promoting a Restraint-Proper Environment
Prerequisite: NA-117
Clock Hours: Lecture - 2
Students will learn considerations for care, requirements for using restraints and the dangers of using restraints. They will learn the role of the nurse aide in avoiding the need for restraints and in the care of residents when restraints are needed.

NA-119 – Vital Signs, Height, and Weight
Prerequisite: NA-118
Clock Hours: **Lecture – 2/Lab - 2**
Students will learn about body temperature, pulse, respiration, blood pressure, and height and weight, and how to measure these.

NA-120 – Observing, Reporting, and Documenting
Prerequisite: NA-119
Clock Hours: **Lecture - 1**
Students will learn the importance of observing, reporting, and documenting in long-term care. They will learn the importance of the nurse aide in observing and reporting. They will lean about the minimum data set, types of observations, and guidelines for effective observations. Students will learn how to report and how to document.

NA-121 – Admissions, Transfer, & Discharge
Prerequisite: NA-120
Clock Hours: Lecture - 1
Students will learn about the different types of admissions, discharges, and transfers. They will learn the effects of admissions, discharges, and transfers on residents and the role of the nurse aide in admitting, discharging, and transferring residents.

NA-122 – Coping with Death
Prerequisite: NA-121
Clock Hours: Lecture - 2

Students will learn about accepting one's own mortality as a developmental stage of life. Students will learn ways that residents cope with impending death. They will also learn the signs of approaching death and the role of the nurse aide in meeting the physical needs and the emotional needs of the dying resident. Students will learn the role of the nurse aide in providing support to the resident, to family and friends, and to other concerned residents. Students will learn about the role of hospice and about postmortem care.

NA-123 – Introduction to Restorative Services
Prerequisite: NA-122
Clock Hours: Lecture- 1

Students will learn considerations for care. They will learn about the interdisciplinary restorative team and about the importance of the nurse aide in restorative care. They will learn the guidelines for restoration.

NA-124- Role of the Nurse Aide in Restorative Care
Prerequisite: NA-123
Clock Hours: Lecture -1/Lab - 1

Students will review general restorative measures. They will learn about specific restorative programs. They will learn about assisting residents with adaptive or assistive devices and residents with prosthetic devices. They will learn about maintaining passive range of motion.

NA-125 – Psychosocial Needs of Residents
Prerequisite: NA-124
Clock Hours: Lecture - 1

Students will learn Maslow's Hierarchy of Needs. They will learn about the major losses and changes associated with aging and with developmental tasks associated with aging. They will learn about normal responses to losses and changes associated with aging.

NA-126 – Culture Change
Prerequisite: NA-125
Clock Hours: Lecture - 1

Students will learn about culture change. They will learn the cultural influence on residents' needs, major characteristics of culture change, and the purpose of culture change (changing routines and organizational approaches in an effort to individualize and de-institutionalize care). Students will learn about long-term care and culture change. They will learn about the language and what characteristics may bother some people.

NA-127 – Specific Behavior Problems
Prerequisite: NA-126
Clock Hours: Lecture - 1

Students will learn considerations for care. They will learn causes of behavioral problems and about behavior management. Students will learn the role of the nurse aide in assisting with specific behavior management plans and that behavior management is restorative care. Students will also learn that the behavior management plan may require that the nurse aide modify his or her own behavior in response to a resident's behavior. Students will learn about specific behavior problems and how to assist residents with these problems.

NA-128 – Cognitive Impairment
Prerequisite: NA-127
Clock Hours: Lecture - 1
Students will learn definitions associated with cognitive impairment. They will learn the developmental stages of Alzheimer's Disease, the effects of Alzheimer's Disease, and the abilities that are spared in Alzheimer's Disease. They will learn some behavioral responses to cognitive impairment. They will also learn the special needs of cognitively impaired residents. Students will learn the guidelines for assisting residents who wander; the guidelines for assisting residents who resist care; guidelines for assisting residents will self-control problems; and guidelines for assisting a resident with a catastrophic reaction.

NA-129 – Clinical Preparation
Prerequisite: NA-128
Clock Hours: Lecture - 1
Students will review what they need to know for clinicals (externship) at a long-term care facility. Students will be informed of specific rules and regulations of the facility that they will be in for their externship.

NA-130 – NA Clinicals
Prerequisite: NA-129
Clock Hours: Externship – 40
Under the supervision of their instructor, students will perform basic skills in a long-term care facility. The instructor will check off students' skill sheets as they successfully complete required skills.

NA-131 – Conflict Resolution
Prerequisite: NA-130
Clock Hours: **Lecture - 1**
Students will learn about conflict resolution for nurse aides, including conflicts with co-workers, supervisors, and residents. Students will how to resolve a workplace conflict.

NA-132 – Technologies
Prerequisite: NA-131
Clock Hours: Lecture - 1
Students will learn about information technology in the nursing home. They will learn the guidelines for using personal and facility technology.

NA-133 – Completion: Resumes, Applications; Practice Written Exams; Practice Skills Exams
Prerequisite: NA-132
Clock Hours: Lecture - 2
Students will work on resumes and applications and will practice for written and skills exams.

NA-134 – Review
Prerequisite: NA-133
Clock Hours: Lecture - 1
Students will review subject areas and skills in preparation for state certification exam.

PATIENT CARE TECHNICIAN (PCT)

Objective

The Patient Care Technician (PCT) is a healthcare professional who works under the supervision of a nurse or physician. A PCT does not give orders or make clinical decisions without the assistance of a nurse or physician. A PCT responds to patient calls and requests, assists patients with personal hygiene tasks, tidies patient rooms, serves meals and feeds patients, monitors vital signs, draws laboratory specimens, performs EKGs and other clinical tasks, sets up equipment, and assists the physician or nurse with therapies.

Career Opportunities

Patient Care Technicians typically work in hospitals, long-term care facilities, nursing homes, and private homes. Many PCTs use their knowledge and training as a stepping stone toward becoming an LVN, LPN, or RN. According to the U. S. Bureau of Labor Statistics, Patient Care Technicians earn a median annual salary of $29,500 in Texas.

Classroom Procedures

The 160-hour Patient Care Technician course is comprised of a complete course designed to provide instruction in three areas: Patient Care, Phlebotomy Technician, and EKG Technician.

The Patient Care portion of the course is designed so that the student will master patient care skills such as the patient's hygienic needs, setting up equipment for examinations, taking vital signs and monitoring for changes, documenting all patient care, communicating changes in patients with the physician or nurse, and performing some procedures on the patient, such as removing a catheter before discharge.

The Phlebotomy portion of the course is designed so that the student will obtain proficiency in the skills necessary for performing the duties of a Phlebotomy Technician. Students must achieve a minimum of 30 successful venipunctures and 10 capillary sticks for this portion of the course.

The EKG portion of the course is designed to provide instruction in electrocardiography testing procedures used in detecting heart disease and other cardiovascular disorders. This course provides instruction in operating and troubleshooting an EKG unit, placing leads utilizing 12-lead EKG, using and understanding EKG grid paper, recognizing normal and abnormal EKG patterns in all 12 leads and plotting EKG axis.

The day class meets four days a week (Wed, Thurs, Fri, and Sat) from 9 am to 4 pm with an hour for lunch and a 5 to 10-minute break every hour for 6 weeks and 3 days. The night class meets from 5:00 to 9:00 pm four days a week (Wed, Thurs, Fri, and Sat) with a 5 to 10-minute break every hour for 10 weeks.

Patient Care Technician (PCT)
Program Length and Content

Module	Subject	Hours Lecture	Hours Lab	Hours Externship	Total
PCT-101	Introduction to Patient Care Technician	3	0	0	3
PCT-102	General Patient Care	14	14	0	28
PCT-103	Patient Care and Preparation Related to Phlebotomy and EKG	8	0	0	8
PCT-104	Medical Anatomy and Physiology	16	0	0	16
PCT-105	Medical Terminology	6	0	0	6
PCT-106	Professional Responsibilities (Medical Law and Ethics)	10	0	0	10
PCT-107	Asepsis and Infection Control	8	0	0	8
PCT-108	Safety Measures	8	0	0	8
PCT-109	Healthcare Provider CPR and First Aid	0	4	0	4
PCT-110	Introduction to Phlebotomy	5	0	0	5
PCT-111	Phlebotomy – Primary Collections	2	14	0	16
PCT-112	Phlebotomy – Special Collections	1	7	0	8
PCT-113	Phlebotomy - Processing	1	7	0	8
PCT-114	Introduction to EKG Monitoring	8	0	0	8
PCT-115	Applied EKG	1	7	0	8
PCT-116	Clinical EKG	1	7	0	8
PCT-117	Career Development	4	0	0	4
PCT-118	National Patient Care Technician Certification Exam Review	0	4	0	4
	TOTAL Hours	96	64	0	160

Patient Care Technician (PCT)
Course Descriptions

PCT-101 – Introduction to Patient Care Technician
Prerequisite: None
Clock Hours: Lecture – 3

Introductory course that explains the function of today's Patient Care Technicians. The student will be able to identify the Patient Care Technician's role on the healthcare team.

PCT-102 – General Patient Care
Prerequisite: PCT-101
Clock Hours: Lecture – 14/ Lab - 14

The student will be able to:

- Provide basic patient care under the direction of nursing staff
- Provide emotional support for patients and their families while performing patient care
- Support the coping mechanisms of patients and their families who are dealing with grief, death, and dying
- Set up equipment to be used by the patient
- Provide patient care for a patient with a feeding tube
- Perform care related to the special needs patient
- Report any new changes in the patient's condition
- Monitor and record functions related to digestion
- Monitor and record, and accurately measure intake/output
- Assist in admission, discharge, and/or transfer of patient to another unit or facility
- Follow the established restorative plan of care ordered for the patient
- Perform passive Range of Motion (ROM) for the patient
- Assist with restorative rehabilitation activities
- Use adaptive devices for activities of daily living
- Keep patient area clean
- Remove peripheral IVs
- Perform dressing changes
- Transfer a patient using a mechanical lift
- Manually lift and transfer a patient
- Apply immobility splints to patients
- Provide one-on-one care for patients who are at risk for suicide
- Provide skin care
- Identify and report changes in skin integrity
- Utilize devices to prevent skin breakdown
- Apply sequential compression boots
- Apply anti-embolic stockings (e.g., TED hose)
- Assist the patient with coughing, deep-breathing exercises
- Perform first aid, CPR, and rapid response procedures
- Report critical values to the appropriate nurse in charge of the patient
- Assist the patient with incentive spirometry
- Check dressings for increased saturation and changes
- Follow the 5 Rights of Delegation
- Prioritize patient care based on patient needs
- Recognize visual abnormalities in patient specimens
- Monitor vital signs and patient status during blood transfusions
- Assist patient with taking self-administered prescribed medications

- Apply oxygen therapy
- Assist with patient administered nebulizer treatments
- Weight a patient
- Assist patients with orthotic or prosthetic devices
- Perform home health aide services
- Perform hospice/palliative aide care services
- Perform ostomy care
- Assist with ostomy care
- Perform postmortem care
- Observe for and report edema
- Observe and report patient pain using pain scale
- Monitor and record vital signs

PCT-103 – Patient Care and Preparation Related to Phlebotomy and EKG
Prerequisite: PCT-102
Clock Hours – Lecture– 8
The student will be able to:
- Conduct appropriate introduction to patient
- Explain the phlebotomy procedure to be performed on the patient
- Review the requisition for testing requirements and patient identity
- Receive implied or informed consent from the patient
- Determine venipuncture site accessibility based on patient age and condition
- Verify patient compliance with testing requirements
- Prepare the patient for EKG
- Apply electrodes on patients
- Respond to signs and symptoms of cardiopulmonary compromise
- Monitor patient condition during stress testing
- Respond to complications during stress testing
- Verify patient understanding of Holter monitor procedures

PCT-104 – Medical Anatomy and Physiology
Prerequisite: PCT-103
Clock Hours – Lecture – 16
This course is a study of human anatomy and physiology. Students will go from the microscopic level through the formation of organ systems, with emphasis on the interdependence of these systems. Functional concepts and internal structure are related to surface anatomy as a basis for performing a physical examination. The physiology lectures will provide the overall physiology of the human body but will also relate how that physiology breaks down or malfunctions in time of infection, disease, trauma, and aging.

PCT-105 – Medical Terminology
Prerequisite: PCT-104
Clock Hours: Lecture – 6
This course is a study of a medical vocabulary system. Students will learn structure, recognition, analysis, definition, spelling, pronunciation, and a combination of medical terms from prefixes, suffixes, roots, and combining forms.

PCT-106- Professional Responsibilities (Medical Law & Ethics)
Prerequisite: PCT-105
Clock Hours: Lecture – 10
This is a course of instruction in principles, procedures, and regulations involving legal and ethical relationships among physicians, patients, and medical assistants and technicians. Students will learn current ethical issues as they relate to the practice of medicine and conformity responsibilities. Students will be able to:
- Understand importance of obtaining and maintaining Basic Cardiac Life Support (BCLS) certification for healthcare providers
- Adhere to HIPAA regulations regarding Protected Health Information (PHI)
- Communicate with other healthcare professionals using appropriate medical terminology
- Observe the chain of command in a healthcare setting
- Use therapeutic communication when talking to patients
- Adhere to regulations regarding operational standards (e.g., JCAHO, CLSI)

PCT-107 – Asepsis and Infection Control
Prerequisite: PCT-106
Clock Hours: Lecture – 8
This course is a study of standard protocol for the protection of the healthcare worker and patient to ensure that the procedures and treatments prescribed by the physician are performed properly and safely to assist in the patient's return to health. Students will be able to:
- Use universal, standard, and transmission-based precautions
- Dispose of bio-hazardous materials properly, as dictated by OSHA
- Follow exposure control plans in the event of occupational exposure
- Wear personal protective equipment while following standard precautions
- Perform aseptic technique
- Perform sterile technique

PCT-108 – Safety Measures
Prerequisite: PCT-107
Clock Hours: Lecture – 8
Students will be able to:
- Identify and report: Abuse or neglect of patients; sexual harassment involving patients or staff; substance abuse involving patients or staff; domestic violence/intimate partner abuse involving patients or staff
- Transport patients using proper body mechanics
- Transfer patients using proper body mechanics
- Monitor patients' environmental safety
- Prevent workplace injuries by following OSHA guidelines
- Recognize and respond to emergency situations
- Follow the proper procedures for identifying patients
- Follow Joint Commission (JCAHO) patient safety guidelines
- Practice safety procedures when using medical supplies and equipment
- Report and document work-related accidents

PCT-109 – Healthcare Provider CPR and First Aid
Prerequisite: PCT-108
Clock Hours: Lab - 4
Students will learn cardiopulmonary resuscitation, Heimlich, and Basic Life Support skills in a 4-hour training session that will result in being certified in CPR. Certification is for both child and adult CPR.

PCT-110 – Introduction to Phlebotomy
Prerequisite: PCT-109
Clock Hours: Lecture – 5
Introductory course that explains the function of today's phlebotomy technicians. Student will be able to identify the phlebotomist's role on the healthcare team.

PCT-111 – Phlebotomy – Primary Collections
Prerequisite: PCT-110
Clock Hours: Lecture – 2/Lab - 14
Students will be able to:
- Demonstrate proper insertion and removal techniques for venipuncture
- Perform capillary collection method based on patient age and condition
- Ensure patient safety throughout the collection process
- Perform venipuncture steps in correct order
- Perform capillary puncture steps in correct order
- Recognize common complications from primary collection
- Identify problematic patient signs and symptoms through collection
- Follow order of draw: a) venipuncture; b) capillary collection
- Ensure that tube additives are appropriate for testing requirements
- Assemble equipment needed for primary blood collections
- Invert evacuated tubes with additives after collection
- Verify quality of equipment

PCT- 112 – Phlebotomy - Special Collections
Prerequisite: PCT-111
Clock Hours: Lecture – 1/Lab – 7
Students will be able to:
- Prepare peripheral blood smears
- Perform blood culture collections
- Assist other healthcare professionals with blood culture collections
- Collect blood samples for inborn errors of metabolism
- Perform phlebotomy for blood donations
- Calculate volume requirements to avoid causing iatrogenic anemia

PCT-113 – Phlebotomy – Processing
Prerequisite: PCT-112
Clock Hours: Lecture – 1/Lab – 7
Students will be able to:
- Label all specimens
- Perform quality control for CLIA-waived procedures
- Transport specimens based on handling requirements
- Explain non-blood specimen collection procedures to patients
- Handle patient-collected, non-blood specimen
- Avoid pre-analytical errors when collecting blood specimens
- Adhere to chain of custody guidelines when required
- Prepare samples for transportation to a reference laboratory
- Coordinate communication between non-laboratory personnel for processing and collection
- Use technology to input and retrieve specimen data
- Report critical values to point of care testing

- Distribute laboratory results to ordering providers

PCT-114 – Introduction to EKG Monitoring
Prerequisite: PCT-113
Clock Hours: Lecture – 8
This course introduces students to EKG machines, performing and mounting of a 12-lead, single channel EKG tracings. Students will review the cardiovascular system and related terminology. There will be an emphasis on basic rhythm identification and possible disease states.

PCT-115 – Applied EKG
Prerequisite: PCT-114
Clock Hours: Lecture -1/Lab – 7
Students will gain advanced knowledge of the cardiovascular system with emphasis on the heart in disease states including identification of cardiac arrhythmias using EKG wave form, interpretation of advanced arrhythmias, hypertrophies, cardiac ischemia, and myocardial infarction is discussed.

PCT-116 – Clinical EKG
Prerequisite: PCT-115
Clock Hours: Lecture- 1/Lab – 7
This course provides advanced training which is often required to obtain employment in the field: students will learn cardiac stress testing, artificial pacemaker evaluation, 24-hour Holter monitoring, and advanced cardiac arrhythmia recognition and telemetry monitoring. Students use equipment which includes the pacemaker simulator, Holter monitor recorders, 3-channel EKG recording systems and telemetry monitors.

PCT-117 – Career Development
Prerequisite: PCT-116
Clock Hours: Lecture – 4
This course is designed to assist the student in resume development, soft skills, interviewing strategies and decision-making skills to help the student in obtaining employment. At the conclusion of this course, the student will:
- Present an acceptable resume using an industry-recognized format
- Present an acceptable cover letter and/or fax cover sheet using an industry recognized format
- Present themselves in a professional manner for interviews
- Understand the roles of the interviewer and the interviewee
- Demonstrate appropriate interview behavior
- Demonstrate the ability to review and respond to appropriate help wanted ads in the newspaper
- Demonstrate ability to conduct an internet search for jobs within their field
- Present a written "thank you" note for interviewer

PCT-118 – Certification Exam Review
Prerequisite: PCT-117
Clock Hours: Lab – 4
The student will have a review in preparation for the National Healthcareer Association's certification exam for the Patient Care Technician.

PHLEBOTOMY TECHNICIAN (PB)

Objective

This course provides phlebotomy instruction to the student so that he or she has a working knowledge of collecting blood while emphasizing patient safety, quality assurance, and universal and standard precautions.

Career opportunities

Phlebotomy Technicians may work in hospitals, labs, clinics, doctors' offices, or institutional facilities. According to the U.S. Bureau of Labor Statistics, Phlebotomy Technicians earn a median salary of $27,800 in Texas, $26,780 in Killeen, TX, and $30,910 in the U.S.

Classroom procedures

Students will spend 80 hours in the classroom and classroom lab in order to obtain proficiency in the skills necessary for performing the duties of a Phlebotomy Technician. Students must achieve a minimum of 30 successful venipunctures and 10 capillary sticks. Class will meet five days a week from 8 am to 4:30 pm with a half hour for lunch and a 5 to 10-minute break every hour for two weeks or four days a week from 8 am to 4:30 pm with a half hour for lunch and a 5-10 minute break each hour for two weeks and two days. Alternatively, class will meet two days a week from 8 am to 4:30 pm with a half hour for lunch and a 5-10 minute break each hour for five weeks or five days a week from 8 am to noon with a half hour for lunch and a 5-10 minute break each hour for 4 weeks.

Program Length and Content

Module	Subject	Hours Lecture	Hours Lab	Hours Externship	Total
PB-101	Introduction to Phlebotomy	4	0	0	4
PB-102	Medical Laws and Ethics	4	0	0	4
PB-103	Anatomy, Physiology, Medical Terminology	16	0	0	16
PB-104	Asepsis and Infection Control	8	0	0	8
PB-105	CPR and First Aid	0	4	0	4
PB-106	Venipuncture	0	36	0	36
PB-107	Career Development	4	0	0	4
PB-108	Certification Exam Review	4	0	0	4
	Total Hours	**40**	**40**	**0**	**80**

Course Descriptions

PB-101 – Introduction to Phlebotomy
Prerequisite: None
Clock Hours: Lecture – 4

Introductory course that explains the function of today's Phlebotomy Technicians. This course identifies the Phlebotomist's role on the healthcare team. Students will be introduced to various departments within the laboratory setting and the role of each department.

Students will be able to**:**

Demonstrate knowledge of the healthcare delivery system and medical terminology

- Identify the healthcare providers in hospitals and clinics and the phlebotomist's role as a member of this healthcare team
- Describe the various hospital departments and their major functions in which the phlebotomist may interact in his or her role
- Describe the organizational structure of the clinical laboratory department
- Discuss the roles of the clinical laboratory personnel and their qualifications for these professional positions
- Describe how laboratory testing is used to assess body functions and disease
- Use common medical terminology

Communicate (verbally and nonverbally) effectively and appropriately in the workplace

- Maintain confidentiality of privileged information on individuals
- Value diversity in the workplace
- Interact appropriately and professionally with other individuals
- Model professional appearance and appropriate behavior

PB-102 – Medical Law and Ethics
Prerequisite: PB-101
Clock Hours: Lecture – 4

This is a course of instruction in principles, procedures, and regulations involving legal and ethical relationships among physicians, patients, and medical assistants. It includes current ethical issues as they relate to the practice of medicine and conformity responsibilities.

Students will be able to:

- Define ethics, bioethics, and law
- Discuss the measures a medical practice must take to avoid malpractice claims
- Discuss the major points of the American Hospital Association's Patient's Bill of Rights or the Patient's Bill of Rights from the institution
- Define the different terms used in the Medicolegal aspect for phlebotomy and discuss policies and protocol designed to avoid Medicolegal problems
- Follow written and verbal instructions in carrying out testing procedures
- List the causes of stress in the work environment and discuss the coping skills used to deal with stress in the work environment
- Demonstrate ability to use computer information systems needed to accomplish job functions.

PB-103 – Anatomy, Physiology, and Medical Terminology
Prerequisite: PB-102
Clock Hours: Lecture – 16
The overall objective of the program is to acquire a working knowledge of the anatomy and physiology of the human body. Includes an overview of the diseases related to each anatomical system. Functional concepts and internal structure are related as a basis for performing a physical examination. Course also includes a broad understanding of the language of medicine.
Students will be able to:
Demonstrate basic understanding of the anatomy and physiology of body systems and anatomic terminology in order to relate major areas of the clinical laboratory to general pathologic conditions associated with the body systems.

- Describe the basic functions of each of the main body systems, and demonstrate basic knowledge of the circulatory, urinary, and other body systems necessary to perform assigned specimen collection tasks
- Identify the veins of the arms, hands, legs, and feet on which phlebotomy is performed.
- Explain the functions of the major constituents of blood, and differentiate between whole blood, serum, and plasma
- Define hemostasis, and explain the basic process of coagulation
- Discuss the properties of arterial blood, venous blood, and capillary blood.

PB-104- Asepsis and Infection Control
Prerequisite: PB-103
Clock Hours: Lecture – 8
A study of standard protocol for the protection of the healthcare worker and patient to ensure that the procedures and treatments prescribed by the physician are safely and properly performed to assist the patient's return to health. Overview of causes and prevention of chain of infection.
Students will be able to:

- Demonstrate skills of infection control and safety
- Identify policies and procedures for maintaining laboratory safety
- Demonstrate accepted practices for infection control, isolation techniques, aseptic techniques, and methods for disease prevention
- Identify and discuss the modes of transmission of infection and methods of prevention
- Identify and properly label bio-hazardous specimens
- Discuss in detail and perform proper infection control techniques, such as hand-washing, gowning, gloving, masking, and double-bagging.
- Define and discuss the term "nosocomial infection"
- Comply with federal, state, and locally mandated regulations regarding safety practices
- Use the OSHA Standard Precautions
- Use prescribed procedures to handle electrical, radiation, biological, and fire hazards
- Use appropriate practices, as outlined in the OSHA Hazard Communications Standard, including the correct use of the Material Safety Data Sheet as directed
- Describe measures used to ensure patient safety in various patient settings, i.e., inpatient, outpatient, pediatrics, etc.

PB-105 – CPR and First Aid
Prerequisite: PB-104
Clock Hours: Lab – 4

The focus of this course will provide a general understanding of the needs of the injured person and in doing so give care to the person including CPR until medical help is obtained. This module aims to illustrate emergency situations that may arise in a Phlebotomist's daily routine and the response techniques learners will require to intervene appropriately during such circumstances.

Students will be able to:

- Explain the purpose and value of first aid and CPR training
- List the roles and responsibilities of the citizen responder and professional rescuer
- Explain Emergency Action Plans; First Aid: wounds, shock, special injuries, sudden illness; poisoning; heat/cold emergencies; special situations that may occur during venipuncture/arterial/capillary collections
- List the symptoms of latex allergy and explain the appropriate action plan
- Demonstrate rescue breathing techniques for adult, child, and infant
- Demonstrate proper CPR techniques for adult, child, and infant including two-person adult
- Explain the Automated External Defibrillator and its use
- Describe appropriate first aid care for shock
- Describe appropriate immediate first aid care for complications during phlebotomy procedures
- Describe appropriate first aid care for sudden illnesses
- Express the ability to analyze and evaluate various emergency care situations
- Demonstrate self-confidence during practical testing of skills

PB-106 – Venipuncture
Prerequisite: PB-105
Clock Hours: Lab – 36

This course is designed to instruct the student in the proper methods of both capillary and Venus blood collections. Equipment, legal issues, and specimen transport are taught and practiced. Proper methods of blood collections and processing are taught and practiced.

Students will be able to:

1. Demonstrate understanding of the importance of specimen collection and specimen integrity in the delivery of patient care
- Describe the legal and ethical importance of proper patient/sample identification
- Describe the types of patient specimens that are analyzed in the clinical laboratory
- Define the phlebotomist's role in collecting and/or transporting these specimens to the laboratory
- List the general criteria for suitability of a specimen for analysis, and reasons for specimen rejection or recollection
- Explain the importance of timed, fasting, and stat specimens, as related to specimen integrity and patient care
2. Demonstrate knowledge of collection equipment, various types of additives used, special precautions necessary and substances that can interfere in clinical analysis of blood constituents
- Describe the ways in which one can help to avoid these occurrences

- List and select the types of equipment needed to collect blood by venipuncture, capillary, and arterial puncture
- Identify special precautions necessary during blood collections by venipuncture, capillary, and arterial puncture
3. Follow standard operating procedures to collect specimens
- Identify potential sites for venipuncture, capillary, and arterial punctures.
- Differentiate between sterile and antiseptic techniques
- Describe and demonstrate the steps in the preparation of a puncture site
- List the effect of tourniquet, hand-squeezing, and heating pads on capillary puncture and venipuncture
- Recognize proper needle insertion and withdrawal techniques including direction, angle, depth, and aspiration for arterial puncture and venipuncture
- Describe and perform correct procedure for capillary collection methods on infants and adults
- Identify alternate collection sites for arterial, capillary and venipuncture. Describe the limitations and precautions of each
- Name and explain frequent causes of phlebotomy complications. Describe signs and symptoms of physical problems that may occur during blood collection
- List the steps necessary to perform an arterial, venipuncture and/or capillary puncture in chronological order
- Follow standard operating procedures to perform a competent/effective venipuncture on a patient
- Follow standard operating procedures to perform a competent/effective capillary puncture on a patient.
4. Demonstrate understanding of requisitioning, specimen transport, and specimen processing.
- Describe the standard operating procedure for a physician requesting a laboratory analysis for a patient. Discuss laboratory responsibility in responding to physician requests
- Instruct patients in the proper collection and preservation for various samples, including blood, sputum, and stools
- Explain methods for transporting and processing specimens for routine and special testing
- Explain methods for processing and transporting blood specimens for testing at reference laboratories
- Describe the potential clerical and technical errors that may occur during specimen processing
- Identify and report potential pre-analytical errors that may occur during specimen collection, labeling, transporting, and processing
- Describe and follow criteria for specimens and test results that will be used as legal evidence, i.e. paternity testing, chain of custody, blood alcohol levels, etc.
5. Demonstrate understanding of quality assurance and quality control in phlebotomy
- Describe the system for monitoring quality assurance in the collection of blood specimens
- Identify policies and procedures used in the clinical laboratory to assure quality in obtaining blood specimens
- Perform quality control procedures
- Record quality control results
- Identify and report control results that do not meet pre-determined criteria
- Identify the various types of additives used in blood collection, and explain the reasons for their use
- Identify the evacuated tube color codes associated with the additives
- Describe substances that can interfere in clinical analysis of blood constituents and ways in which the phlebotomist can avoid interference
- Demonstrate understanding of requisitioning, specimen transport and specimen processing

- Describe the standard operating procedure for a physician requesting a laboratory analysis for a patient.
- Discuss laboratory responsibility in responding to physician requests
- Instruct patients in the proper collection and preservation for various samples, including blood, sputum, and stools
- Explain methods for transporting and processing

PB-107 – Career Development
Prerequisite: PB-106
Clock Hours: Lecture – 4

This course is designed to assist the student in resume development, soft skills, interviewing strategies and decision-making skills to assist the student in obtaining employment. Optional externships are encouraged to offer the student the opportunity for real-life experience and additional 'on-the-job' training.

Performance objectives: At the conclusion of this course, the student will:

- Present an acceptable resume using an industry-recognized format
- Present an acceptable cover letter and/or fax cover sheet using an industry recognized format
- Present themselves in a professional manner for interviews
- Understand the roles of the interviewer and the interviewee
- Demonstrate appropriate interview behavior
- Demonstrate the ability to review and respond to appropriate help wanted ads in the newspaper
- Demonstrate ability to conduct an Internet search for jobs within their field
- Present a written "thank you" note for interviewer.

PB-108 – Certification Exam Review
Prerequisite: PB-107
Clock Hours: Lecture – 4

The student will have a review of the National Healthcareer Association's certification exam. Module is offered as an addendum to the curriculum.