

# CARDIOVASCULAR TECHNOLOGY ASSOCIATE IN SCIENCE



**Refer to Admission: Cardiovascular Technology Program (CVTE) in Admission Information (<https://catalog.gcccd.edu/grossmont/admission-information/>) for special admissions procedures and criteria.**

Cardiovascular Technology students are educated in the theory and clinical application of diagnostic tests used in the diagnosis and treatment of cardiovascular disease. The first year of the program is composed of a core curriculum of courses which encompass physics, mathematics, cardiovascular anatomy, physiology and pathophysiology, medical instrumentation and the application of clinical cardiovascular techniques.

After the first semester, students select one of three subspecialties for concentrated study, which includes lecture, laboratory and clinical experience courses.

Students are admitted to the Cardiovascular Technology Program based on the date a completed application packet is submitted to include the following: CVT application, completed immunizations and/or tests and official transcripts of all science prerequisites if taken outside of GCCCD. Program applications are accepted year round and is a separate process from an application to Grossmont College.

**For all information on admission criteria, see the Cardiovascular Technology Program at <https://www.grossmont.edu/academics/programs/cvt/index.php> (<https://www.grossmont.edu/academics/programs/cvt/>).**

Grossmont College prepares the student for an Associate Degree in Science as a Cardiovascular Technologist. In addition to the cardiovascular technology courses, the major requires selected general education courses to be successfully completed for the degree. Upon completion of all degree requirements, the graduate is eligible to sit for the registry exam as a Cardiovascular Technologist administered by Cardiovascular Credentialing International (CCI) and/or with the American Registry of Diagnostic Medical Sonographers (ARDMS).

The Associate Degree Cardiovascular Technology Program is accredited through the Commission on Accreditation of Allied Health Education Programs (<https://www.caahep.org/>) upon the recommendation of the Joint Review Committee on Education in Cardiovascular Technology (<https://www.jrccvt.org/>) located at 9355 113th Street, N., #7709, Seminole, FL 33775.

**Important:** Any prior conviction of a misdemeanor or felony may influence eligibility for licensure or certification as a Cardiovascular Technologist. A flagged background check or drug screen may also prohibit participation in the program, registry, or securing employment. Applicants with prior convictions are urged to contact Cardiovascular Credentialing International (CCI) at 800-326-0268 and the American Registry of Diagnostic Medical Sonographers (ARDMS) at 301-738-8401.

**Subspecialties include:**

## **Invasive Cardiovascular Technology**

Invasive Cardiovascular Technologists work in cardiac catheterization laboratories where they assist the invasive cardiologist in performing diagnostic and interventional procedures such as cardiac catheterization, balloon angioplasty, electrocardiographic monitoring, and stent and pacemaker placement. The technologist assists the physician during the catheterization, providing the appropriate instruments, operates various pieces of electronic medical equipment and calculates clinical information for interpretation by the physician.

## **Adult Echocardiography**

Adult Echocardiographers perform cardiac ultrasound studies and specialized electrocardiographic procedures. The information obtained from these clinical studies is used by the cardiologist to evaluate patients for cardiovascular disease and designing comprehensive treatment plans. These technologists perform the studies, operate various electronic instruments, prepare preliminary reports and calculate clinical information for interpretation by the physician.

## **Vascular Technology**

Vascular Technologists perform ultrasound and other diagnostic studies to evaluate arterial and venous obstructions, malformations, or diseases which may put the patient at risk for a stroke, or for loss of circulation in their extremities. The information obtained from these clinical studies is used by vascular surgeons and neurologists to establish a diagnosis, assess the severity of existing disease, and to design comprehensive treatment plans. The vascular technologist performs the studies, operates various medical instruments, prepares preliminary reports and calculates clinical information for interpretation by the physician.

## **Career Opportunities**

<https://www.grossmont.edu/student-support/career-center/resources.php>

Cardiac Sonographer  
Coronary Interventional Specialist  
Cath Lab Specialist  
Vascular Technologist Sonographer  
Peripheral Vascular Specialist  
Department Lead, Supervisor, or Manager  
Equipment Sales Representative  
Pacemaker Representative  
Surgical and Endovascular Equipment Sales  
With additional training, Nursing, Physicians Assistant or Surgical Assistant

**The Program-level Student Learning Outcomes (PSLOs) below are outcomes that students will achieve after completing specific degree requirements in this program. Students will:**

1. Develop and maintain professional behaviors such as, striving for excellence in skills and knowledge, sharing knowledge and skills with others, caring for self, caring for and supporting patients, and protecting patients' rights, privacy and dignity. Continue life-long learning habits and professional growth.
2. Students of **Invasive Cardiology** will apply principles of cardiovascular anatomy, physiology, pathophysiology and medical instrumentation to perform and interpret diagnostic and interventional studies in the cardiac catheterization laboratory.

- Students of **Invasive Cardiology** will set up, calibrate and operate diagnostic and interventional instrumentation in the Cardiac Catheterization Laboratory.
- Students of **Adult Echocardiography** will apply principles of cardiovascular anatomy, physiology, pathophysiology and medical instrumentation to perform, analyze and interpret diagnostic studies.
- Students of **Adult Echocardiography** will perform diagnostic cardiac ultrasound studies using standard and Doppler ultrasound instruments equipped with surface and transesophageal transducers. Calculate prescribed hemodynamic function indices for interpretation by the physician.
- Students of **Vascular Technology** will apply principles of vascular anatomy, physiology, pathophysiology and medical instrumentation to perform and interpret diagnostic studies.
- Students of **Vascular Technology** will perform vascular diagnostic studies using duplex ultrasound, continuous-wave Doppler, arterial and venous plethysmography and photoplethysmography.

## General Education Requirements for Cardiovascular Technology Majors

All Allied Health and Nursing students adhere to the graduation requirements outlined in the college catalog for the academic year in which they enter the program.

### Competency Requirement

- Competency in reading, writing, expression shown by achieving a "C" grade or higher or "Pass" in courses listed under Area A, Section 1 – Written Communication.
- Competency in Mathematics shown by
  - Completion of MATH-120 Quantitative Reasoning or a higher numbered math course with a grade of "C" or higher or a grade of "P"; or a statistics course from another discipline with a grade of "C" or higher or a grade of "P"; or placing into a math course numbered MATH-170 Analytic Trigonometry or above.

### Area A - Language and Rationality

Three courses (a minimum of nine units) are required in written communication, oral communication, and analytical thinking. At least **one** course must be taken from **each** of the following three sections:

Code	Title	Units
<b>1. Written Communication</b>		
Must be completed with a "C" grade or higher or "Pass"		
ENGL-120	College Composition and Reading	3
ENGL-124	Advanced Composition: Critical Reasoning and Writing	3
ESL-122	College Rhetoric	6
<b>2. Oral Communication</b>		
COMM-120	Interpersonal Communication	3
COMM-122	Public Speaking	3
COMM-130	Fundamentals of Human Communication	3
<b>3. Analytical Thinking</b>		
Must be completed with a "C" grade or higher or "Pass"		
ANTH-215	Statistics for the Behavioral Sciences	4
BIO-215	Statistics for Life Sciences	3
ECON-215	Statistics for Business and Economics	4

GEOG-104	Introduction to Geographic Information Science	3
MATH-103	Intermediate Algebra	3
MATH-108	Beginning & Intermediate Algebra for Business, Math, Science, and Engineering Majors	6
MATH-110	Intermediate Algebra for Business, Math, Science and Engineering Majors	5
MATH-120	Quantitative Reasoning	3
MATH-125	Structure and Concepts of Elementary Mathematics I	3
MATH-126	Structure and Concepts of Elementary Mathematics II	3
MATH-150	Introduction to Computer Programming Applications in Mathematics	3
MATH-160	Elementary Statistics	4
MATH-170	Analytic Trigonometry	3
MATH-175	College Algebra	4
MATH-176	Precalculus: Functions and Graphs	6
MATH-178	Calculus for Business, Social and Behavioral Sciences	4
MATH-180	Analytic Geometry and Calculus I	5
MATH-245	Discrete Mathematics	3
MATH-280	Analytic Geometry and Calculus II	4
MATH-281	Multivariable Calculus	4
MATH-284	Linear Algebra	3
MATH-285	Differential Equations	3
PHIL-125	Critical Thinking	3
PHIL-130	Logic	3
PSC-120	Fundamentals of Scientific Computing (MATLAB)	4
PSY-215	Statistics for the Behavioral Sciences	4
SOC-215	Statistics for the Behavioral Sciences	4

### Area B - Natural Sciences

Two natural science courses (a minimum of seven units) are required. One course must contain a laboratory.

Code	Title	Units
ANTH-130	Introduction to Biological Anthropology <sup>1</sup>	3
ANTH-131	Biological Anthropology Laboratory <sup>2</sup>	3
ASTR-110	Descriptive Astronomy <sup>1</sup>	3
ASTR-112	General Astronomy Laboratory <sup>2</sup>	1
ASTR-120	Exploration of the Solar System	3
BIO-105	Marine Biology	4
BIO-110	Environmental Biology	4
BIO-112	Contemporary Issues in Environmental Resources <sup>1</sup>	3
BIO-114	Heredity, Evolution and Society <sup>1</sup>	3
BIO-118	Introduction to Human Biology <sup>1</sup>	3
BIO-120	Principles of Biology	4
BIO-140	Human Anatomy	4
BIO-141	Human Physiology	3
BIO-141L	Laboratory in Human Physiology <sup>2</sup>	1
BIO-144	Anatomy and Physiology I	4

BIO-145	Anatomy and Physiology II	4
BIO-152	Paramedical Microbiology	5
BIO-230	Principles of Cellular, Molecular and Evolutionary Biology	4
BIO-240	Principles of Ecology, Evolution and Organismal Biology	5
CHEM-102	Introduction to General, Organic and Biological Chemistry	5
CHEM-110	Environmental Chemistry <sup>1</sup>	3
CHEM-113	Forensic Chemistry	4
CHEM-115	Fundamentals of Chemistry	4
CHEM-116	Introductory Organic and Biochemistry	4
CHEM-117	Introductory Biochemistry	3
CHEM-120	Preparation for General Chemistry	4
CHEM-141	General Chemistry I	5
CHEM-142	General Chemistry II	5
CHEM-231	Organic Chemistry I	5
CHEM-232	Organic Chemistry II	5
CHEM-241	Organic Chemistry I Lecture <sup>1</sup>	3
CHEM-241L	Organic Chemistry I Laboratory <sup>2</sup>	2
CHEM-242	Organic Chemistry II Lecture <sup>1</sup>	3
CHEM-242L	Organic Chemistry II Laboratory <sup>2</sup>	2
GEOG-120	Physical Geography: Earth Systems <sup>1</sup>	3
GEOG-121	Physical Geography: Earth Systems Laboratory <sup>2</sup>	1
GEOG-140	Meteorology: Weather and Climate <sup>1</sup>	3
GEOL-104	Earth Science <sup>1</sup>	3
GEOL-110	Planet Earth <sup>1</sup>	3
GEOL-111	Planet Earth Laboratory <sup>2</sup>	1
GEOL-121	Earth History	4
GEOL-210	Geology of California <sup>1</sup>	3
GEOL-220	Geology of the National Parks <sup>1</sup>	3
GEOL-230	Natural Disasters <sup>1</sup>	3
OCEA-112	Introduction to Oceanography <sup>1</sup>	3
OCEA-113	Oceanography Laboratory <sup>2</sup>	1
PSC-100	Physical Science for Elementary Education <sup>1</sup>	3
PSC-110	Introduction to the Physical Sciences <sup>1</sup>	3
PSC-111	Introduction to Physical Sciences Laboratory <sup>2</sup>	1
PHYC-110	Introductory Physics	4
PHYC-130	Fundamentals of Physics	4
PHYC-131	Fundamentals of Physics	4
PHYC-140	Mechanics of Solids	4
PHYC-201	Mechanics and Waves	5
PHYC-202	Electricity, Magnetism, and Heat	5
PHYC-203	Light, Optics, and Modern Physics	5
PHYC-240	Electricity, Magnetism, and Heat	4
PHYC-241	Light, Optics, and Modern Physics	4
SCI-110	Introduction to Scientific Thought <sup>1</sup>	3

<sup>1</sup> Course does not contain a laboratory component.

<sup>2</sup> Course is laboratory only.

## Area C - Humanities

One humanities course (a minimum of three units) is required.

Code	Title	Units
ASL-120	American Sign Language I	4
ASL-121	American Sign Language II	4
ASL-140	Inside Deaf Culture	3
ASL-220	American Sign Language III	4
ASL-221	American Sign Language IV	4
ARBC-120	Arabic I	5
ARBC-121	Arabic II	5
ARBC-122	Arabic for the Arabic Speaker I	5
ARBC-123	Arabic for the Arabic Speaker II	5
ARBC-148	Language, Culture, and Literature of the Arab World	3
ARBC-220	Arabic III	5
ARBC-221	Arabic IV	5
ARBC-250	Conversational Arabic I	3
ARBC-251	Conversational Arabic II	3
ART-100	Art Appreciation	3
ART-120	Two-Dimensional Design	3
ART-124	Drawing I	3
ART-126	Ceramics I	3
ART-129	Three-Dimensional Design	3
ART-140	Survey of Western Art I: Prehistory Through Middle Ages	3
ART-141	Survey of Western Art II: Renaissance Through Modern	3
ART-142	Art of Africa, Oceania and the Americas	3
ART-143	Modern Art	3
ART-145	Contemporary Art	3
ART-146	Asian Art	3
ART-147	American Art	3
ART-171	Introduction to Digital Art	3
CHIN-120	Chinese I	5
CHIN-121	Chinese II	5
CHIN-220	Chinese III	5
CHIN-221	Chinese IV	5
CHIN-250	Conversational Chinese I	3
CHIN-251	Conversational Chinese II	3
COMM-135	Oral Interpretation of Literature	3
COMM-137	Critical Thinking in Group Communication	3
COMM-144	Communication Studies: Race and Ethnicity	3
COMM-145	Argumentation	3
DANC-110	Dance History	3
DANC-120	Dance Appreciation	3
ENGL-122	Introduction to Literature	3
ENGL-126	Introduction to Creative Writing	3
ENGL-134	Creative Nonfiction Writing I	3
ENGL-135	Creative Nonfiction Writing II	3

ENGL-136	Creative Nonfiction Writing III	3	HUM-120	European Humanities	3
ENGL-137	Creative Nonfiction Writing IV	3	HUM-125	Women and Western Culture	3
ENGL-201	Women, Gender, and Sexuality in Literature	3	HUM-130	East Asian Humanities	3
ENGL-203	Children's Literature	3	HUM-135	Blues as Literature, History, and Culture	3
ENGL-215	Mythology	3	HUM-140	Humanities of the Americas	3
ENGL-217	Fantasy and Science Fiction	3	HUM-160	Humanities of the Future	3
ENGL-218	Shakespeare - His Plays and the Theatre of His Time	3	HUM-170	Modern World Humanities	3
ENGL-219	Views of Death and Dying in Literature	3	ITAL-120	Italian I	5
ENGL-221	British Literature I	3	ITAL-121	Italian II	5
ENGL-222	British Literature II	3	ITAL-220	Italian III	5
ENGL-231	American Literature I	3	ITAL-221	Italian IV	5
ENGL-232	American Literature II	3	ITAL-250	Conversational Italian I	3
ENGL-236	Chicana/o Literature	3	ITAL-251	Conversational Italian II	3
ENGL-237	American Indian Literature	3	JAPN-120	Japanese I	5
ENGL-238	Black Literature	3	JAPN-121	Japanese II	5
ENGL-277	Literary Theme	3	JAPN-149	Japanese Culture and Civilization	3
ESL-115	Exploring U.S. Cultures	6	JAPN-220	Japanese III	5
ETHN-126	Chicano/Chicana and Mexican Art	3	JAPN-221	Japanese IV	5
ETHN-127	La Chicana	3	JAPN-250	Conversational Japanese I	3
ETHN-134	Introduction to American Indian Art	3	JAPN-251	Conversational Japanese II	3
ETHN-143	Images of Black Women	3	MCOM-111	Introduction to Film Analysis	3
ETHN-144	Communication Studies: Race and Ethnicity	3	MUS-110	Great Music Listening	3
ETHN-236	Chicana/o Literature	3	MUS-111	The History of Jazz	3
ETHN-237	American Indian Literature	3	MUS-115	The History of Rock Music	3
ETHN-238	Black Literature	3	MUS-116	Introduction to World Music	3
FREN-120	French I	5	MUS-117	Introduction to Music History and Literature	3
FREN-121	French II	5	MUS-123	History of Hip Hop Culture	3
FREN-152	The French-Speaking World: A Cross-Cultural Perspective	3	MUS-189	Multimedia and the Creative Arts	3
FREN-220	French III	5	PHIL-110	A General Introduction to Philosophy	3
FREN-221	French IV	5	PHIL-111	Philosophy and Popular Culture	3
FREN-250	Conversational French I	3	PHIL-115	History of Philosophy I: Ancient and Medieval	3
FREN-251	Conversational French II	3	PHIL-117	History of Philosophy II: Modern and Contemporary	3
GERM-120	German I	5	PHIL-140	Problems in Ethics	3
GERM-121	German II	5	PHIL-141	Bioethics	3
GERM-220	German III	5	PHIL-145	Social and Political Philosophy	3
GERM-221	German IV	5	PHIL-150	The Philosophy of Art	3
GERM-250	Conversational German I	3	PHIL-155	The Philosophy of Science	3
GERM-251	Conversational German II	3	PHIL-160	Latin American Philosophy	3
HIST-100	Early World History	3	PHOT-150	Introduction to Photography	3
HIST-101	Modern World History	3	PHOT-154	History of Photography	3
HIST-103	Twentieth Century World History	3	RELG-120	World Religions	3
HIST-105	Early Western Civilization	3	RELG-130	Scriptures of World Religions	3
HIST-106	Modern Western Civilization	3	RELG-140	Religion and Culture	3
HIST-113	American Military History	3	RELG-150	Scriptures of India and China	3
HIST-126	History of Mexico	3	RELG-170	Introduction to Christianity	3
HIST-135	Ancient History of Western Civilization	3	RUSS-120	Russian I	5
HIST-136	Survey of Medieval History	3	RUSS-121	Russian II	5
HIST-137	History of East Asia	3	RUSS-220	Russian III	5
HIST-148	Modern Middle East History	3	RUSS-221	Russian IV	5
HUM-110	Principles of the Humanities	3	RUSS-250	Conversational Russian I	3

RUSS-251	Conversational Russian II	3	ETHN-130	U.S. History and Cultures: Native American Perspectives I	3
SPAN-120	Spanish I	5	ETHN-135	San Diego County American Indian Tribes	3
SPAN-121	Spanish II	5	ETHN-137	American Indian Culture and Heritage	3
SPAN-122	Spanish for the Native Speaker I	5	ETHN-138	The History and Cultures of California Indians	3
SPAN-123	Spanish for the Native Speaker II	5	ETHN-143	Images of Black Women	3
SPAN-141	Spanish and Latin American Cultures	3	ETHN-145	Introduction to Black Studies	3
SPAN-145	Hispanic Civilizations	3	ETHN-160	U.S. History: Asian American and Pacific Island American Perspectives I	3
SPAN-220	Spanish III	5	ETHN-161	U.S. History: Asian American and Pacific Island American Perspectives II	3
SPAN-221	Spanish IV	5	ETHN-180	U.S. History: Black Perspectives I	3
SPAN-250	Conversational Spanish I	3	ETHN-181	U.S. History: Black Perspectives II	3
SPAN-251	Conversational Spanish II	3	FS-115	Changing American Family	3
THTR-101	Introduction to Narrative Theory	3	FS-120	Human Development	3
THTR-110	Introduction to the Theatre	3	GEND-116	Introduction to Women's Studies	3
THTR-130	Acting I	3	GEND-117	Introduction to LGBTQ Studies	3
THTR-143	Historic Costume for the Theatre	3	GEND-154	Early History of Women in World Civilization	3
THTR-144	20th Century Fashion and Costume	3	GEND-155	Modern History of Women in World Civilization	3
THTR-205	The American Musical on Stage and Screen	3	GEOG-100	Introduction to Global Studies	3

## Area D - Social Sciences

One social science course (a minimum of three units) is required.

Code	Title	Units	Code	Title	Units
AOJ-110	Introduction to Administration of Justice	3	GEOG-101	Global Issues	3
ANTH-120	Cultural Anthropology	3	GEOG-106	World Regional Geography	3
ANTH-122	Anthropology of Magic, Witchcraft, and Religion	3	GEOG-130	Human Geography: The Cultural Landscape	3
ANTH-127	Cultures of Latin America	3	GEOG-170	The Geography of California	3
ANTH-140	Introduction to Archaeology	3	HED-120	Personal Health and Lifestyles	3
CD-115	Changing American Family	3	HED-201	Introduction to Public Health	3
CD-125	Child Growth and Development	3	HIST-107	History of Race & Ethnicity in the United States	3
CD-131	Child, Family and Community	3	HIST-108	Early American History	3
CD-134	Health, Safety and Nutrition of Young Children	3	HIST-109	Modern American History	3
CD-145	Child Abuse and Family Violence in Our Society	3	HIST-114	Comparative History of the Early Americas	3
CD-153	Teaching in a Diverse Society	3	HIST-115	Comparative History of the Modern Americas	3
COMM-124	Intercultural Communication	3	HIST-118	U.S. History: Chicano/Chicana Perspectives I	3
COMM-126	Communication Studies: Health and Wellness	3	HIST-119	U.S. History: Chicano/Chicana Perspectives II	3
COMM-128	Global Communication	3	HIST-122	Women in Early American History	3
ECON-110	Economic Issues and Policies	3	HIST-123	Women in Modern American History	3
ECON-120	Principles of Macroeconomics	3	HIST-124	History of California	3
ECON-121	Principles of Microeconomics	3	HIST-130	U.S. History and Cultures: Native American Perspectives I	3
ETHN-107	History of Race & Ethnicity in the United States	3	HIST-131	U.S. History and Cultures: Native American Perspectives II	3
ETHN-114	Introduction to Race & Ethnicity	3	HIST-154	Early History of Women in World Civilization	3
ETHN-115	Introduction to Cultural Competence	3	HIST-155	Modern History of Women in World Civilization	3
ETHN-118	U.S. History: Chicano/Chicana Perspectives I	3	HIST-160	U.S. History: Asian American and Pacific Island American Perspectives I	3
ETHN-119	U.S. History: Chicano/Chicana Perspective II	3	HIST-161	U.S. History: Asian American and Pacific Island American Perspectives II	3
ETHN-125	Cross-Cultural Psychology	3			
ETHN-128	Introduction to Chicana/o Studies	3			

HIST-180	U.S. History: Black Perspectives I	3	DANC-080D	Modern IV	1.5
HIST-181	U.S. History: Black Perspectives II	3	DANC-081A	Tap I	1.5
MCOM-110	Mass Media and Society	3	DANC-081B	Tap II	1.5
MCOM-210	Social Media in the Digital Age	3	DANC-081C	Tap III	1.5
MCOM-250	Introduction to Representation in the Media	3	DANC-081D	Tap IV	1.5
NUTR-155	Introduction to Nutrition	3	DANC-082A	Social and Ballroom Dance I	1.5
NUTR-158	Nutrition for Fitness and Sports	3	DANC-082B	Social and Ballroom Dance II	1.5
NUTR-159	Cultural Aspects of Food and Nutrition	3	DANC-083A	Latin American Dance I	1.5
POSC-120	Introduction to Politics and Political Analysis	3	DANC-083B	Latin American Dance II	1.5
POSC-121	Introduction to U.S. Government and Politics	3	DANC-084A	Jazz I	1.5
POSC-124	Introduction to Comparative Government and Politics	3	DANC-084B	Jazz II	1.5
POSC-130	Introduction to International Relations	3	DANC-084C	Jazz III	1.5
POSC-140	Introduction to California Governments and Politics	3	DANC-084D	Jazz IV	1.5
POSC-150	Introduction to Political Theory	3	DANC-088A	Ballet I	1.5
POSC-160	Politics in Film	3	DANC-088B	Ballet II	1.5
PSY-120	Introductory Psychology	3	DANC-088C	Ballet III	1.5
PSY-125	Cross-Cultural Psychology	3	DANC-088D	Ballet IV	1.5
PSY-132	Psychology of Health	3	DANC-094A	Hip Hop I	1.5
PSY-134	Human Sexuality	3	DANC-094B	Hip Hop II	1.5
PSY-138	Social Psychology	3	DANC-094C	Hip Hop III	1.5
PSY-140	Physiological Psychology	3	DANC-094D	Hip Hop IV	1.5
PSY-170	Abnormal Psychology	3	DANC-099A	Studio Workshop in Pointe I	1
PSY-220	Learning	3	DANC-099B	Studio Workshop in Pointe II	1
RELG-165	Religion in America	3	DANC-099C	Studio Workshop in Pointe III	1
SOC-114	Introduction to Race & Ethnicity	3	DANC-118A	Pilates I	1.5
SOC-120	Introductory Sociology	3	DANC-118B	Pilates II	1.5
SOC-125	Marriage, Family, and Alternate Lifestyles	3	DANC-118C	Pilates III	1.5
SOC-130	Contemporary Social Problems	3	DANC-118D	Pilates IV	1.5
SOC-138	Social Psychology	3	ES-001	Adapted Physical Exercise	1
SOC-140	Sex and Gender Across Cultures	3	ES-002	Advanced Adapted Physical Exercise	1
SOC-150	Latinx Communities in the United States	3	ES-003	Adaptive Aerobic Fitness	1

## Area E - Fitness/Wellness

Two courses involving physical exercise and/or dance are required. They can be chosen from the exercise science and/or dance courses listed below:

Code	Title	Units			
DANC-068	Introduction to Dance	1.5	ES-004A	Beginning Fitness for the Newcomer	1
DANC-071A	Studio Workshop in Tap Dance I	1	ES-004B	Intermediate Fitness for the Newcomer	1
DANC-071B	Studio Workshop in Tap Dance II	1	ES-004C	Advanced Fitness for the Newcomer	1
DANC-072A	Studio Workshop in Modern Dance I	1	ES-005A	Beginning Cardio Fitness and Resistance Training	1.5
DANC-072B	Studio Workshop in Modern Dance II	1	ES-005B	Intermediate Cardio Fitness and Resistance Training	1.5
DANC-074A	Studio Workshop in Jazz Dance I	1	ES-005C	Advanced Cardio Fitness and Resistance Training	1.5
DANC-074B	Studio Workshop in Jazz Dance II	1	ES-006A	Beginning Fitness Circuit	1
DANC-078A	Studio Workshop in Ballet I	1	ES-006B	Intermediate Fitness Circuit	1
DANC-078B	Studio Workshop in Ballet II	1	ES-006C	Advanced Fitness Circuit	1
DANC-080A	Modern I	1.5	ES-007A	Beginning Aerobic Walking for Fitness and Wellness	1.5
DANC-080B	Modern II	1.5	ES-007B	Intermediate Aerobic Walking for Fitness and Wellness	1.5
DANC-080C	Modern III	1.5	ES-007C	Advanced Aerobic Walking for Fitness and Wellness	1.5
			ES-008A	Beginning Indoor Cycling	1
			ES-008B	Intermediate Indoor Cycling	1
			ES-008C	Advanced Indoor Cycling	1
			ES-009A	Beginning Aerobic Dance Exercise	1

ES-009B	Intermediate Aerobic Dance Exercise	1	ES-061B	Intermediate Pickleball	1
ES-009C	Advanced Aerobic Dance Exercise	1	ES-061C	Advanced Pickleball	1
ES-016A	Beginning Trail Running	1	ES-076A	Beginning Tennis	1
ES-016B	Intermediate Trail Running	1	ES-076B	Intermediate Tennis	1
ES-016C	Advanced Trail Running	1	ES-076C	Advanced Tennis	1
ES-017A	Beginning Trail Hiking	1	ES-125A	Beginning Golf	1
ES-017B	Intermediate Trail Hiking	1	ES-125B	Intermediate Golf	1.5
ES-017C	Advanced Trail Hiking	1	ES-125C	Advanced Golf	1.5
ES-021A	Beginning Fitness for Chronic Disease And Injury Prevention	1.5	ES-130A	Beginning Gymnastics	1
ES-021B	Intermediate Fitness for Chronic Disease And Injury Prevention	1.5	ES-130B	Intermediate Gymnastics	1.5
ES-021C	Advanced Fitness for Chronic Disease and Injury Prevention	1.5	ES-130C	Advanced Gymnastics	1.5
ES-022	Total Body Conditioning	1	ES-155A	Beginning Basketball	1
ES-023A	Beginning Resistance Training	1	ES-155B	Intermediate Basketball	1
ES-023B	Intermediate Resistance Training	1	ES-155C	Advanced Basketball	1
ES-023C	Advanced Resistance Training	1	ES-170A	Beginning Soccer	1
ES-024A	Beginning Fitness Boot Camp	1	ES-170B	Intermediate Soccer	1
ES-024B	Intermediate Fitness Boot Camp	1	ES-170C	Advanced Soccer	1
ES-024C	Advanced Fitness Boot Camp	1	ES-171A	Beginning Softball	1
ES-026	Stress Reduction Through Movement and Mindfulness	1	ES-171B	Intermediate Softball	1
ES-027A	Beginning T'ai Chi Ch'uan	1	ES-171C	Advanced Softball	1
ES-027B	Intermediate T'ai Chi Ch'uan	1	ES-172A	Beginning Baseball	1
ES-027C	Advanced T'ai Chi Ch'uan	1	ES-172B	Intermediate Baseball	1
ES-028A	Beginning Yoga	1.5	ES-172C	Advanced Baseball	1
ES-028B	Intermediate Yoga	1.5	ES-175A	Beginning Volleyball	1
ES-028C	Advanced Yoga	1.5	ES-175B	Intermediate Volleyball	1
ES-029	Adapted Yoga	1	ES-175C	Advanced Volleyball	1
ES-030	Adaptive Aquatic Sports Education	1	ES-176A	Beginning Beach Volleyball	1
ES-035	Adapted Swimming Limited	1	ES-176B	Intermediate Beach Volleyball	1
ES-037A	Beginning Springboard Diving	1	ES-176C	Advanced Beach Volleyball	1
ES-037B	Intermediate Springboard Diving	1	ES-180	Self-Defense for Women	1
ES-037C	Advanced Springboard Diving	1	ES-185A	Beginning Fencing	1.5
ES-039	Swimming for Nonswimmers	1	ES-185B	Intermediate Fencing	1.5
ES-040A	Beginning Aquatic Fitness	1	ES-185C	Advanced Fencing	1.5
ES-040B	Intermediate Aquatic Fitness	1			
ES-040C	Advanced Aquatic Fitness	1			
ES-041	Adapted Water Aerobics	1.5			
ES-043A	Beginning Swimming	1			
ES-043B	Intermediate Swimming	1			
ES-043C	Advanced Swimming	1			
ES-044A	Beginning Lap Swimming for Health and Fitness	1			
ES-044B	Intermediate Lap Swimming for Health and Fitness	1			
ES-044C	Advanced Lap Swimming for Health and Fitness	1			
ES-060A	Beginning Badminton	1			
ES-060B	Intermediate Badminton	1			
ES-060C	Advanced Badminton	1			
ES-061A	Beginning Pickleball	1			

## Associate Degree Major Requirements

Code	Title	Units
<b>Core Curriculum</b>		
All students complete the following core courses in the first year of the program:		
CVTE-100	Physical Principles of Medicine I	2
CVTE-101	Cardiovascular Physiology I	4
CVTE-102	Medical Instrumentation I	3
CVTE-103	Laboratory Practicum and Proficiency Testing I	2
CVTE-111	Cardiovascular Physiology II	4
CVTE-113	Introduction to Clinical Practicum II	1
CVTE-114	Cardiovascular Pharmacology	2
<b>Total Units</b>		<b>18</b>

**Invasive Area of Emphasis**

<b>Code</b>	<b>Title</b>	<b>Units</b>
CVTE-109	X-Ray Physics and Radiation Safety	3
CVTE-116	Introduction to Invasive Cardiology	4
CVTE-130	Clinical Practicum I	2
CVTE-220	Clinical Practicum II	5
CVTE-222	Interventional Procedures I: Invasive Cardiology	5
CVTE-250	Clinical Practicum III	5
CVTE-252	Interventional Procedures II: Invasive Cardiology	5
<b>Total Units</b>		<b>29</b>

**Adult Echocardiography Area of Emphasis**

<b>Code</b>	<b>Title</b>	<b>Units</b>
CVTE-110	Physical Principles of Medicine II	3
CVTE-115	Introduction to Adult Echocardiography	4
CVTE-130	Clinical Practicum I	2
CVTE-220	Clinical Practicum II	5
CVTE-221	Diagnostic Procedures I: Adult Echocardiography	5
CVTE-250	Clinical Practicum III	5
CVTE-251	Diagnostic Procedures II: Adult Echocardiography	5
<b>Total Units</b>		<b>29</b>

**Vascular Technology Area of Emphasis**

<b>Code</b>	<b>Title</b>	<b>Units</b>
CVTE-110	Physical Principles of Medicine II	3
CVTE-117	Introduction to Vascular Technology	4
CVTE-130	Clinical Practicum I	2
CVTE-220	Clinical Practicum II	5
CVTE-223	Diagnostic Procedures I: Vascular Technology	5
CVTE-250	Clinical Practicum III	5
CVTE-253	Diagnostic Procedures II: Vascular Technology	5
<b>Total Units</b>		<b>29</b>