STUDENT LEARNING OUTCOMES (SLO’s)
HEALTH CARE TECHNOLOGY DEPARTMENT
PROGRAMS AND COURSES

CARDIOVASCULAR TECHNOLOGY / ECHOCARDIOGRAPHY PROGRAM
PROGRAM STUDENT LEARNING OUTCOMES (SLO)

• Comprehend, apply, and evaluate information relative to the role of Cardiac Sonographer
• Demonstrate technical skills necessary to fulfill the role of Cardiac Sonographer
• Behave professionally, skillfully, and in a manner consistent with employer expectations for an entry-level position in Cardiac Ultrasound
• Qualify for the national registry examinations in Cardiac Ultrasound

CARDIOVASCULAR TECHNOLOGY / ECHOCARDIOGRAPHY PROGRAM
INDIVIDUAL COURSE STUDENT LEARNING OUTCOMES (SLO)

ECHO 101: Echocardiography
Upon completion of this course a student will be able to:
  A. Identify cardiac structures and describe cardiac physiology.
  B. Describe the hemodynamic parts of the cardiac cycles and identify their locations on an ECG and cardiac pressure curve.
  C. Identify cardiac structures seen in each 2D (two dimensional) ultrasound view.
  D. Describe the hemodynamics of blood flow seen in each cardiac view.
  E. Apply measurements to the standard 2D images and Doppler flow profiles associated with each 2D cardiac view.

CVT 101: Cardiovascular Technician
Upon completion of this course a student will be able to:
  A. Identify cardiac anatomy structure, parts of the cardiac conduction system.
  B. Identify electrocardiographic waves and intervals on the electrocardiogram.
  C. Explain the location and values of the standard measurements are taken on each ECG strip.
  D. Describe the electrocardiographic characteristics of cardiac arrhythmias including sinus, atrial, junctional and ventricular arrhythmias.
  E. Summarize the steps used to perform an exercise stress test.
  F. Identify the electrocardiographic findings associated with cardiac ischemia and myocardial infarction.
  G. Explain the steps used to perform a blood pressure.
**CVT 110: Cardiovascular Skills**
Upon completion of this course a student will be able to:

A. Demonstrate proper placement of ECG electrodes and connections to ECG systems.
B. Perform a single channel ECG and 12 lead ECG tracing.
C. Measure ECG tracings
D. Demonstrate the techniques used to obtain a blood pressure at rest.
E. Explain the instrumentation functions on multiple cardiac ultrasound systems.
F. Perform a basic ultrasound scan on patients using correct imaging techniques.
G. Apply standardized measurements to 2D cardiac ultrasound images and Doppler wave forms using appropriate instrumentation.
H. Demonstrate appropriate professional care providing for the privacy, comfort, and safety of patients.

**ECHO 201: Advanced Echocardiographic Studies**
Upon completion of this course a student will be able to:

A. Describe the changes in cardiac structure associated with cardiac pathology.
B. Identify the two dimensional images associated with cardiac pathology: including: valvular stenosis, regurgitation, diastolic dysfunction, systemic and pulmonary hypertension, cardiomyopathies, pericardial disease, endocarditis, prosthetic valves
C. Describe the Doppler measurements and formulas used to assess each cardiac pathology including: valvular stenosis, regurgitation, diastolic dysfunction, systemic and pulmonary.
D. Integrate the echocardiographic knowledge of each cardiac pathology, echocardiographic and Doppler findings into a resource booklet for reference in the clinical environment.

**CVT 201: Advanced Cardiovascular Technician**
Upon completion of this course a student will be able to:

A. Explain the electrocardiographic findings of heart block, accessory pathways, electrical axis, hypertrophy and chamber enlargement.
B. Demonstrate the procedure for performing a exercise stress test, utilizing the computer instrumentation for monitoring the ECG during the procedure, completing blood pressures and observing safety conditions for patient.
C. Describe the indications for exercise stress echo and hemodynamic stress echo and the methods of interpretation.

D. Describe the interpretation methods of an exercise stress test for wall motion and wall motion scoring.

E. Identify the classifications of cardiac medications, methods of action, and correlate the correct medications with the related cardiac disease.

F. Describe the technology of cardiac pacemakers and implantable defibrillators and the ECG findings associate with each.

G. Integrate the echocardiographic knowledge of each cardiac pathology, echocardiographic and Doppler findings into a resource booklet for reference in the clinical environment.

**CVT 210: Advanced Cardiovascular Skills**
Upon completion of this course a student will be able to:

A. Perform a complete basic 2D and M-Mode echocardiogram on multiple echo systems

B. Apply the appropriate 2D, M-Mode and Doppler measurements and formulas to the basic echo study.

C. Describe the scanning techniques, 2D and Doppler assessment and reporting methods observed in the clinical internship setting.

D. Apply patient care and safety techniques.

E. Explain the HIPPA regulations learning in the internship setting.

F. Demonstrate professional behavior appropriate to the medical field during clinical internship.

G. Describe the methods of how to complete the electronic preliminary report using the patient archiving systems.

**ECHO 301: Advanced Cardiac Abnormalities**
Upon completion of this course a student will be able to:

A. Describe the stages of development of the embryologic heart

B. Describe the hemodynamic flow in the embryonic heart

C. Describe the 2D and Doppler characteristics of congenital abnormalities, including clinical signs and symptoms, hemodynamic consequences, treatment and surgical interventions.

1. Atrial septal defects
2. Ventricular septal defects
3. Tetralogy of Fallot
4. Endocardial cushion defect
5. Ebstein’s anomaly
6. Transposition of the great arteries
7. Pulmonic stenosis
8. Aortic valve abnormalities
   a. bicuspid aortic valve
   b. subvalvular and supravalvular
9. Coarctation of the aorta
10. Truncus arteriosus
11. Kawasaki’s syndrome
12. Hypoplastic left ventricle
13. Transposition of the great arteries
14. Anomalous venous return
15. Hypertrophic cardiomyopathy
16. Valvular atresia
17. Double outlet right ventricle
18. Cor Triatriatum

D. Identify types of surgical repairs: descriptions, 2D and Doppler characteristics
   1. Blalock Taussig shunt
   2. Mustard procedure
   3. Glenn procedure
   4. Ross Procedure
   5. Septal repair
   6. Arterial switch
   7. Rashkin procedure
   8. Closure devices

E. Explain the ultrasound pediatric imaging sequence

F. Describe the patient care techniques used in imaging neonates and pediatric patients.

G. Describe the 2D and Doppler findings associated with cardiac syndromes
   1. DiGeorge: VSD, ASD, interrupted arch, truncus
   2. Duchenne and Becker muscular dystrophies: cardiomyopathies
   3. Eisenmenger’s: progressive worsening of VSD shunting resulting in pulmonary hypertension and shunt flow reversing
   4. Marfan’s: connective tissue abnormality resulting in aortic root abnormalities
   5. Noonan’s: associated PS, AS, VSD, TET
   6. Trisomy 18 (Edward’s): chromosomal disorder resulting in possible ASD, VSD, PDA
   7. Trisomy 21: possible canal type VSD
   8. Turner’s: chromosomal disorder resulting in possible coarctation, aortic stenosis
   9. William’s: genetic disorder associated with pulmonary stenosis, supravalvular aortic Stenosis
   10. Wolff-Parkinson-White (WPW): congenital electrical abnormality, associated with valve prolapse, or Ebstein's malformation

H. Integrate the echocardiographic knowledge of each cardiac pathology, echocardiographic and Doppler findings into a resource booklet for reference in the clinical environment.
CVT 301: Physics of Ultrasound
Upon completion of this course a student will be able to:

A. Describe the characteristics of a sound wave including: compression, rarefaction, acoustic variables, cycle, wavelength, frequency, period, Q factor, bandwidth, amplitude, power, intensity, decibel levels.
B. Identify pulse wave characteristics; including: pulse duration, spatial pulse length, pulse repetition period, pulse repetition frequency and duty factor.
C. Describe the impact of acoustic boundaries, impedance, angle of incidence, reflection, refraction, attenuation, attenuation coefficient on 2D and Doppler images.
D. Apply the knowledge of transducer technology to obtain optimal echocardiographic images.
E. Explain the function of the ultrasound system's processing function to improve imaging quality.
F. Describe the types of imaging artifacts to insure accurate interpretation of images.
G. Explain the requirements of biotesting, intensity measurements and quality assurance techniques for patient safety.
H. Demonstrate the knowledge required to pass the national registry examination in Ultrasound Physics.

CVT 310: Clinical Experience in Cardiac Ultrasound
Upon completion of this course a student will be able to:

A. Perform a complete basic 2D and M-Mode echocardiogram using multiple echo systems.
B. Apply the appropriate 2D, M-Mode and Doppler measurements and formulas to the basic echo study.
C. Demonstrate the 2D scanning techniques, Doppler assessment and reporting methods observed in the clinical internship setting.
D. Explain the technology of Transesophageal Echocardiograms (TEE) and the standard 2D and Doppler images.
E. Describe the TEE echocardiographic findings associated with cardiac pathology such as endocarditis, prosthesis, thrombus, and intracardiac shunts.
F. Demonstrate patient care and safety techniques.
G. Explain the HIPPA regulations required in the internship setting.
H. Demonstrate professional behavior appropriate to the medical field during clinical internship.
I. Present case study reports to integrate clinical findings, and echocardiographic findings.

ECHO 401: Advanced Echocardiographic Studies
Upon completion of this course a student will be able to:
A. Describe the instrumentation and acquisition process of 3D Echocardiography imaging
B. Describe the cardiac structures seen with 3D Echo imaging
C. Describe the imaging and Doppler techniques for implementing Cardiovascular Resynchronization Therapy (CRT)
D. Describe the instrumentation to obtain Intravascular coronary imaging and criteria for interpretation.
E. Apply knowledge during imaging procedures used during Electrophysiology Studies (EP Studies).
F. Describe the instrumentation methods of obtaining strain, strain rate and speckle tracking Doppler information for ventricular function.
G. Explain the methods of use of left ventricular opacification and the instrumentation settings to optimize the image quality.
H. Describe tomographic planes and the interpretation methods of cardiac MRI
I. Describe how to complete cardiac ultrasound preliminary interpretation by computer processing.
J. Explain the function of ventricular assist devices (VAD) and the 2D and Doppler images required for assessment of VAD function.
K. Explain the function of intra-aortic balloon pumps and the related 2D and Doppler images.
L. Present summary of current echocardiography cases encountered in the internship and in echocardiographic journals.

CVT 410: Clinical Experience in Advanced Cardiac Ultrasound
Upon completion of this course a student will be able to:
A. Prepare patients and the ultrasound system in critical care setting for echocardiographic examination.
B. Identify equipment encountered in the critical care setting to evaluate patient status.
   a. Intravenous lines
   b. Cardiovascular monitoring: blood pressure, central pressure, oxygen saturations
   c. Ventilators
   d. Chest tubes and containers
   e. Aortic balloon pumps
   f. Dialysis equipment
   g. Foley catheter
C. Perform comprehensive studies on patients to obtain accurate and complete 2D, M-Mode and Doppler studies using multiple cardiac ultrasound systems, including the new “lap-top” size imaging systems.
D. Summarize comprehensive interpretation of any cardiac ultrasound examination.
E. Complete stress echo procedures and summarize findings.
F. Manage patient transfers in a safe and comfortable manner.
G. Demonstrate adherence to universal precautions in the clinical setting.
H. Demonstrate ability to work with clinical staff in a professional manner to provide accurate cardiac exams and documentation.
I. Present case study reports to integrate clinical findings, and echocardiographic findings.

CVT 103: Vascular Ultrasound
Upon completion of this course a student will be able to:
A. Identify the vessels of the peripheral arterial system.
B. Describe the hemodynamics as pertaining to normal peripheral arterial flow profile and velocities.
C. Identify the internal structural parts of the peripheral arteries.
D. Describe the pathogenesis of arterial stenosis.
E. Summarize the ultrasound image characteristics of normal arterial vessels including location, thickness, and lumen characteristics.
F. Describe the ultrasound presentation of ultrasound stenosis: location, severity, and nature of the plaque.
G. Explain the clinical signs and symptoms of PAD: Peripheral Arterial Disease.
H. Demonstrate the appropriate patient positioning techniques and patient care considerations.
I. Perform a basic vascular ultrasound scan of the peripheral arteries to evaluate for presence of arterial stenosis with B-Mode imaging and Doppler findings.
J. Manipulate the ultrasound imaging system instrumentation to enhance images and Doppler findings.
K. Describe the measurement values of 2D/B-Mode imagining and Doppler associated with normal and abnormal arterial findings.
L. Describe ultrasound imaging artifacts that impact ultrasound findings.
M. Explain how a preliminary report is completed.

CVT 104: Venous Ultrasound
Upon completion of this course a student will be able to:
A. Identify the vessels of the peripheral arterial and venous system.
B. Describe the hemodynamics as pertaining to normal venous phasic flow profile and velocities.
C. Identify the internal structural parts of the peripheral veins.
D. Describe the pathogenesis of Deep Vein Thrombosis (DVT) and venous insufficiency.
E. Summarize the ultrasound image characteristics of normal veins including location, thickness, and lumen characteristics.
F. Describe the B-Mode ultrasound image presentation of ultrasound thrombus: location, severity, and nature of the thrombus.
G. Explain the clinical signs and symptoms of DVT: Deep Vein Thrombosis and the differential diagnoses.
H. Develop basic scanning techniques to perform ultrasound examination of the venous system.
I. Manipulate the ultrasound imaging system instrumentation to enhance images and Doppler findings.

J. Describe the measurement values of 2D/B-Mode imagining and Doppler associated with normal and abnormal venous findings.

K. Describe ultrasound imaging artifacts that impact ultrasound findings.

L. Explain how a preliminary report is completed.

CVT 105: Vascular Technology – Cerebrovascular Ultrasound
Upon completion of this course a student will be able to:

A. Identify the vessels of the cerebrovascular arterial and venous system.

B. Describe the hemodynamics as pertaining to normal arterial and venous flow profile, and velocities.

C. Identify the internal structural parts of the arteries and veins.

D. Describe the pathogenesis of cerebrovascular thrombus and plaque.

E. Summarize the ultrasound image characteristics of normal cerebrovascular vessel including location, thickness, and lumen characteristics.

F. Develop scanning techniques to perform basic ultrasound examination for scanning cerebrovascular vessels.

G. Describe color flow and spectral Doppler in normal cerebrovascular arterial and venous flow.

H. Perform the measurement of 2D/B-Mode imagining and Doppler of cerebrovascular vessels.

I. Explain the clinical signs and symptoms carotid stenosis and describe the differential diagnoses.

J. Manipulate the ultrasound imaging systems to enhance images and Doppler findings.

K. Develop interpretation and reporting skills.

L. Describe ultrasound imaging artifacts.

EKG TECHNICIAN PROGRAM
PROGRAM STUDENT LEARNING OUTCOMES (SLO)

• Comprehend, apply, and evaluate information relative to the role of an EKG Technician.

• Demonstrate the skills necessary to fulfill the role of an EKG Technician.

• Behave professionally, skillfully, and in a manner consistent with employer expectations for an entry-level position in an EKG Department.

• Demonstrate the technical skills to perform clinical tasks on EKG machines, Holter monitor systems, and exercise stress test equipment.

• Qualify for the national registry examination for EKG Technician.

EKG TECHNICIAN
INDIVIDUAL COURSE STUDENT LEARNING OUTCOMES (SLO)

EKG 101: EKG Technician I
Upon successful completion of this course, the student should be able to:

A. Summarize the anatomy and physiology of the cardiovascular system and the cardiac conduction system.
B. Identify the parts of the electrocardiography wave forms and correlate each with the cardiac cycle.
C. Calculate heart rate and complete measurements of all waveforms and intervals.
D. Describe the electrocardiographic characteristics of a normal ECG pattern and those associated with cardiac arrhythmias including sinus, atrial, junctional and ventricular arrhythmias.
E. Demonstrate the correct placement of ECG electrodes on a patient.
F. Demonstrate the proper use of single channel and three channel ECG machines and apply the appropriate test functions.
G. Measure ECG waveforms and intervals, determine heart rate, rhythm, and complete a preliminary assessment of findings.
H. Summarize the steps used to perform an exercise stress test on a patient.
I. Identify the electrocardiographic findings associated with cardiac ischemia and myocardial infarction.
J. Explain the steps used to perform a blood pressure.

EKG 102: EKG Technician 102

Upon successful completion of this course, the student should be able to:

A. Describe the cardiac pathophysiology associated with advanced cardiovascular system disorders.
B. Explain the electrocardiographic findings of heart block, bundle branch blocks, accessory pathways, electrical axis, hypertrophy, and chamber enlargement.
C. Identify the electrocardiographic findings associated with cardiac ischemia and myocardial infarction.
D. Describe ECG findings related to cardiac medications.
E. Demonstrate the steps used to perform a blood pressure on a resting patient and during an exercise stress test.
F. Describe the indications for a 24 Hour Holter Monitor.
G. Demonstrate the successful application of Holter Monitor device.
H. Summarize the steps used to safely perform an exercise stress test.
I. Demonstrate the procedure for performing a exercise stress test, utilizing the computer instrumentation for monitoring the ECG during the procedure, obtaining blood pressures and observing safety conditions for patient.
J. Explain the indications and test procedures of pharmacologic stress testing.
K. Describe the technology of cardiac pacemakers and implantable defibrillators and the ECG findings associated with each.
EMERGENCY MEDICAL TECHNICIAN (EMT)
PROGRAM SLO’s
Upon successful completion of this program, the student will be able to:

• Comprehend, apply and evaluate information relative to the role of an entry-level Emergency Medical Technician.
• Demonstrate technical proficiency in all of the skills necessary to fulfill the role of an entry-level Emergency Medical Technician.
• Behave professionally and in a manner consistent with employer expectations for an entry-level Emergency Medical Technician.
• Apply for the NREMT cognitive examination for certification as an Emergency Medical Technician.

EMERGENCY MEDICAL TECHNICIAN (EMT)
INDIVIDUAL COURSE SLO’S

EMT 100: Emergency Medical Technician, Theory
Upon successful completion of this course a student will be able to:

A. Apply fundamental knowledge of the emergency medical services (EMS) system, safety/well-being of the EMT, and medical/legal and ethical issues to the provision of emergency care.
B. Discuss the four levels of EMT training and describe the roles and responsibilities, licensure criteria and skills sets of each level.
C. Demonstrate knowledge of the structure and function of the organ systems, including: integumentary, muscular, skeletal, respiratory, cardiovascular, nervous, genitor-urinary, endocrine, digestive, immune, and reproductive.
D. Apply knowledge of life span development to patient assessment and management of patients of all ages.
E. Apply fundamental knowledge of pathophysiology of all human systems to the practice of EMS.
F. Identify and demonstrate the components of the patient assessment process, and explain how the different causes and presentations of emergencies will affect how each step is performed by the EMT.
G. Describe and demonstrate airway management, the use of airway adjuncts, suctioning the airway and oxygen administration to patients.
H. Discuss the causes, pathophysiology, and management of shock, respiratory failure or arrest, cardiac failure or arrest, and post-resuscitation management.
I. Describe the patient assessment, management, treatment and transport of patients experiencing shock, respiratory, cardiac, neurological, obstetrical, behavioral, endocrine, and environmental emergencies.
J. Integrate EMT skills into practice scenarios of simulated medical or trauma patients, noting special considerations for the pediatric or geriatric patient.
K. Demonstrate the proper technique for spinal immobilization, splinting, bandaging, and extrication in simulated patient scenarios.
L. Demonstrate the proper procedures for management of multi-casualty incidents, disaster management, and EMS communications.

**EMT 102: Emergency Medical Technician, Clinical**

Upon successful completion of this course a student will be able to:

A. Compare and contrast the role of the EMT in the pre-hospital area with other members of the Emergency Medical Services team.
B. Demonstrate the psychomotor skills required for patient assessment, airway management, CPR, bandaging, bleeding control, splinting, spinal immobilization, use of ambulance equipment, and ALS assist.
C. Identify the components and discuss the functions of the 911 system, EMS communications, EMS ambulances, Base Station, Poison Control, EMS Agency, and Fire Department.
D. Demonstrate knowledge of operational roles and responsibilities within the scope of practice for the EMT to ensure patients, public and personnel safety.
E. Demonstrate appropriate communication techniques with families, patients, and other members of the health care team.
F. Describe the nine phases of an ambulance call and provide examples of key tasks the EMT performs during each phase.
G. Summarize the tasks that must be completed by EMS at the completion of an ambulance call.

**EMT 101: Emergency Medical Technician, Theory**

Upon successful completion of this course a student will be able to:

A. Discuss the four levels of EMT training and describe the roles and responsibilities, licensure criteria and skills sets of each level.
B. Apply fundamental knowledge of the emergency medical services (EMS) system, safety/well-being of the EMT, and medical/legal and ethical issues to the provision of emergency care.
C. Diagram the structures of the body and discuss the functions of the eight body systems.
D. Organize and demonstrate the proper techniques for performing a patient assessment, including: scene assessment, mechanism of injury, patient history, diagnostic signs, and physical examination.
E. Evaluate and compare the pathophysiology clinical findings, mechanism of injury, and management of: shock, respiratory, cardiac, neurological, environmental emergencies, obstetrical, pediatric, behavioral emergencies, traumatic injuries, and communicable disease.
F. Diagram and demonstrate the proper procedures for management of multi-casualty incidents, disaster management, and triage.
G. Organize and demonstrate the proper techniques for performing vehicular extrication, including the use of specialized equipment.

EMT 101-A: Emergency Medical Technician
Upon successful completion of this course a student will be able to:
   A. Define the role and discuss the responsibilities of the EMT in emergency care.
   B. Discuss the components of the Emergency Medical Services System.
   C. Analyze the legal considerations involved in emergency care.
   D. Demonstrate the ability to use appropriate medical terminology.
   E. Diagram the structures of the body and discuss the functions of the eight body systems.
   F. Demonstrate the proper technique for CPR and airway management.

EMT 101-B: Emergency Medical Technician
Upon successful completion of this course a student will be able to:
   A. Organize and demonstrate the proper techniques for performing a patient assessment, including: scene assessment, mechanism of injury, patient history, diagnostic signs, and physical examination.
   B. Evaluate and compare the pathophysiology, clinical findings, mechanism of injury and management of shock, respiratory, cardiac, neurological, environmental emergencies, obstetrical, pediatric, behavioral emergencies, traumatic injuries, and communicable disease.
   C. Diagram and demonstrate the proper procedures for management of Multi-casualty incidents, disaster management, and triage.
   D. Organize and demonstrate the proper techniques for performing vehicular extrication including the use of specialized equipment.

EMT 103: Emergency Medical Technician
Upon successful completion of this course a student will be able to:
   A. Interpret the role and differentiate the responsibilities of the EMT-I.
   B. Contrast the components of the EMS Systems of the nine Bay Area counties.
   C. Analyze and discuss legal considerations affecting the Emergency Medical Technician.
   D. Compare changes in laws affecting the practice of prehospital emergency care.
   E. Demonstrate the appropriate assessment and management skills required in the prehospital care of victims of serious illness or injury.
   F. Evaluate and discuss the pathophysiology, clinical findings, and management of: respiratory, cardiac, and medical emergencies; traumatic injuries; environmental and behavioral emergencies; and obstetrical and pediatric emergencies.
   G. Demonstrate the latest techniques of extrication.
H. Organize and demonstrate the appropriate techniques for EMS communications, including radio skills and written reports.

**AHTC 9105: Emergency Response Skills**
Upon successful completion of this course a student will be able to:

- A. Analyze and discuss safety concerns for emergency responders, including: scene safety, body substance isolation in accordance with the OSHA standards and personal protection.
- B. Organize and demonstrate the appropriate procedures for taking vital signs and performing a full patient evaluation.
- C. Differentiate between and demonstrate a medical and trauma patient evaluation.
- D. Compare and contrast the signs of a patent airway and adequate ventilation with those of an obstructed airway and hyperventilation; outline and demonstrate the steps to correct airway and breathing deficiencies.
- E. Compare and contrast clinical death and biological death, and analyze the implications of each for the emergency responder.
- F. Organize and demonstrate in sequence, the steps necessary for the performance of basic life support for adults, children, and infants.
- G. Demonstrate the techniques for bleeding control and the application of appropriate dressings and bandages.
- H. Identify patients requiring spinal immobilization and extrication, and demonstrate the current techniques in the appropriate sequence.
- I. Organize the steps for safely lifting and moving patients in a variety of scenarios, demonstrating proper body mechanics.
- J. Analyze the signs indicating imminent childbirth, and demonstrate the appropriate techniques for assisting in emergency childbirth.

**PARAMEDIC PROGRAM STUDENT LEARNING OUTCOMES (SLOs)**
Upon completion, the student will be able to demonstrate:

- The ability to comprehend, apply, and evaluate information relative to the role of an entry-level Paramedic.
- Technical proficiency in all of the skills necessary to fulfill the role of an entry-level Paramedic.
- Personal behaviors consistent with professional and employer expectations of an entry-level Paramedic.
- Preparedness to pass the National Registry Paramedic Level cognitive and psychomotor examinations.

**PARAMEDIC PROGRAM INDIVIDUAL COURSE SLO's**
**EMT 104: Advanced Skills for EMS providers**

Upon completion of this course a student will be able to:

A. Demonstrate basic airway and ventilatory techniques on adult and pediatric mannequins.
B. Demonstrate advanced airway techniques on adult and pediatric mannequin.
C. Explain the use of the advanced ventilatory methods and monitoring devices.
D. Demonstrate proper technique of cardiac monitoring skills using various monitor brands in a simulated scenario.
E. Demonstrate proper technique for pharmacologic interventions in a simulated setting and/or on a live volunteer, including injections, medication administration, intravenous access and intraosseous access.
F. Demonstrate proper technique of trauma skills including splinting, spinal immobilization, needle thoracostomy and advanced airway management.
G. Demonstrate the systematic method for assessing patients in simulated scenarios of critical and non-critical trauma and medical emergencies using the National Scope of Practice Model.
H. Integrate the learned skills into practice scenarios of simulated medical and trauma patients.

**EMTP 120: Paramedic Theory: Human Systems and Patient Assessment**

Upon completion of this course a student will be able to:

A. Define anatomy, physiology and pathophysiology.
B. Describe the structure and function of the human cell and organelles.
C. Apply knowledge of cellular physiology to clinical case studies.
D. Integrate anatomical and medical terminology into verbal and written communication with colleagues.
E. Apply knowledge of cellular physiology to the pathophysiology of shock in review of clinical case studies.
F. Demonstrate knowledge of the normal function of the organ systems, including: integumentary, skeletal, muscular, nervous, sensory, endocrine, cardiovascular, urinary, respiratory, immune, digestive and reproductive.
G. Apply knowledge of physiology of the organ systems to organ system dysfunction in review of clinical case studies.
H. Integrate knowledge of life span development into the practice of an EMS professional during simulated patient scenarios.
I. Demonstrate written and verbal communication skills used to report patient assessment findings relevant to the clinical situation during various simulated patient scenarios.

**EMTP 121: Paramedic Theory: Introduction to EMS**

Upon completion of this course a student will be able to:

A. Describe the major events that influenced the development of modern EMS systems in the United States.
B. Identify and compare the four levels of EMS providers.
C. Define the paramedic role in patient care situations as defined by the National Standards.
D. Identify the key elements of EMS research and its benefits to prehospital emergency care.
E. Define major medical legal issues in providing prehospital patient care, including: consent, confidentiality, advanced directives, negligence, transport and non-transport and medical direction.
F. Apply knowledge of medical legal and ethical principles to patient scenarios.

**EMTP 122: Paramedic Theory: Pharmacology and Ventilatory Management**
Upon completion of this course a student will be able to:

A. Identify the major classifications of drugs according to mechanism of action, organ system affected and clinical condition used to treat.
B. Define each element of a drug profile including names, mechanism of action, indications, contraindications, common side effects, dosages and precautions.
C. Demonstrate appropriate use of body substance isolation precautions while obtaining intravenous access and administering intramuscular and subcutaneous injections.
D. Demonstrate appropriate use of body substance isolation precautions while performing basic and advanced airway and ventilatory procedures.
E. Identify the six rights of medication administration.
F. Demonstrate proper technique for medication administration via the intravenous, intraosseous, intramuscular, subcutaneous, intranasal, transdermal, rectal, sublingual and inhaled routes.
G. Demonstrate proper technique for obtaining intravenous and intraosseous access.
H. Demonstrate proper technique for performing basic and advanced airway and ventilatory procedures.
I. Calculate the proper medication dosages for a patient by weight.
J. Calculate the volume to be administered of a medication for a given dosage and concentration.
K. Calculate the proper drip rate for a given volume of fluid to be administered over time.
L. Calculate the proper drip rate for a medication infusion.

**EMTP 123: Paramedic Theory: Trauma Emergencies**
Upon completion of this course a student will be able to:

A. Integrate assessment findings with principles of epidemiology and pathophysiology to formulate a field impression and implement a treatment plan for an acutely injured patient.
B. Analyze injury patterns based upon epidemiology mechanism of injury, and patient risk factors,
C. Predict injury severity based upon clinical examination findings, mechanism of injury and organ system affected.
D. Perform a rapid trauma assessment on a simulated critical trauma patient and a focused history and physical examination on a simulated stable trauma patient consistent with the current national standards for paramedics.
EMTP 124: Trauma Certification Course

Upon completion of this course a student will be able to:

A. Describe the current trends in prehospital trauma care and the scientific support that drives these trends.
B. Describe the history of trauma care and certification for EMS providers.
C. Identify strategies that EMS providers can implement that will reduce the risk of traumatic injuries.
D. Integrate principles of kinematics of trauma and pathophysiology into patient assessment.
E. Describe appropriate steps to take to mitigate potential threats to safety.
F. Systematize the discrete steps involved in assessing and managing the trauma patient into an organized and rational process.
G. Recognize the need for rapid transport and early definitive management in various forms of shock.
H. Demonstrate proper technique for basic and advanced airway and ventilatory management, extrication, spinal immobilization and circulatory management in a simulated patient scenario.
I. Use critical thinking skills to determine the preferred method of treatment in a given trauma patient scenario for patients with head, neck and facial injuries and/or traumatic brain injury (TBI).
J. Use critical thinking skills to determine the preferred method of treatment in a given trauma patient scenario for patients with thoracic, abdominal, pelvic and extremity injuries.
K. Use critical thinking skills to determine the preferred method of treatment in a given trauma patient scenario for patients with burn injuries.
L. Discuss principles of EMS trauma care and assessment-based trauma management for adult, pediatric and geriatric patients.
M. Given a mass-casualty incident (MCI), integrate the use of a triage system into the management of the scene and make triage decisions based upon assessment findings.
N. Obtain a passing score on the written trauma certification examination.

EMTP 125: Paramedic Theory and Practice: Cardiovascular and Respiratory Emergencies

Upon completion of this course a student will be able to:

A. Interpret an ECG rhythm and identify dysrhythmias that originate from the sinus node, atria, AV junction and ventricles.
B. Interpret an ECG rhythm and identify disorders of conduction in the Sinus node, AV node and bundle branches.
C. Correlate ECG changes to imbalances in electrolytes, body temperature and toxins.
D. Identify common home medications prescribed for patients with pulmonary and cardiovascular disease histories.
E. Identify the prehospital medications used to treat pulmonary and cardiovascular emergencies including indications, contraindications, mechanism of action, dosages, route/rate, and precautions.
F. Demonstrate proper basic and advanced life support management of critical and stable cardiorespiratory patients within the scope of practice of a paramedic.
G. Demonstrate the systematic patient assessment used for patients with respiratory distress, chest pain and other cardiorespiratory complaints.
H. Given a patient scenario, identify the most likely etiology using information obtained from patient history, clinical findings and foundational knowledge of pathophysiology.
I. Given a patient scenario, use critical thinking skills to determine the preferred method of treatment for patients with pulmonary and cardiovascular complaints.
J. Demonstrate proper technique when performing basic and advanced airway and ventilatory skills on live patients in the operating room rotation.
K. Demonstrate correct placement of the 12-Lead ECG on simulated patients in class and on live patients in hospital rotations.
L. Demonstrate accurate ECG rhythm identification on patient during hospital rotations.
M. Demonstrate safe and proper use of the portable ECG monitor/defibrillator when performing ECG interpretation, synchronized cardioversion, transcutaneous cardiac pacing and defibrillation on simulated patients in class and on live patients in hospital rotations.

**EMTP 126: Paramedic Theory and Practice: Neuroendocrine Emergencies**

Upon completion of this course a student will be able to:
A. Demonstrate the systematic patient assessment used for patients with altered mental status, seizures and other neuroendocrine emergencies.
B. Identify the elements of the comprehensive prehospital neurological examination.
C. Describe the pathophysiology and clinical findings associated with stroke, seizures, altered mental status, diabetic emergencies, thyroid dysfunction and adrenal dysfunction.
D. Given a patient scenario, identify the most likely etiology of the patient’s condition using information obtained from patient history, clinical findings and foundational knowledge of pathophysiology.
E. Given a patient scenario, use critical thinking skills to determine the preferred method of treatment for patients with neuroendocrine emergencies.
F. Demonstrate proper basic and advanced life support management of critical and stable patients with neuroendocrine emergencies within the scope of practice of a paramedic.

**EMTP 127: Paramedic Theory and Practice: Medical Emergencies**

Upon completion of this course a student will be able to:

A. Demonstrate the systematic patient assessment used for patients with abdominal pain.

B. Describe the pathophysiology and clinical findings associated with allergic reactions, anaphylaxis, gastrointestinal hemorrhage, renal failure, and inflammatory conditions.

C. Describe the toxidromes and prehospital treatments of exposure to common toxins.

D. Identify common infectious diseases encountered in the field and the public health principles designed to protect the paramedic from exposure.

E. Given a patient scenario, identify the most likely etiology of the patient’s condition using information obtained from the patient history, clinical findings and foundational knowledge of pathophysiology.

F. Given a patient scenario, use critical thinking skills to determine the preferred method of treatment for patients with allergic/anaphylactic, abdominal, urinary, environmental, hematologic and toxicologic emergencies.

G. Demonstrate proper basic and advanced life support management of critical and stable patients with various medical emergencies within the scope of practice of a paramedic.

**EMTP 128: Paramedic Theory and Practice: OB/GYN and Pediatric Emergencies**

Upon completion of this course a student will be able to:

A. Demonstrate the systematic patient assessment used for evaluating patients with gynecological and obstetric conditions and emergencies.

B. Demonstrate the systematic patient assessment used for evaluating pediatric patients of varying developmental stages.

C. Describe the pathophysiology and clinical findings associated with obstetric emergencies.

D. Describe the pathophysiology and clinical findings associated with pediatric respiratory distress, failure and arrest, pediatric seizures, shock, toxicologic conditions, and trauma.

E. Given a patient scenario, identify the most likely etiology of the patient’s condition using information obtained from patient history, clinical findings and foundational knowledge of pathophysiology.

F. Given a patient scenario, use critical thinking skills to determine the preferred method of treatment for the obstetric patient, newborn patient, neonate and pediatric patient.
G. Demonstrate proper basic and advanced life support management of critical and stable patients with obstetric emergencies within the scope of practice of a paramedic.

H. Demonstrate proper basic and advanced life support management of critical and stable pediatric patients within the scope of practice of a paramedic.

EMTP 129: Paramedic Theory and Practice: Special Populations, EMS Operations
Upon completion of this course a student will be able to:
   A. Integrate assessment findings with principles of epidemiology and pathophysiology to formulate a field impression and implement a treatment plan for an acutely ill or injured patient.
   B. Demonstrate the systematic patient assessment used for patients with special challenges including geriatrics, chronically ill, technology-dependent, abused/neglected and dying patients.
   C. Identify the differences in pharmacokinetics, physiology and psychosocial environment in between adult and geriatric patients.
   D. Given a scenario, use critical thinking skills to determine the preferred method of treatment for geriatric patients with common and acute medical and trauma emergencies.
   E. Demonstrate proper use of the medical incident command system when performing in any of the medical group officer roles (medical group supervisor, triage, treatment, staging, transport officers).
   F. Describe the purpose and overall structure of the medical incident command system.
   G. Demonstrate knowledge and practice of personnel safety issues, crime scene awareness, transport considerations and need for additional expert resources on simulated routine EMS incidents and multiple casualty incidents.

EMTP 130: Paramedic Practicum: Clinical and Field Internship
Upon completion of this course a student will be able to:
   A. Demonstrate a comprehensive patient assessment on patients of various ages, including:
      a. Pediatric patient assessments (newborn to 17 years of age)
      b. Adult patient assessments
      c. Geriatric patient assessments (over 65 years of age)
   B. Demonstrate a comprehensive patient assessment on patients with a variety of complaints, including:
      a. Obstetric patients
      b. Trauma patients
      c. Psychiatric patients
   C. Demonstrate a comprehensive patient assessment and formulate and implements a treatment plan on patients with a variety of complaints, including:
      a. Patients complaining of chest pain
b. Adult patients complaining of respiratory distress
c. Pediatric patients complaining of respiratory distress
d. Patients with syncope
e. Patients with abdominal complaints
f. Patients with an altered mental status

D. Demonstrate the ability to safely and properly administer medications at least 15 times to live patients.
E. Demonstrate the ability to safely and properly obtain venous access at least 25 times to live patients.
F. Demonstrate the ability to safely and properly perform advanced airway techniques at least 5 times on live patients.
G. Demonstrate the ability to safely and properly ventilate unintubated patients of all age groups on at least 20 live patients.
H. Demonstrate the ability to serve as a team leader in a variety of prehospital emergency situations for at least 40 prehospital emergency responses.

MEDICAL ASSISTING
PROGRAM STUDENT LEARNING OUTCOMES (SLO’s)

Medical Receptionist
Upon completion of this program students will be able to:
- Perform the medical receptionist skills necessary for entry-level employment in an ambulatory health care setting
- Perform computer applications necessary for entry-level employment in an ambulatory health care setting
- Demonstrate the behavioral, ethical, and professional interpersonal skills necessary for employment as a Medical Receptionist in an ambulatory health care setting

Medical Biller
Upon completion of this program students will be able to:
- Assign CPT codes to services and procedures
- Assign ICD codes to diagnosis
- Perform insurance billing procedures necessary for entry-level employment in an ambulatory health care setting
- Apply and sit for the Certified Professional Coder examination (CPC)

Medical Office Assistant
Upon completion of this program students will be able to:
- Perform the clinical skills necessary for entry-level employment as a medical assistant in an ambulatory health care setting
- Perform the administrative skills necessary for entry-level employment as a medical assistant in an ambulatory health care setting
- Demonstrate the behavioral, ethical, and professional interpersonal skills necessary for employment as a medical assistant in an ambulatory health care setting
• Apply and sit for the Certified Medical Assistant Examination (CMA) offered by the American Association of Medical Assistants (AAMA)
• Apply and sit for the Certified Phlebotomy Technician Examination (CPT-1)

Medical Evaluation Assistant
Upon completion of this program students will be able to:
• Perform the clinical skills necessary for entry-level employment as a Medical Evaluation Assistant (MEA) within the Department of Public Health system
• Demonstrate the behavioral, ethical, and professional interpersonal skills necessary for employment as a Medical Evaluation Assistant in an ambulatory health care setting
• Apply and sit for the Certified Phlebotomy Technician examination (CPT-1)

MEDICAL ASSISTING PROGRAM
INDIVIDUAL COURSE STUDENT LEARNING OUTCOMES (SLO’s)

HIT 57 Disease Process
As a result of participating in this course, the student will be able to:
   A. Identify the common causes of disease by system, including the signs and symptoms, morbidity and mortality.
   B. Describe the diagnostic, therapeutic, and preventative treatment options for disease.
   C. Identify drug classifications to include indications, contraindications, dosage types and administration.

HIT 76 CPT Coding
As a result of participating in this course, the student will be able to:
   A. Compare the various reimbursement systems used in health care that require CPT reporting.
   B. Identify and explain the six sections of the CPT code book.
   C. Demonstrate the ability to assign CPT codes to procedures and services according to the coding guidelines.

HIT 67 Computer Applications in Health Care
As a result of participating in this course, the student will be able to:
   A. Demonstrate the ability to create computer generated documents to include word processing, spreadsheets, presentations, and databases.
   B. List and explain the various computer technologies use in the healthcare setting
   C. Define and explain the computer-related vocabulary provided in class.

HIT 73A ICD Coding
As a result of participating in this course, the student will be able to:
A. Explain the various code conventions and guidelines required to assign ICD-9-CM/ICD-10-CM codes.
C. Demonstrate the ability to assign ICD-9-CM or ICD-10-CM codes to diagnoses according to the coding guidelines and the Coding Clinic.

**MED 49 Clinical Procedures**
As a result of participating in this course, the student will be able to:
A. Apply the theory and knowledge of clinical procedures for entry-level employment as a medical assistant.
B. Demonstrate the ability to perform clinical procedures required for entry-level employment as a medical assistant.
C. Explain the scope of practice for a medical assistant in California

**MED 70 Medical Insurance Billing**
As a result of participating in this course, the student will be able to:
A. Complete financial transactions using the Pegboard Bookkeeping system.
B. Manage the financial activities of a medical office to include collections, accounts payable, budgets, and payroll.
C. Complete insurance billing procedures for private, Medicare, Medicaid, Worker’s Compensation, disability claims, and managed care.

**MED 71 Electronic Management of Financial Medical Records**
As a result of participating in this course, the student will be able to:
A. Create and manage patient accounts, insurance claim information, and appointment schedules
B. Create and print financial activity reports, insurance billing, and patient statements
C. Explain and discuss the various financial activity reports generated by a computer billing system.

**MED 72 Advanced Insurance Billing**
As a result of participating in the course, the student will be able to:
A. Compare and contrast the three insurance formats used for insurance billing.
B. Demonstrate the ability to complete insurance claim forms for commercial, Medicare, Medicaid, and managed-care plans.
C. Identify the methods used to track, correct, and appeal insurance claims.

**MED 73 Advanced Medical Manager**
As a result of participating in the course, the student will be able to:
A. Create and manage computer billing system support files, patient accounts, and appointment schedules
B. Demonstrate the ability to produce insurance claim forms, patient statements, and recall reports.
C. Compare and explain various computer-generated financial activity reports.
HCT 82 Professional Practice Internship/Certification
As a result of participating in the course, the student will be able to:
A. Perform the clinical skills necessary for entry-level employment.
B. Perform the administrative skills necessary for entry-level employment.
C. Demonstrate the behavioral and professional interpersonal skills necessary for employment in an ambulatory health care setting.
D. Apply knowledge and understanding of patient confidentiality, HIPAA regulations, and medical ethics to the health care setting.
E. Apply knowledge of anatomy, physiology, and medical terminology concepts to patient care in the health care setting.
F. Create a resume with emphasis on education and professional practice.
G. Compare and contrast interviewing techniques.
H. Apply various techniques for preparing for certification exams, such as the CMA, RMA, or CPC examinations.

HEALTH CARE TECHNOLOGY
INDIVIDUAL COURSE STUDENT LEARNING OUTCOMES (SLO’s)

HIT 50A: Medical Terminology I
Upon completion of this course a student will be able to:
A. Identify the root, prefix, and suffix components that make up medical terminology and place them in correct order to form appropriate medical words.
B. Recognize and use common abbreviations related to each body systems and medical specialty area taught in this class.
C. Describe directional terms, anatomic planes, and organizational quadrants of the body and use this information when reviewing case histories, operative reports, and consultations.
D. Identify disease states and anomalies related to systems based medical terminology.
E. Describe diagnostic tests and laboratory values to confirm clinical findings.

HIT 50B: Medical Terminology II
Upon completion of this course a student will be able to:
A. Correctly pronounce and spell the medical terms related to the specific body systems presented in this class.
B. Define simple and compound medical terms and medical abbreviations used in standard medical forms, reports, and online exercises.
C. Identify disease states and anomalies related to systems based medical terminology.
D. Describe the etiology, diagnostic symptoms, and treatment modalities for conditions related to the endocrine, musculoskeletal, and respiratory systems.
**HIT 51: Basic Medical Terminology**
Upon completion of this course a student will be able to:

A. Identify the root, prefix, and suffix components that make up medical terminology and place them in the correct order to form appropriate medical words.

B. Recognize and use common abbreviations related to the gastrointestinal system.

C. Describe directional terms, anatomic planes, and organizational quadrants of the body and use this information when reviewing case histories, operative reports and consultations.

**EMT 104: Phlebotomy Technician**
Upon completion of this course a student will be able to:

A. Identify anatomical body parts, system related medical terminology, medical abbreviations, and laboratory diagnostic tests.

B. Identify tube color, additives, and order of draw utilized in blood draws.

C. Perform venipuncture procedure for evacuated tube system and winged infusion system.

D. Perform capillary skin puncture for anemia and blood glucose screening.

E. Describe the pre-analytical factors that affect the patency of a blood specimen and subsequent laboratory processing.

F. Describe special considerations in the venipuncture of the pediatric and geriatric patient.

G. Prevent phlebotomy related lawsuits by understanding the legal and ethical considerations of the phlebotomist, the standard of care for the phlebotomist, and risk management of the laboratory department.

**HCT 61, Introduction to Health Care**
Upon completion of this course a student will be able to:

A. Summarize the history of medicine and compare the health care delivery settings.

B. Analyze career requirements and opportunities for health information and medical assisting professionals, as well as other health care professionals.

C. Compare the various certificate and degree options available in the medical assisting and health information technology programs at City College of San Francisco.

D. Select the certificate or degree program he or she wishes to pursue.

E. Analyze types of patient records, including hospital, physician office, and alternate care settings.

F. Examine the advantages of electronic health records over paper-based and hybrid health records.

G. Describe general documentation issues and the content of inpatient, outpatient, and physician office records.

H. Examine the characteristics of numbering systems, and apply these principles to various alphabetic and numeric numbering assignments.

I. Analyze record storage issues as they relate to circulation and security.
HCT 66, Medical Typing/Transcription
Upon successful completion of this course, the student should be able to:
A. Select the appropriate Microsoft Office Suite software to successfully complete medical typing/transcription assignments.
B. Produce medical records.
C. Compare and contrast report formats used in a variety of medical settings.
D. Set up documents utilizing appropriate formats and review medical terminology from a variety of systems and specialties.
E. Translate and assemble correct medical terminology as appropriate to each system and report.
F. Compare and relate medical abbreviations as assigned.
G. Interpret and assemble unformatted data to create correspondence and reports.
H. Integrate medicolegal requirements into the preparation and correction of medical records.

MED 55, The Electronic Health Record
Upon completion of this course a student will be able to:
A. Analyze the major components of an electronic health record (EHR) and the purposes for a health care record.
B. Compare and contrast the federal, state, and regional electronic record initiatives.
C. Analyze the major phases of work associated with the implementation of an electronic health record.
D. Examine the electronic health record framework, such as architecture, human-computer interface, data content and vocabulary standards, and security controls.
E. Categorize EHR record content, purpose, formats and type of data, record standards, and documentation practices.
F. Examine patient visit management functions, such as master patient index (MPI), scheduling, and advance directives.
G. Collect problem, medication, and allergy data incorporating workflow criteria and functional, content, and vocabulary standards.

MED 56, Administrative Procedures
Upon completion of this course a student will be able to:
A. Describe the evolution of health care and analyze health care settings.
B. Compare the principles of medical ethics and medical etiquette for the physician and medical assistant.
C. Identify the purposes and provisions of local, state, and federal laws; i.e., Health Insurance Portability and Accountability Act (HIPAA), the Uniform Anatomical Gift Act, reporting requirements, etc.
D. Demonstrate the differences and barriers of communicating in-person, over the telephone, and in writing.
E. Ready the medical office for daily activities, including appointment scheduling and patient registration.
F. Produce quality written correspondence incorporating formatting, editing, and proofreading skills.
G. Demonstrate office managerial skills, including personnel and equipment.
H. Develop job search skills including development and refinement of resumes and letters.

**AHWC 9188, Medical Computing Skills**
Upon completion of this course a student will be able to:

A. Demonstrate proper use of one or more of the computing programs utilized in the Health Information Technology and Medical Assisting Programs; e.g., word processing, medical terminology, keyboarding, etc.
B. Efficiently employ the various functions related to the specific program.
C. Operate computing hardware and software as well as printing equipment effectively and skillfully.
D. Organize and prioritize work and schedule time accordingly.

**HEALTH INFORMATION TECHNOLOGY PROGRAM STUDENT LEARNING OUTCOMES (SLO’s)**
Upon completion, the student will be able to:

- Perform clerical skills necessary for employment as an entry-level health information management professional in a variety of health care settings
- Perform the technical skills necessary for entry-level employment as a health information management professional in a variety of health care settings
- Demonstrate the behavioral, ethical, and professional interpersonal skills necessary for employment as a health information management professional in a variety of health care settings
- Apply to take the national certification examination by the American Health Information Management Association (AHIMA) to earn the Registered Health Information Technician (RHIT) credential
- Apply to take the national certification examination by the American Health Information Management Association (AHIMA) to earn the Certified Coding Specialist (CCA) credential

**HEALTH INFORMATION TECHNOLOGY INDIVIDUAL COURSE SLO’s**

**HIT 63: Health Information Systems**
Upon completion of this course a student will be able to demonstrate:

A. Describe the organization and function of various healthcare facilities and apply current laws, accreditation, licensure, and certification standards
related to health information initiatives from the national, state, local and facility levels.

B. Explain the differences in record format and content in relation to the various types of alternative care facilities and describe the role of the health information management professional.

C. Demonstrate the accuracy and completeness of the patient record from a variety of health care settings as defined organizational policy and external regulations and standards.

**HIT 65: Organization of Health Data**

Upon completion of this course a student will be able to:

A. Recall the sources of data and define types of data and terms used in hospital data collection and statistical calculations.

B. Analyze institutional data in relation to regulatory and accreditation standards.

C. Define the requirements for various data sets and databases (OSHPD, MDS, OASIS, DEEDS).

**HIT 72: Legal Aspects of HIM**

Upon completion of this course a student will be able to:

A. Apply policies and procedures for access and disclosure of personal health information and interpret and promote ethical standards of practice.

B. Express appropriate responses by a health information professional when releasing patient-specific data to authorized users (subpoenas, authorizations, patient access) and testifying in court proceedings.

C. Prepare and maintain user access logs/systems to track access to and disclosure of identifiable patient data.

**HIT 73B: Advanced ICD Coding**

Upon completion of this course a student will be able to:

A. Integrate knowledge of medical terminology, anatomy, physiology, and disease process to assign accurate diagnostic and procedural codes.

B. Apply official coding and reporting guidelines to select principal diagnoses, other diagnoses, and procedures and correctly sequence etiology and manifestation codes and use and maintain electronic applications and work processes to support clinical classification and coding.

C. Demonstrate the understanding of ICD-9-CM versus ICD-10-CM and ICD-10-PCS coding classification systems.

**HIT 74: Introduction to Quality Improvement**

Upon completion of this course a student will be able to:

A. Implement performance and clinical quality improvement concepts as applied in health care settings and explain and demonstrate techniques used in performance improvement activities

B. Analyze quality improvement programs in health care as related to accrediting agency standards, government regulations, and institutional
needs and apply current laws, accreditation, licensure and certification standards from government (national, state, local, and facility levels) and private organizations

C. Collect, organize and present data for quality management, utilization management, risk management, patient care related studies and design studies for evaluating patient outcomes and patient satisfaction

HIT 75: Organization and Supervision
Upon completion of this course a student will be able to:
  
  A. List and discuss the various planning and management tools including forecasting, Gantt and PERT charts, time management techniques and policies and procedures
  
  B. Apply the steps involved in the staffing and selection process, training, and performance reviews (evaluations), create a department budget for a HIM Department or medical office and diagram and design a workplace layout.
  
  C. Relate how motivation, morale, and discipline influences the workplace environment and identify techniques necessary for handling grievances & investigations in the workplace

HIT 77A: Professional Practice Experience I
Upon completion of this course a student will be able to:
  
  A. Develop and display a good working relationship with both coworkers and supervisors and demonstrate initiative in carrying out assignments.
  
  B. Display a positive attitude toward each learning experience and critique to work by demonstrating good communications skills, both oral and written and demonstrate professionalism by display of punctuality, flexibility, and confidentiality at each affiliated site.
  
  C. Discuss the various roles of the health information professional and examine the advantages of electronic health records over paper-based and hybrid health records.

HIT 77B: Professional Practice Experience II
Upon completion of this course a student will be able to:
  
  A. Follow existing departmental policies and procedures to code, diagnosis, symptoms, and procedures from health records, utilizing official ICD coding guidelines and UHDDS reporting requirements either manually or on computer.
  
  B. Accurately sequence diagnosis and procedure codes, determining the principal diagnosis and provide MS-DRG assignment.
  
  C. Understand the software program(s) that are used to collect, calculate and report data.
  
  D. Apply to take the national certification examination by the American Health Information Management Association (AHIMA) to earn the Registered Health Information Technician (RHIT) credential.
E. Apply to take the national certification examination by the American Health Information Management Association (AHIMA) to earn the Certified Coding Specialist (CCA) credential.

**HIT 78: Reimbursement Methods in HIM**

Upon completion of this course a student will be able to:

A. Describe the historical development of healthcare reimbursement in the United States.

B. Describe various types of insurance programs (Medicare, Medicaid, Commercial, Government-Sponsored, and Managed Care), and distinguish major payment methods and prospective payment systems used in the United States.

C. Calculate payment methods on unit of payment, timeframe and risk

**PHARMACY TECHNICIAN**

**PROGRAM STUDENT LEARNING OUTCOMES (SLO’s)**

Upon completion of this program, the student will be able to:

- Apply knowledge of the roles and responsibilities of the pharmacy technician in an institutional or community based pharmacy.
- Demonstrate competency in the use of mathematical calculations and drug delivery to determine drug dosing.
- Demonstrate the clinical skills and knowledge necessary to intake, process, fill, label and dispense correct prescribed pharmaceuticals.
- Demonstrate advanced drug preparation skills to IV and chemotherapeutic agents.
- Model professional standards as a team member during clinical rotations.
- Apply for the California State Board of Pharmacy License or the Pharmacy Technician Certification Board Examination.

**PHARMACY TECHNICIAN**

**INDIVIDUAL COURSE STUDENT LEARNING OUTCOMES (SLO’s)**

**PHTC 101: Pharmacy Technician I-Theory**

Upon completion of this course a student will be able to:

A. Summarize the roles and responsibilities of a pharmacy technician in the pharmacy environment.

B. Demonstrate the steps required in the intake, processing, and filling of prescribed medications.

C. Demonstrate accuracy in calculations for drug dosages, dilutions, and reconstitutions.

D. Summarize the effects of drugs on human anatomy and physiology.
PHTC 102: Pharmacy Technician I-Clinical
Upon completion of this course a student will be able to:
   A. Formulate drug preparations in a clinical setting using appropriate policies and procedures.
   B. Organize the computer station to efficiently process retail prescriptions, chart orders, or IV additives.
   C. Select and fill prescriptions with correct State Board patient focused labeling and observe State Board requirements and institutional protocols.
   D. Maintain drug formulary system as to quality and quantity and adhere to standard inventory practices.

PHTC 102A: Health Care Mathematics
Upon completion of this course a student will be able to:
   A. Demonstrate use of mathematical formulas in dosage calculations using apothecary, metric, ratio, and proportion methods.
   B. Calculate appropriate medication dosage based on body surface area and/or weight.
   C. Demonstrate the selection of proper syringes based on parenteral drug calculations and administration of drugs.
   D. Identify common intravenous solutions and flow rate of drug over specified time period.

PHTC 103-Pharmacy Technician II-Theory
Upon completion of this course a student will be able to:
   A. Identify advanced drug preparation and delivery for community and institutional practices.
   B. Demonstrate use of various compounding techniques for vials, ampules, reconstituted parenteral dosage forms and IV’s.
   C. Label hyperalimentation and antibiotic drugs utilizing computer software.
   D. Demonstrate aseptic technique, hazardous waste handling, and infectious disease control procedures.
   E. Discuss the effects, indications, contraindications, administration, side effects, incompatibility, antidotes, and terminology of drugs commonly dispensed in various pharmacy settings.

PHTC 104-Pharmacy Technician II-Clinical
Upon completion of this course a student will be able to:
   A. Demonstrate efficient use of the computerized workstation to fill retail prescriptions, med cassettes, or IV admixtures.
   B. Demonstrate proper drug inventory based on classification categories.
   C. Demonstrate proper handling of bulk or individual unit dose containers.
   D. Demonstrate aseptic techniques using laminar flow hood.
   E. Demonstrate sequential admixture compounding.

HCT 108: Everyday Healing Herbs and Foods
Upon completion of this course a student will be able to:
A. Define, compare and contrast Tao, Yin and Yang and their relationships.
B. Discuss the five principles of Yin and Yang and their significance in choosing foods and herbs.
C. Describe the functions, indications and contraindications associated with the five tastes of foods and herbs.
D. Identify the specific tastes, energetics, color and texture of foods and herbs.
E. Compare the five phase correspondences of season, taste, color, emotion, environmental factors, internal organ, human sound, human tissues, developmental phase, and strengthening/weakening activity.
F. Choose foods and herbs appropriate to each season, climactic condition, and individual energetics.

OTHER NON-CREDIT COURSES IN HEALTH CARE TECHNOLOGY

AHWC 9183: Unit Coordinator
Upon completion of this course a student will be able to:
   A. Describe the role and responsibilities of a unit coordinator in a nursing care unit of a hospital.
   B. Describe the various institutional medically related health care departments and support services related to patient care.
   C. Demonstrate effective communication skills and use of appropriate medical terminology at the clinical site.
   D. Demonstrate professional behavior and team work skills in the health care environment.

AHTC 9121: Skills for Home Care Providers
Upon completion of this course a student will be able to:
   A. Demonstrate appropriate verbal and non-verbal communication skills
   B. Explain the basic principles of body mechanics and safe transfer/lift techniques.
   C. Discuss the role and responsibilities of the home care provider in providing personal care services, including observation and infection control.
   D. Apply knowledge of nutrition, cultural food preferences, food safety, and sanitation in food handling.