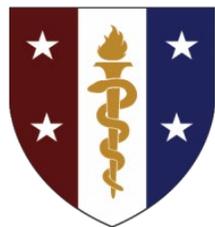


CATALOG

College of Allied Health Sciences

Fall 2020 - 2021

ALLIED
HEALTH



Uniformed
Services
University

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WELCOME

Thank you for your interest in the College of Allied Health Sciences (CAHS), which is the newest and largest college at the Uniformed Services University (USU). Our purpose is to serve as an academic home for allied health science readiness education and training that is required of the Services.

Within the health sciences, a steadily increasing number of military readiness requirements demand an official transcript for credential and practice eligibility. Several disciplines require an associate or baccalaureate degree. And some disciplines require a graduate degree. All of these conditions must be met through an institutionally and programmatically accredited school. The CAHS exists to serve this rising requirement in a more efficient and effective manner, which preserves Service ethos and resources like no other school can: *We have absolute mission alignment.*

Our primary location for instruction is the Medical Education and Training (METC) Branch Campus at Joint Base San Antonio's Fort Sam Houston. Specific service and joint health science programs located at METC have been identified for transition from METC to the METC Branch Campus. Those programs are detailed within our catalog. We also have Other Instructional Sites located at the Army Medical Center of Excellence, U.S. Navy Surface Warfare Medical Institute, Naval Undersea Medical Institute, US Air Force School of Aerospace Medicine and Joint Special Operations Medical Training Center.

Students that attend the METC Branch Campus as required by their Service will receive credit toward a specific degree plan offered by the College of Allied Health Sciences (CAHS). Students that are instructors of programs typically have a degree completion requirement. The CAHS serves that need as well with our Education & Training Administration & Leadership program, which is also detailed within our catalog.

Regardless of your program, your Service still determines the training requirement and the programs are still conducted by the Services; Training is just as rigorous as it has ever been. The only difference is CAHS students receive an official transcript and/or degree that is fully recognized in the civilian sector. This enhances promotion and retention, and preserves and extends the voluntary education benefit of our students.

We're glad you're here and we will do everything we can to live up to our motto:

Train for the mission, Educate for a Lifetime!

THE COLLEGE OF ALLIED HEALTH SCIENCES (CAHS)

The CAHS exists to support the education and training requirements that the military services have determined are prerequisite to readiness, both in a professional and operational practice sense, within the Military Health System (MHS) of the Department of Defense (DoD). Our programs frequently require competencies and practice credentials identical to the civilian sector.

ABOUT THE CAHS

The CAHS was chartered by the Assistant Secretary of Defense for Health Affairs in October of 2016 after receiving the endorsement of the USU Board of Regents. Congress authorized undergraduate study at USU in section 724 of the 2017 National Defense Authorization Act, which was signed by the President in December of 2016. The CAHS commenced initial operations on April 24th, 2017.

Institutional Accreditation

The Middle States Commission on Higher Education (MSCHE) accredits degree-granting colleges and universities in the Middle States region: Delaware, the District of Columbia, Maryland, New Jersey, New York, Pennsylvania, Puerto Rico, the U.S. Virgin Islands, and several locations internationally. The Commission is a voluntary, non-governmental, membership association that defines, maintains, and promotes educational excellence across institutions with diverse missions, student populations, and resources. It examines each institution rather than specific programs within institutions. More Information about MSCHE can be found at the following external web address:

<http://www.msche.org/>

MSCHE first accredited USU in 1984. In May of 2016, the Commission acknowledged receipt of a substantive change request for the addition of two new degree levels available through the CAHS: Associate and Bachelor of Science in Health Sciences. The USU's existing MSCHE accreditation also includes graduate programs of instruction.

Specialized Accreditation

Many CAHS programs enjoy specialized accreditation eligibility with at least one professional practice entity. Specific information related to specialized accreditation of CAHS programs is detailed within the program overview within this catalog.

Mission & Vision

The mission of the Uniformed Services University is to educate, train, and comprehensively prepare uniformed services health professionals, scientists, and leaders to support the Military

and Public Health Systems, the National Security and National Defense Strategies of the United States, and the readiness of our Uniformed Services.

In the Vision of the USU President, and by the end of CY 2021, the University will be widely recognized as the pre-eminent national educational institution for the creation of career uniformed services leaders in the health sciences who are prepared to serve the nation. The USU will be a central focal point for the uniformed services in health-related education and training, research and scholarship, leadership development, and support to operational military units around the world. Each USU graduate will be a health professional and leader prepared with an outstanding health education, inter-professional health training, leadership training, and a deep and abiding commitment to selfless service, the uniformed services ethos, and the security of the United States.

The mission of the USU CAHS is to educate and train highly competent personnel qualified and dedicated to serving the needs of the uniformed services and the United States. The CAHS places a high priority on the special training needs of military medical personnel in contingency, Defense Support to Civil Authorities (DSCA), combat, and deployment healthcare, as well as peacetime healthcare. The CAHS will fulfill the mission established by the Department of Defense and will meet the standards established by the relevant programmatic accreditation bodies for accreditation of respective educational programs for all degree programs, as required and requested by the Services.

In the vision of the USU CAHS Dean, CAHS students train exceptionally well for the mission of the DoD, and, CAHS students achieve education for a lifetime of service to the nation long after leaving military service within the communities they call home. The CAHS Motto is:

Train for the Mission, Educate for a Lifetime!

Academic Year

The CAHS' regular academic year runs Summer/Fall/Spring. Program cohort start dates are scheduled year-round by the military services and local Branch Campus administration in concert with the CAHS and USU. A program cohort, or individual courses, could start on any day within any month. Please refer to your local training calendar and faculty of record for dates of particular programs and courses.

Leadership

The USU provides oversight of the CAHS consistent with the advisement of the USU Board of Regents (BoR) in the form of governance and administrative support, just as it does for the other schools and colleges of the University. The DoD Instruction 5105.45, Subject: Uniformed Services University defines the governance, organization, and management of the USU, allows leadership to strategically identify evolving educational requirements, and clarifies their

university's position within DoD. Several USU Instructions identify the Dean of the CAHS as the Chief Academic Officer.

USU CAHS Campus Directory

The physical location of the campus and the primary telephone number of key administrators are:

Uniformed Services University of the Health Sciences
College of Allied Health Sciences
2787 Winfield Scott Road, Bldg. 2398
Joint Base San Antonio Fort Sam Houston, Texas 78234-7510
(210) 299-8521

Dean

Lula W. Pelayo, Ph.D., MSN, BSN, RN, FAAN

Associate Dean for Undergraduate Studies

Dennis B. Kilian, MSPH, REHS, DAAS

Assistant Dean for Student and Faculty Development

Byron Bland, MAEd/AET, BSMS, AAS

Program Manager, Accreditation

Karen Nelson, M.S., CRDH

Program Manager, Curriculum

Michael Brock, M.S.H.S.

Special Assistant to the Dean

Barbara Castro, BA, MS

In-Processing Specialist

Flo Rodriguez

GENERAL INFORMATION

This section of the catalog contains general information about the CAHS. While not exhaustive, it is a good start that is provided to help ensure your success. Specific topics include Learning and Library Resources, Virtual Medical Reference Libraries, Learning Resources at the METC Branch Campus, the USU Bookstore, Information Technology, Service Required Instruction, and Voluntary Study. Please be sure to familiarize yourself with these topics.

Learning and Library Resources

For Service-direct programs, all learning and library resources are identified and provided by the sponsoring Service(s) at the site of instruction.

Virtual Medical Reference Libraries

All faculty and students of the CAHS have access to a variety of virtual medical reference libraries. Students and faculty can get specific information from their respective program directors and department chairs.

Learning Resources at the METC Branch Campus

Stimson Library (JBSA Fort Sm Houston)

Joint Base San Antonio at Fort Sam Houston, Texas has an additional library resource. The Stimson Library, located in building 2840 of the U.S. Army Medical Center of Excellence, is available 5 days a week except on holidays and training holiday weekends. Library hours are 0630-2000 Monday to Thursday and 0630- on Fridays.

METC Branch Campus (JBSA Fort Sam Houston)

At a CAHS branch campus, health science resources are discipline-specific and accessible within the program of instruction itself, and within the geographic area of instruction. The METC Branch Campus provides an example.

Library services available to CAHS students at the METC Branch Campus are robust. Students have access to the Stimson Medical Library, which is immediately adjacent to the campus. Each instructional program maintains its own small reference library within instructional spaces. Each Service provides access to their respective electronic medical reference systems, which can be accessed on or off campus and within the barracks. All CAHS students have access to at least one venue of library service always, day or night.

The METC Branch Campus and the CAHS are tri-service (Army, Navy, and Air Force) support entities delivering the highest quality education and support to students. There are a variety of learning resources to support the unified mission of training the world's finest Medics,

Corpsmen, and Techs. The METC Academic Support Division, Information Management Department (IMD), Logistics and Resources, and METC Facilities all work together with the CAHS to guarantee faculty, staff, and students have the most up-to-date, safe, and appropriate learning resources available.

The METC Branch Campus and CAHS are dedicated to ensuring a quality education through a variety of methods, including: video; multimedia; anytime web access to learning materials; and interactive learning using medical equipment and simulations. Media technology services are provided through the METC Academic Support Division. These include ensuring all assets have proper copyright permission and improving curriculum through initiatives such as the production of 3-D teaching modules. Media services are supported in accordance with military standards and regulations.

USU Bookstore

All required instructional materials are identified and provided to CAHS students by the sponsoring Service(s) or organization at the site of instruction. Traditional bookstore items such as clothing, diploma frames, key chains, pens, computers and software, etc. are locally available to CAHS students via their local Exchange shopping center and through the USU Alumni bookstore. The USU Alumni Bookstore is owned and operated by the Alumni Association, which is an approved non-profit entity that sells clothing, supplies and other merchandise that may be helpful to students at USU. The USU Alumni Bookstore offers online sales at the following external web address:

<http://usualumni.org/store/>

Information Technology

Because Service-required instruction does not always generate an immediate degree completion requirement, students that have a Service requirement to complete their degree after attending METC (e.g. as an Instructor or Program Director). Students have a priority opportunity to attend online courses with the CAHS to finish their degree. This requires two mechanisms for the provision of adequate information technology resources and support.

Service Required Instruction

Immediate Service-required Degree Completion

CAHS students attending programs of instruction with a Service requirement for completion of a degree upon culmination of instruction receive all necessary information technology support from the sponsoring Service(s) or organization at the site of instruction.

Deferred Service-required Degree Completion

CAHS students attending programs of instruction that have a Service requirement for completion of a degree as a condition of current or immediately future assignment, are responsible for providing their own information technology equipment. Using their own equipment, students gain access to the information technology environment provided for, or arranged by, the CAHS.

In all cases, minimum DoD standards for access apply. For more information about DoD information technology standards, see DoD Instruction 8310.01, which can be found at the following external web address:

<http://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/831001p.pdf>

In all cases, minimum Family Educational Rights and Privacy Act (FERPA) standards apply. More information about FERPA can be found via external website:

<https://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html>

In situations where students need assistance with information technology, assistance should be sought locally at the point of instruction. If the situation remains unresolved, the situation should be elevated to the CAHS. Please refer to your local orientation materials for access to local information technology support services. For CAHS information technology support, students may call (210) 299-8521.

Voluntary Study

In cases in which general education requirements toward their respective degree program are lacking, students may apply for tuition assistance through their respective military services voluntary education program. Some General Education courses may be earned upon successful completion through the College Level Examination Program (CLEP) and DANTES Subject Standardized Tests (DSST).

STUDENT INFORMATION

This section of the catalog focuses on information important to CAHS students. While not exhaustive, it is a very good start that is provided to help ensure your success. Specific topics include the CAHS student population, Standards of Conduct, and Values. Please be sure to familiarize yourself with these topics.

Student Population

The primary student population served by the CAHS are personnel that are enlisted or commissioned in a U.S. uniformed service, encompassing active and/or reserve component obligations that have been selected for a specific career field in the Allied Health Sciences. The CAHS also supports U.S. government departments and activities such as the U.S. Public Health Service and others where collaboration is beneficial and cost-effective to the mission of the MHS and DoD.

Intellectual Capability and Skill

In 1999, the National Research Council (NRC), in response to a request from the Services, established the Committee on the Youth Population and Military Recruitment to examine trends in the youth population relative to the needs of the military and the standards used to screen applicants to meet these needs. Consistent with the recommendations of the NRC, students are screened, qualified, and if found suitable, selected for military education and training.

In addition to being a high school graduate or equivalent (e.g. GED), students must achieve qualifying scores in specific sections of the Armed Services Vocational Aptitude Battery (ASVAB) Exam. These scores approximate the higher levels of intellectual capability and reasoning skills typically found within traditional General Education outcomes that are also required by the services for force health protection. Specific areas of assessment include: General Science (Natural and Physical Sciences), Word Knowledge, Paragraph Comprehension, Arithmetical knowledge, and Arithmetical Reasoning.

Prerequisite Education

Where applicable, each service has identified specific prerequisite education and training for particular programs of instruction. Students selected for these programs must have prerequisites validated by the sponsoring service and CAHS prior to enrollment. So doing helps to ensure selected students within each program of instruction have the best possible opportunity for success. In cases where service prerequisites are not acceptable to the CAHS (e.g. surge training in support of an unanticipated operational activity), the CAHS will place students into an audit category until students, or the condition of operations, are found acceptable to the CAHS.

Medical and Physical Readiness

Prior to entry into military service, recruits are medically screened by their Service to ensure they meet medical standards based upon branch and occupation. The Services adhere to standards that ensure students are free of contagious diseases that could endanger the health of other personnel. Additionally, the Services ensure that students are free of medical conditions or physical defects that could require excessive time lost from duty. Students must be adaptable to the military environment and medically capable of satisfactorily completing required training. Moreover, all students must be found medically capable of performing duties without aggravation of existing medical conditions.

Standards of Conduct

As an entity of the U.S. Government, the College of Allied Health Sciences is governed by a range of federal laws and regulations, U.S. DoD instructions, and policies promulgated by the President of the Uniformed Services University. In addition to this legal, regulatory and policy framework, we hold ourselves to Service and University Values that drive our minimum standards of conduct.

Army Core Values include Loyalty, Duty, Respect, Selfless Service, Honor, Integrity, and Personal Courage. Navy and Marine Corps Core Values include Honor, Courage, and Commitment. Air Force Core Values include Integrity, Service before Self, and Excellence. U.S. Public Health Service Core Values include Leadership, Service, Integrity, and Excellence.

USU's values include Selfless Service, Integrity, Innovation, Compassion and Caring, Communication, Excellence in Scholarship, Collaboration and Teamwork, and Leadership. While many of our values are similar to Service values, many are specific to education and training. Because of this, each USU value will be further specified.

Selfless Service - We are committed to serve those who defend the nation and all Americans in uniform at home and abroad. We are sensitive to the unique role that our Soldiers, Sailors, Airmen, Marines, Coastguardsmen and Public Health Service professionals play in our national security. USU faculty, staff, and students provide selfless service to the global community in support of the health of uniformed service members, veterans, and families, and U.S. interests worldwide.

Integrity - We foster a culture of academic, physical, and moral integrity in our students, faculty and staff, and we are uncompromising in our adherence to the highest standards of intellectual and personal integrity.

Innovation - Our faculty, students, and staff contribute to, and creatively employ, knowledge in areas crucial to the health of the uniformed services and to national security.

Compassion and Caring - We foster an atmosphere of compassion, caring, mutual respect, courtesy, pride in work, and combined uniformed services and academic professional development.

Communication - We interact and share information in a timely manner with openness, candor, and sensitivity.

Excellence in Scholarship - We are committed to rigorous standards of scholarship, including teaching, research, integration, and application, and to academic freedom as fundamental to the advancement of knowledge and a lifetime of learning.

Collaboration and Teamwork - We value the contributions of each member of our community and work to achieve an environment characterized by cooperation, collegiality, tolerance, mutual respect, and an appreciation of diversity, as well as facilitate cooperation and collaboration in our science, educational methodologies, research, and leadership.

Leadership - We focus on developing and sustaining leadership throughout the USU community, including within our faculty, our staff, our researchers and our support personnel.

The Honor Concept

The CAHS has adopted the Honor Concept of the US Naval Academy (2019), which is as follows:

CAHS students and faculty are persons of integrity. We stand for that which is right. We tell the truth and ensure that the truth is known. We do not lie. CAHS students and faculty embrace fairness in all actions. We ensure that work submitted as our own is our own, and that assistance received from any source is authorized and properly documented. We do not cheat.

CAHS students and faculty respect the property of others and ensure that others are able to benefit from the use of their own property. We do not steal.

Beyond this, all students and faculty associated with the CAHS must also adhere to Service- and location-specific requirements for honorable conduct and behavior at all times.

Responsible Conduct of Science

When applicable to CAHS study and instruction, the CAHS has adopted USU's Graduate Students Code on the Responsible Conduct of Science (2019). *The Graduate Students' Code on the Responsible Conduct of Science* was developed by USU faculty Graduate Students. Behavior of CAHS students and faculty functioning as biomedical scientists should adhere to these principles.

"I will demonstrate honesty, integrity and professionalism in planning, conducting, interpreting and reporting my scientific research. My work will be rigorous, unbiased,

ethical, scholarly, and as far as possible, objective. I will undertake only research for which I am qualified, and will collaborate and cooperate with other specialists when that is beneficial to the research.

I will show respect for my animal research subjects and human research volunteers. I will use both appropriately and humanely. I will consider both the animals and the volunteers' comfort, not causing unnecessary pain or distress in my research, while maximizing potential benefits to both the subjects and to society, while minimizing risks.

With human volunteers, I will maximize their welfare and secure fully informed consent stressing voluntariness. I will be knowledgeable about applicable laws and regulations concerning the use of animals and human research participants, and be diligent in ensuring that they are followed.

I will show respect for fellow students and researchers, ensuring that they receive appropriate credit for their contributions to the research. I will share my knowledge, methods, and results with others in a fair and expeditious way. I will provide objective, unbiased reviews of other scientist's work. I will provide accurate and understandable information to fellow scientists and to the public.

I will consider my responsibilities to society in my choice of research topics, in using my resources wisely and safely, and in avoiding conflicts of interest or commitment. I will be involved with the social and ethical ramifications and the environmental impact of my discoveries, proceeding in the best interests in society."

All USU graduate students are required to satisfactorily complete the course *Ethics and the Responsible Conduct of Research* (IDO 704) prior to advancement to candidacy. This course provides participants with an opportunity to review the basic principles for responsible conduct of scientific research. Topics include the rationale for developing and practicing professional values, and the scientist's ethical responsibilities to society, their research subjects, and their peers. Issues concerning responsible practices in laboratory work, publication, handling conflicts of interest, and confidentiality will be discussed. Each topic area is supplemented by discussion and contemporary readings. Graduate students will be expected to actively participate in the discussions.

While this is not a requirement for undergraduate CAHS students, it is information worth knowing as more and more frequently undergraduate and graduate students work side-by-side in research settings. CAHS faculty teaching in such settings would also do well to complete this graduate student requirement.

Plagiarism

Responsible conduct of science and academic integrity concepts also include the respect with which we use other peoples' ideas and concepts. Although the word plagiarism has been

defined in various ways, all definitions include a violation of academic integrity and the following constraints on using other investigators' works. The following passage is taken from USU Instruction 1306 which serves as a guide for students towards the achievement of academic integrity:

“Students shall not use, attempt to use, or copy any unauthorized material during any examination or graded exercise, knowingly present the work of someone else as their own, forge or alter any academic document, impede or interfere with the ability of others to use academic materials or complete academic work, or assist another in any of these activities.”

Academic and Non-Attribution

The CAHS has adopted the philosophy and policy of the Marine Corps University with respect to non-attribution and academic policy, which is as follows (2019):

Academic freedom is the ability of faculty, students, and staff within the College to pursue knowledge, speak, write, and explore complex, and often controversial, concepts and subjects without interference or fear of reprisal. Academic freedom is a key tenet at MCU and is fundamental and essential to the health of the academic institution.

Non-attribution is the lack of attributing any statement, comment, or remark to participants (faculty, staff, students, or guest speakers) engaging in academic discourse by name in public media or forums, or knowingly transmitting those statements, comments, or remarks to persons who will enter statements into the public arena, unless specifically authorized to do so. Open expression requires trust that those thoughts and opinions are treated as privileged information not to be shared in other forums nor attributed to a specific individual.

The time-honored tradition of free speech carries with it profound individual responsibility as well. In short, academic freedom must be tempered by good judgment so that individuals refrain from making unreasonably offensive or irresponsible statements either verbally or in writing. Examples of statements that are not protected by policy on academic freedom include the denigration of any person's race, color, ethnic group, religious beliefs, sexual orientation, or gender. This is not meant to restrict discussions of controversial subjects; however, good judgment and discretion must be a guiding standard.

Further, academic integrity requires that anyone who writes for publication must pursue factual accuracy and safeguard classified information, to include information such as FOUO or PII. DoD Directive 5230 describes procedures for release of information officially endorsed by an academic institution, as well as those for an individual acting in a private capacity and not connected with his or her official duties.

The powerful amalgam of academic freedom, non-attribution, and individual responsibility contributes to the institutional integrity of the College and includes the following principal elements:

Freedom to teach, conduct research, and publish research findings.

Freedom to discuss in a classroom any material or ideas relevant to the course, to include controversial, unusual, or unpopular topics.

Freedom to seek changes in academic and institutional policies without fear of reprisal.

Responsibility to pursue excellence, intellectual honesty, and objectivity in teaching.

Responsibility to encourage faculty, students, and colleagues to engage in critical thinking, free discussion, publication, and inquiry on relevant subjects.

Academic Freedom Policy:

Authors shall ensure appropriate disclaimers accompany all works produced for publication, presentation, or other release. An appropriate disclaimer is as follows:

“The views expressed in this article are those of the author(s) and do not necessarily reflect the official policy of any U.S. Government organization.”

Personnel who prepare manuscripts for publication on a subject in which they have had access to classified material should submit the manuscript through their chain of command for security clearance prior to release to any publisher.

All program directors shall provide an appropriate mechanism through which a proper security review may be conducted. If there is any question on the security aspects of material, it shall be submitted for security review in accordance with DoD Directive 5230.09 (Clearance of DoD Information for Public Release).

Military faculty and students are limited in the manner in which they may publicly criticize senior officials. However, as an academic institution, CAHS recognizes and encourages full and open discussion and debate of any policies within the classroom and under the umbrella of non-attribution, so long as such criticism and debate is done in a professional manner.

Faculty members may not be separated for exhibiting academic freedom and candor in written and oral products, provided the provisions of DoD Directive 5230.09 and DoD Directive 5500.7 (Joint Ethics Regulations) are followed.

Non-Attribution Policy:

CAHS encourages faculty, staff, and students to actively engage in free discussion and inquiry expressing their personal views in lectures or in seminar discussion groups without fear of attribution. At the beginning of each course of instruction, educational program directors are responsible for informing faculty, staff, and students of the policy to maintain an atmosphere of free and open discussion while also adhering to the principles of non-attribution.

Guest speaker presentations at CAHS will not be recorded by attendees, by any means, without express written permission in advance from the guest speaker and the education program director or authorized representative. To facilitate candid expression and learning, the non-attribution policy applies to all CAHS programs, sessions, and distributed materials in which guest speakers participate.

Personal Interactions with Faculty

Students should interact with faculty in a professional manner and with respect for the academic knowledge and authority of the faculty. However, students must not be coerced or become involved in interactions with faculty that create, in fact or appearance, academically inappropriate behavior in what is, by its very nature, an unequal relationship.

The CAHS requires that members of the faculty shall not engage in relationships with students which could be conceived as “dating”, during the student’s course of study, both on and off duty. Inappropriate relationships compromise the academic distinction of mentor and student, not only in the eyes of those involved, but in others who may perceive such actions as a compromise.

Perceived faculty misconduct and/or inappropriate interactions or behavior with or toward a student should be reported to the local Program Director and/or the Associate Dean for the School of Undergraduate Studies.

Harassment and Discrimination

The CAHS complies with DoD Instruction 1020.03 Harassment Prevention and Response in the Armed Forces (2018):

The CAHS “does not tolerate or condone harassment. Harassment jeopardizes combat readiness and mission accomplishment, weakens trust within the ranks, and erodes unit

cohesion. Harassment is fundamentally at odds with the obligations of Service member to treat others with dignity and respect.”

More specifically, the CAHS will not tolerate harassment, discriminatory harassment, sexual harassment, bullying, or hazing. Nor will CAHS tolerate retaliation or reprisal. Students and faculty do well to familiarize themselves with DoD’s definitions of these as well as the interpretation of their respective Services.

It is important for anyone who feels that they are being, or has been a victim of, any of the above, to inform the person or persons involved that their conduct is unwelcome and must stop. If the behavior continues, or if a hostile work environment is created, the victim should communicate a grievance via the local requirements of the host branch campus or other teaching location (e.g. lab, clinical), and to the Program Director, Advisor, and appropriate CAHS Associate Dean or Dean.

Procedures and requirements for processing harassment complaints must adhere to DoD Instruction 1020.03.

Student Responsibilities

Students are expected to demonstrate respect of academic endeavors by attending class on time, paying attention and listening to other points of view, being prepared and contributing to discussions, and meeting academic deadlines. Actions such as plagiarism, cheating, disrupting classroom or laboratory settings, and failure to comply with accepted standards of patient confidentiality constitute violations. Violations will be reviewed by the CAHS, which may result in actions including recommendations for suspension, probation, or dismissal.

Grading and Examination

The course syllabus documents all evaluation mechanisms required to achieve a student’s grade. Letter grades are assigned by faculty according to a fixed set of scores found on the respective syllabi.

Grievance Procedures

Faculty are responsible for classroom management, teaching strategies, and testing and evaluation of student performance. Because of this, academic conflicts may develop during enrollment at the CAHS that may require intervention using the CAHS Grievance Procedure process. The student attending a Service-required program of instruction has an opportunity to grieve a situation directly to the CAHS only after the academic grievance process available at the Service-specific program has been employed and exhausted. Students attending the CAHS on a voluntary basis may grieve a situation directly to the CAHS.

Academic conflicts include but are not limited to a failure to meet the Academic Standards based on inability to pass or meet identified course objectives and program outcomes. When student grievances cannot be resolved through interaction with a faculty member or appropriate administrative personnel, students are directed to use the CAHS Grievance Procedure process. This process should only be used when there is clear and convincing evidence that the student has been treated unfairly. The procedure allows for unresolved complaints to continue moving until consensus is reached, or until a final decision affirming or denying the grievance is made by the appropriate CAHS Associate Dean, which may be appealed to the CAHS Dean. The decision of the CAHS Dean is final and cannot be appealed. For more information about grievance procedures please call Mr. Byron Bland, Assistant Dean for Student and Faculty Development at email: byron.bland@usuhs.edu or phone: (210) 299-8528.

Commencement

CAHS students are afforded the opportunity to participate in a multi-institutional semi-annual commencement ceremony that is hosted by the local base Educational Services Office. Students may contact the local Educational Services Office for more information. Additionally, USU hosts an annual graduation ceremony held on Armed Forces Day at the Daughters of the American Revolution Constitution Hall in Washington D.C. The event incorporates the traditions and pomp and circumstance of both military service and academia. The CAHS students desiring to participate in the annual USU commencement ceremony (usually in May) must coordinate with Mr. Byron Bland, Assistant Dean for Student and Faculty Development at email: byron.bland@usuhs.edu or phone: (210) 299-8528 for inclusion.

FINANCIAL INFORMATION

Tuition, Fees, and Financial Aid

All students of the CAHS are Department of Defense (DoD) personnel that are funded directly and completely by the federal government. As such, CAHS students are not eligible for federal financial aid in support of CAHS attendance. Moreover, CAHS students must not include CAHS courses as part of a financial aid application. With respect to existing student debt obligations, students remain subject to Title IV requirements and are advised to follow-up with their local Education Services Office, or the most recently attended civilian school, for counseling related to Title IV eligibility and/or exemptions.

ACADEMIC INFORMATION

This section of the catalog focuses on important academic information critical to student success. While not exhaustive, it is a very good start that is provided to help ensure your success. Specific topics include academic credit; academic advising (including contact information); counseling, career services and development; academic administration and records; admission, enrollment, and registration; schedule adjustments; and, attendance

policies. Please be sure to familiarize yourself with these topics and to refer back as may be needed with academic advancement.

Academic Credit

Credits hours are awarded by the CAHS in the form of semester hour units/credits. According to the U.S. Department of Education, a credit hour is a basic institutional measurement of the level of instruction and academic rigor which establishes eligibility for federal funding.¹ The CAHS evaluates and assigns credit hours in a manner consistent with U.S. Department of Education credit hour regulations while also allowing for flexibility in its policy.

The CAHS's definition of an academic "credit hour" is in keeping with the U.S. Department of Education's definition as an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than:

(1) one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time. Also referred to as the Carnegie Unit;

OR

(2) at least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution, including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours."

CAHS clock-hour to credit programs adhere to the rules set forth in CFR 34 §668.8.

Academic Advising

Upon notification from the Service specific programs of study, the CAHS Assistant Dean of Faculty and Student Development (Advisor) will reach out to prospective students and conduct an inquiry of interest in applying for admission to the CAHS. If students are interested, a USU Registration Specialist will provide access to the CAHS online Admissions application and all other forms required for admission. The Registration Specialist will provide prospective students assistant and support through the application process.

¹ U.S. Department of Education Office of Post-Secondary Education, "Guidance to Institutions and Accrediting Agencies Regarding a Credit Hour as Defined in the Final Regulations published on October 29, 2010." This also reflects regulations specified in 34 CFR §600.2, §602.24 and §668.8

Academic advising is available to all students empowering them to make informed decisions to achieve their educational goals. Advising is available to assist students with review of academic evaluations, effective degree planning, course selections, and interpretation of the CAHS policies and procedures in preparation for successful completion of degree requirements and graduation.

Because health science curriculum is required to be essentialist, all courses within a specialty program, taught by faculty of the CAHS must be completed in a specific sequence. Because of this, there are no registration options for students enrolled in coursework for each program.

Advising Contact Information

Academic advising appointments are available Monday through Friday 0700 – 1600. Please use the following information to arrange an appointment:

Name: Mr. Byron Bland, MAEd/AET, BSMS, AAS
Office: USU CAHS, Bldg. 2398
Phone: (210) 299-8528

Email: CahsAcademicAdvising@usuhs.edu

Counseling, Career Services, and Development

CAHS Academic support and development begins immediately for students upon their enrollment in their respective programs by attending a required local comprehensive orientation and in-processing briefing. Students are provided information in Service-specific and site-specific orientation such as base resources, entitlements, emergency preparedness plans, command personnel policies, functions, and facilities. Instructional faculty review academic policies and procedures, emergency responses, and general classroom discipline. Orientation is scheduled locally and in concert with the participating services and organizations. Please refer to your local guidance for scheduling of your attendance at initial orientation.

Upon entry into a CAHS instructional program, students are counseled regarding requirements for successful completion of the program. Periodic formal academic counseling throughout their course of instruction is designed to assist them in completing the coursework for their Service-specific assigned programs. As may be needed, students may also receive academic advisement services from the CAHS' administration. The Office of Student and Faculty Development is available to provide assistance in concert with Service-specific programs. The CAHS Dean is regularly informed of and discusses all such activities in each program area.

All CAHS students are required to participate in their respective Service career counseling program. This includes direct guidance, counseling, and mentoring by qualified staff in areas of enlisted career advancement. Focus is on both short and long-term career goals. A designated command career counselor guides the efforts of the command's career development team.

This team includes the commanding and executive officers/chief of staff, the senior enlisted advisor for the command, and the division officers, department heads, and individual career counselors for each department.

The CAHS Senior Enlisted Advisor is also available for counseling of enlisted students. Should students wish to seek guidance from the CAHS Senior Enlisted Advisor; they must contact the Office of Student and Faculty Development to arrange an appointment.

Mandatory development opportunities are available to all students of the CAHS. Student development begins within the program of study at the course level and may include remediation as determined by local faculty. Both formative and summative evaluations are made as students are given timely and appropriate feedback on their performance. Students deemed to be “Academically at Risk” will be given additional assistance in Service-specific programs of study.

Faculty members participate in on-going mandatory faculty development. This includes development of skills and knowledge to identify key risk factors and to proactively intervene with students on individual and cohort levels. Each iteration of course instruction is evaluated to pinpoint and project areas where development of students could be enhanced.

The CAHS Assistant Dean of Student and Faculty Development ensures that all students are placed into a long-term academic development plan upon enrollment within the CAHS. A course plan for immediate studies is provided and explained.

Academic Administration and Records

The USU Registrar is responsible for the administration and maintenance of all student records. All official academic information is maintained within the USU CAHS Student Information System, which is EMPOWER®. Academic information is sensitive and is non-disclosable without signed authorization from the student.

Transcript Requests

Students can request official transcripts through the Uniformed Services University website.

To order:

- Go to <https://www.usuhs.edu/reg>
- Scroll down to “Transcripts”
- Click and complete the on-line **Transcript Request Form** (Digital signatures are accepted)
- Email the signed Request Form to the address indicated on the form
- Note: There is no charge for transcripts from USU CAHS

Questions and inquiries regarding transcripts can be directed to the Registrar's Office by email at Registrar@usuhs.edu or phone (301) 400-4101.

Release of Information

The CAHS will not release student information to anyone other than the student without written authorization which must include the student's signature.

Replacement Diploma

In the event your diploma is lost, stolen, damaged, or you legally change your name, a request for a replacement diploma may be sent using our [Diploma Request Form](#).

The cost for a replacement diploma is \$21.00 with the check payable to Framing Concepts, Inc. Normal processing time is approximately two months. The new diploma will bear the current names of the officials in office at the time the replacement is produced. We require your original diploma in order to process your request. If your original diploma is not available or if you need additional information, contact us at registrar@usuhs.edu.

Please mail your diploma request form, check and original diploma to the following address:

Uniformed Services University of the Health Sciences
Attn: Office of the University Registrar
Room A1041
4301 Jones Bridge Road
Bethesda, Maryland 20814

Uniformed Services University
College of Allied Health Sciences
Undergraduate Studies

UNDERGRADUATE ACADEMIC POLICIES

Admission, Enrollment, and Registration

The student will be notified of at least conditional admission to the CAHS when the following conditions have been met:

1. The student has satisfied all qualifying requirements as directed by the Services and the CAHS if applicable.
2. The student has provided all required documentation, including at least unofficial transcripts.

If the CAHS has not received all official transcripts prior to course registration, the CAHS will conditionally admit qualified students based on an official Joint Services Transcript and/or unofficial transcripts.

The CAHS must receive official transcripts from the original source within four weeks of student registration. Failing this the Program Director will be notified, and the Associate Dean may suspend the student's enrollment. If official transcripts are absent at completion of studies, the Dean will dismiss the student from the CAHS.

Types of Students

The College of Allied Health Sciences (CAHS) serves two types of undergraduate students. These are Primary Students and Student Faculty. Primary Students are students under orders to attend a specified service-required training program (e.g. Medical Laboratory Technician program). Student Faculty are students under orders to serve as faculty for Primary Students within Service-required training programs.

Primary Students

Primary Students of CAHS follow the academic policies as set forth by their program or those referenced in their program's Student Evaluation and Administration Plan (SEAP). Requests for further information should be directed to the Program Director or the program's SEAP where applicable. Notification of add, drop, dismissal, and withdrawal will be sent to the USU Registrar's Office directly from the individual Program Director and will be recorded on the student record accordingly.

Student Faculty

Faculty appointment to the CAHS is established per USUINST 1100C. All Student Faculty must meet the minimum professional regulatory requirements of their respective discipline for instructor/faculty qualification. In the absence of clear professional regulatory requirements, academic requirements will be established per USUINST 1100C.

Student Faculty may alter their registration through three procedures. These are Add, Drop and Withdraw. *These procedures do not apply to Primary Students.*

Add Procedure

Add is by email invitation from the College of Allied Health Sciences and is on a space available basis. Students are notified of open registration periods and are expected to self-register during those periods. Preference is given to students currently enrolled in the program. Following this date and time of application are given consideration. Generally, Student Faculty are allowed to register for one course at a time. If a student wishes to add a second class, the student should contact their advisor for assistance.

Drop Procedure

Student Faculty are expected to complete all courses for which they register. In order to voluntarily Drop a course, the student is responsible for notifying their instructor and/or advisor, in writing, of their intent. No drop is considered official until it has been recorded on the student's academic record.

Instructors may involuntarily drop a student from the class if the student does not actively participate during the first week of class.

No record is maintained of courses dropped during the first week of the class.

Withdraw Procedure

There are two types of withdrawal. These are Withdraw from a course and Withdraw from the University.

Withdraw from a Course

Student Faculty may voluntarily drop a course, or be involuntarily dropped from a course as described above. *A Drop is not a Withdraw.*

During the first half of the semester, a student that voluntarily withdraws from a course must notify their instructor of this intent in writing (e.g. email). If this is done after the first week of class and before the end of the first half of the course, the student will receive a grade of W.

During the second half of the semester, a student wishing to voluntarily withdraw from a course must notify their instructor of their intent in writing (e.g. email). If this is done after the first half of the course, the student will receive a grade of W and whatever grade they currently have earned in the course at the time of notification (e.g. WF).

If a student fails to provide written notification of their intent to drop a course before the end of the course, the student will receive whatever grade they currently have earned in the course at the close of the course (e.g. F).

Withdraw from the University

Withdraw from the university is a formal withdrawal indicating a voluntary ending of academic work at the Uniformed Services University College of Allied Health Sciences. This request must be made in writing via the Academic Advisor and to the Assistant Dean for Student and Faculty Development. To resume studies with the CAHS following withdrawal from the University, the student must reapply for admission.

Attendance Requirements for Student Faculty

The CAHS Student Faculty are expected to give their scholastic obligations first consideration. In order to earn credit in any course for which he/she is registered, the student is required to attend classroom, laboratory, and/or clinical exercises regularly and promptly. Students, both online and on-ground, are responsible for meeting the attendance and participation requirements in each course as defined in the course syllabus/outline. If there are any questions or concerns over course requirements, students should speak to the assigned faculty of record.

Notification Requirements for Student Faculty

Planned Absences - Students must notify instructors in writing at least two weeks prior to a planned absence.

Illness or other extenuating circumstances - Students should notify their instructors, as soon as possible, of absence due to illness or other extenuating circumstance.

Make-up Assignments for Student Faculty

Make-up exams and assignments may be allowed at the discretion of the assigned Faculty of Record. Make-up exams and assignments will be equivalent to and no more difficult than the original assignments.

A student who misses multiple class periods should seek advice from the instructor about the advisability of continuing in the course or withdrawing.

TRANSFER CREDIT

Military service, by nature, is transient. This frequently results in loss of academic credit as personnel transfer from one school and duty assignment to the next. When degree completion is tied to readiness requirements, which has become the norm in Allied Health Sciences,

additional time and cost undermines readiness. Loss of credit in transfer also consumes voluntary and veteran education resources and prevents more than capable service members from practicing and enhancing their abilities within the military and civilian communities that need their contribution. For more information about transfer credit please contact Mr. Byron Bland, Assistant Dean for Student and Faculty Development at email: byron.bland@usuhs.edu or phone: (210) 299-8528.

ADDITIONAL AWARD of CREDIT MECHANISMS

In addition to award of credit through classroom instruction and transfer, CAHS also awards credit through a variety of methods. These include Credit by Examination, Independent Study, and Objective-based Competence Assessment.

CREDIT BY EXAMINATION

A variety of testing services are recognized by the CAHS and are available to students. College Level Examination Program (CLEP) exams, DANTES Subject Standardized Tests (DSST), and College Board AP programs are available to students via the local Educational Services Office.

College Level Examination Program (CLEP)

When applicable, transfer credit will be awarded for successful completion of CLEP exams toward the completion of general education requirements. For credit to be accepted for transfer, the student must meet or exceed the minimum American Council on Education (ACE) recommended score on the examination. Students may visit <https://www.collegeboard.org> to get more information about CLEP transcripts.

Defense Activity for Non-Traditional Education Support (DANTES) Examinations

When applicable, transfer credit will be awarded for successful completion of DSST exams toward the completion of general education requirements. For credit to be accepted for transfer, the student must meet or exceed the minimum ACE recommended score on the examination. Students may visit <https://www.getcollegecredit.com> to get more information about DSST transcripts.

Advanced Placement (AP) Examinations

When applicable, transfer credit will be awarded for successful completion of AP exams toward the completion of general education requirements. For credit to be accepted for transfer, the student must obtain a score of 3 or greater on the examination. Students may visit <https://www.collegeboard.org> (opens new window) to get more information about AP transcripts.

National Testing Centers

National Testing Centers may also be of use to CAHS students. This may include occupation specific exams, Excelsior exams, Pearson VUE, and/or proctored exams.

Students can get additional information and support from the local Education Services Office. Counselors at the Education Offices can provide guidance on use of Voluntary Education funds to cover any possible costs of testing. For more information on CAHS Credit by Examination Policy, email CAHSAcademicAdvising@usuhs.edu.

Credit By Examination Preparation Resources

Below are links for Free CLEP preparation courses which are excellent resources to help prepare for satisfactory completion of the CLEP tests indicated and study resources and practice tests for CLEP and DSST tests. Military members can test free of charge. Visit your local Education Service Office on your military installation for details on funding and scheduling. Listed below are some available preparation resources. Your Education Services Office may be able to provide additional resources.

Preparation Courses

The following General Education CLEP test preparation materials are available to all students:

Composition I - <https://modernstates.org/course/college-composition/>

College Algebra - https://modernstates.org/course/college_algebra/

Social Science - <https://modernstates.org/course/introductory-psychology/>

<https://modernstates.org/course/introductory-sociology/>

<https://modernstates.org/course/human-growth-and-development/>

Study Resources

The following website contains study resources and practical tests for CLEP tests and for DANES Subject Standardized Tests:

<https://study.com/college/credit-by-exam.html>

INDEPENDENT STUDY

Independent study offers students an important opportunity to pursue areas of inquiry not regularly offered through CAHS courses. Such courses build on knowledge and encourage students to apply their academic experiences to intellectual and practical concerns. Faculty members at the CAHS also regard independent study courses as valuable forms of learning at the heart of practical application of academic inquiry. Students who undertake independent study are expected to be self-motivated, largely self-directed, and to work closely with the assigned faculty of record.

OBJECTIVE-BASED COMPETENCE ASSESSMENT

The College of Allied Health Sciences will consider award of credit based upon the concept that learning can occur at different rates. For this reason, the CAHS recognizes a systematic Objective-Based Competence methodology through which students may demonstrate their proficiency with approved course outcomes at a pace that matches their individual learning rate and/or experience as determined by an assigned faculty of record.

UNDERGRADUATE DEGREE PROGRAMS

The CAHS administers two undergraduate degree programs. These are the Associate of Science in Health Sciences (ASHS) degree, and the Bachelor of Science in Health Sciences (BSHS) degree. These degree plans are designed to accommodate a variety of health science specialties and are composed primarily of coursework required of professionally accredited disciplines of study required for credentialed practice within the Military Health System (MHS) and General Education.

Undergraduate Degree Completion Requirements

The CAHS ASHS and BSHS degree plans require coursework consisting of General Education and a Major in a discipline of Health Science. In cases where such a course of study does not amount to at least 60 or 120 semester hours of credit within an ASHS or BSHS degree plan respectively, additional coursework of General Elective and/or a focused Concentration of coursework that is of relevance to the DoD mission must be completed to reach the minimum total of 60 or 120 semester hours of study. Alternatively, official transcripts can be sent to a school of the students choosing for degree completion elsewhere.

Associate's Degree Requirements:

- General Education (30 semester hours)
- Major Requirements (15 - 30 semester hours)
- Minimum 2.00 Cumulative GPA ("C" grade in all courses)
- At least 15 semester hours in residence

- Additional hours as may be needed to meet a minimum of 60 semester hours of study
- Submission and receipt by CAHS of all official external transcripts and official score reports prior to the graduation date
- Completion of all required paperwork prior to the graduation date (substitution forms, etc.)

Bachelor's Degree Requirements:

- General Education (60 semester hours)
- Major Requirements (at least 30 semester hours of coursework)
- Minimum 2.00 Cumulative GPA ("C" grade in all courses)
- At least 30 semester hours in residence
- At least 42 semester hours of Upper Division coursework (3000 - 4000 level)
- Additional hours as may be needed to meet a minimum 120 semester hours of study
- Submission and receipt by CAHS of all official external transcripts and official score reports prior to the graduation date
- Completion of all required paperwork prior to the graduation date (substitution forms, etc.)

Failure to Meet Undergraduate Degree Requirements

Students who have not completed all graduation requirements prior to the graduation application date will be moved to the next available graduation period where appropriate.

Undergraduate General Education Requirements

The CAHS has ensured undergraduate curriculum is designed so that students acquire and demonstrate essential skills including oral and written communication, scientific and quantitative reasoning including quantitative health sciences where applicable, critical analysis and reasoning, technical competency, and information literacy, which is consistent with the military mission as well as with USU values, ethics, and appreciation of diverse perspectives.

By so doing, the CAHS draws students into new areas of intellect as well as culture, global awareness, and cultural sensitivity. This prepares the CAHS graduates to make well-reasoned judgments not only within specific allied health science practice areas, but also within the human experience of a lifetime of service itself. In other words, CAHS students learn to become productive citizens of the world within a geopolitical milieu of military allied health sciences service.

General education courses are organized into three main categories. Some courses can be used to satisfy requirements in more than one category, but each course may only be used once

within an undergraduate degree program. Students are encouraged to work with an academic advisor to plan general education requirements.

Undergraduate General Education Outcomes

Graduates of the USU CAHS School of Undergraduate Studies will have the following general education competencies:

Communication – Skills necessary for success in the academic, military, and practical allied health science environments for address of globally complex challenges include:

Written Communication - Communicate their ideas effectively in writing using text, data, and images as appropriate and in different genres and styles.

Oral Communication - Communicate their ideas effectively orally using multiple modes of communication, as appropriate.

Quantitative Science – Skills necessary for success in the academic, military, and practical allied health science environments for address of dynamically complex human health challenges include:

Mathematics and Quantitative Reasoning - Demonstrate competency and comfort in working with numerical data, create complex and refined arguments supported by quantitative evidence and clearly communicate those arguments in a variety of formats (using words, tables, graphs, mathematical equations, etc.), as appropriate.

Natural Science, Health Science, and Informational Literacy - Apply specialized knowledge from the Natural Sciences and Health Sciences as it relates to technical specialties of allied health science including practical reasoning, treatment, and communication.

Identify, locate, evaluate, and effectively and responsibly use and share information for the problem at hand.

Human Science – skills necessary for responsible, ethical, and effective global citizenship within a complex and dynamic environment include:

Humanity - Assess ethical values within the context of a given situation, recognize ethical issues in a variety of settings, apply ethical principles to ethical and biomedical ethical dilemmas, and consider the ramification of alternative actions. Understand the human experience through knowledge such as Arts, History, Literature, and Philosophy.

Society – Recognize that they are members of diverse communities, both local and global, and demonstrate intercultural knowledge, skills and attitudes that support effective and appropriate interaction in a variety of cultural contexts and social categories, such as, but not limited to race, ethnicity, gender, religion and age.

Demonstrate effective, responsible, and meaningful skills while engaged in the geopolitical life of service and community, and global citizenship and effective engagement in a dynamic environment.

The following table summarizes CAHS Undergraduate General Education requirements by degree plan. Examples of coursework that may satisfy General Education requirements have been identified.

Undergraduate General Education Requirements of the CAHS

Area	<i>Sub-area</i>		<i>Sub-area</i>	Minimum ASHS	Minimum BSHS
Communication (1 Course from each Sub-area – both Written courses for the BSHS)	<i>Oral</i>		<i>Written</i>	6 sem hr	9 sem hr
	Speech		Composition I Composition II		
Quantitative Science (1 Course from each Sub-area)	<i>Math</i>	<i>Natural/Physical Science</i>	<i>Health Science</i>	9 sem hr	18 sem hr
	College Math College Algebra Technical Math Higher Level	Anatomy/Physiology Biology Chemistry Laboratory Science Microbiology Physics	Allied Procedures Clinical Practicum Lab Science Nuclear Medicine Nursing Sleep Studies		
Human Science (1 Course from each Sub-area)	<i>Humanity</i>		<i>Society</i>	6 sem hr	9 sem hr
	Anthropology (Intro) Communication Arts Ethics Fine Arts Geography (Physical) History Language Literature Philosophy Religion Women’s Gender Studies		Anthropology (Cultural, Social) Archaeology Criminal Justice Economics Education Geography (Cultural, Social) Government Military History Military Science Political Science Psychology Social Work Sociology		
Any of the above or the equivalent (From any Area above)	Any of the above or the equivalent		Any of the above or the equivalent	9 sem hr	24 sem hr
Total General Education Requirement				30 sem hr	60 sem hr

**This table is not a complete listing of coursework that may be considered for application of General Education credit within a CAHS undergraduate degree plan.*

PROGRAMS OF STUDY

This section of the catalog focuses on the current undergraduate programs of study available through the CAHS. Undergraduate programs of study are being developed to support select military training programs at CAHS locations of instruction. As the Services request evaluation of their existing courses, CAHS works with programmatic and institutional accreditation bodies in the evaluation of the programs of study for college credit.

If an existing military program of study is found to be rigorous in terms of specialized and institutional accreditation and award of college credit, the CAHS will work with the program and their leadership to develop a CAHS program of study. The CAHS supports the readiness of all Services by offering courses of study in eight locations. These are:

- College of Allied Health Sciences
- Medical Education and Training Campus (METC)
- Army Medical Center of Excellence (MEDCoE)
- Navy Medical Forces Support Command (NMFSC)
 - Navy Surface Warfare Medical Institute (SWMI)
 - Naval Undersea Medical Institute (NUMI)
- US Air Force School of Aerospace Medicine (USAFSAM)
- Joint Special Operations Medical Training Center (JSOMTC)

Current undergraduate programs include: Education & Training Administration & Leadership (formerly: Health Professions Education); Cardiopulmonary Laboratory Apprentice; Cardiovascular Technician; Emergency Medical Services Paramedic; Histology Technician; Independent Duty Corpsman (Submarine); Independent Duty Corpsman (Surface); Medical Laboratory Technician; Neurodiagnostic Technologist; Nuclear Medicine Technologist; Nutrition Science; Occupational Therapy Assistant; Ophthalmic Technician; Public Health; Radiologic Technologist; Respiratory Therapist; Urology Technician. For the most up-to-date list of CAHS programs, please contact the CAHS directly at (210) 299-8521.

CAHS offers two undergraduate degree plans: an Associate of Science in Health Sciences with a Major of a recognizable health science occupation required of the DoD; a Bachelor of Science in Health Sciences with a Major of a recognizable health science occupation required of the DoD.

Associate of Science in Health Sciences (ASHS)

The CAHS ASHS degree plan requires at least 60 semester hours of credit with a GPA of at least 2.0 and a grade of C or better in all courses; residence of at least 25% of the degree plan; General Education of at least 30 semester hours; a Major Technical Field of Study of at least 15 semester hours; and General Electives of up to 15 semester hours as may be needed to achieve 60 semester hours of credit.

Bachelor of Science in Health Sciences (BSHS)

The CAHS BSHS degree plan requires at least 120 semester hours of credit with a GPA of at least 2.0 and a grade of C or better in all courses; residence of at least 25% of the degree plan; General Education of at least 60 semester hours; a Major Technical Field of Study of at least 30 semester hours; and General Electives of up to 30 related semester hours as may be needed to achieve 120 semester hours of credit.

**PROGRAMS
AND
COURSE DESCRIPTIONS**

EDUCATION & TRAINING ADMINISTRATION & LEADERSHIP PROGRAM

This flagship CAHS program, formerly the Health Professions Education program, is designed to support select Student Faculty at CAHS Branch Campuses, Additional Instructional Locations, and Other Instructional Sites. The Education & Training Administration & Leadership program (ETAL) is intended to enhance the efficacy of instruction, administration, and leadership of education and training programs. The design is aligned with the established instructor competencies and tasks required by the US Army, the US Navy and the US Air Force.

The program requires students to demonstrate and apply principles of evidence-based instructional methods, instructional technology, both written and spoken communication, as well as administration and leadership skills. Additionally, students are required to complete basic and advanced instructional internships under the supervision of qualified CAHS faculty. All ETAL coursework may be included in undergraduate degree plans of the CAHS.

The first three-course sequence in the ETAL program equates to fifteen semester hours of lower division credit, which is the minimum residence requirement for award of the Associate of Science in Health Sciences degree. After April 24, 2017, CAHS Student Faculty who successfully complete this three-course sequence will receive residency credit for these courses. Courses taken prior to this date may be transferrable to the CAHS for credit, but will not be considered as courses taken in residence.

A student who successfully completes the first three course sequence in ETAL (1101, 2702, and 3703) in residence, and meets all other graduation requirements, may be awarded the Associate of Science in Health Sciences degree with a Major in Education and Training Administration and Leadership. Students wishing to pursue the Bachelor of Science in Health Sciences degree are required to successfully complete at least 30 semester hours of coursework in residence at the CAHS, as well as all other BSHS degree completion requirements.

EDUCATION & TRAINING ADMINISTRATION & LEADERSHIP COURSE DESCRIPTIONS

ETAL 1101 Instructional Methodology for ETAL (1 Semester Hour)

This course is the first of a 3-course sequence in Instructional Methodology. This introductory course is designed to prepare subject matter specialists to teach at the tertiary level. It focuses on characteristics of the adult learner and methods of teaching appropriate to higher education. The course is designed for those without an extensive education background, and for this reason, in addition to teaching methods, it addresses administrative topics such as instructional planning and design, curriculum, course outlines, lesson planning, evaluation, and the selection and preparation of learning materials and practices in adult phases of instruction: pre-planning, unit and lesson planning, and post-lesson activities. (Formerly: HPE 1101)

ETAL 2702 Basic ETAL Practicum (7 Semester Hours)

This course is the second of a 3-course sequence in Instructional Methodology. This course is the first of two field-based internships that provides students supervised experience in principles of effective instructional practices, administration, and leadership. Students work under the close direction and supervision of fully qualified CAHS faculty in direct instructional, administration, and leadership roles with CAHS students. Students will establish basic skills in planning and directing individualized instruction, group activities, prepare basic instructional materials, assist with record keeping, make physical classroom and laboratory arrangements with direction, and complete other faculty responsibilities for the classroom and laboratory with supervision/assistance. (Formerly: HPE 2702)

ETAL 3703 Advanced ETAL Practicum (7 Semester Hours)

This course is the third of a 3-course sequence in Instructional Methodology. This course is the second of two field-based internships that provides students supervised experience in principles of effective instructional practices, administration, and leadership. Students work under the guidance of fully qualified CAHS faculty in direct instructional, administration, and leadership roles with CAHS students. Students establish advanced skills in planning and directing individualized instruction and group activities, prepare advanced instructional materials, independently and accurately complete record keeping, autonomously make physical classroom and laboratory arrangements, and complete other faculty responsibilities for the classroom and laboratory faculty without supervision/assistance. (Formerly: HPE 3703)

ETAL 3304 Instructional Technology (3 Semester Hours)

This course is designed to prepare students with a foundation of theory and knowledge to support the use of technology in the design and execution of health professions education. Emphasis is placed on examination of the underlying principles that guide effective teaching utilizing available technologies. Focus is also placed on a decision-making framework and guidelines for the administration and leadership of instruction. (Formerly: HPE 3304)

ETAL 3305 Leadership and Management in Educational Administration (3 Semester Hours)

This course is designed to prepare students with a foundational understanding of the roles of leadership and management within educational administration. Further, it will provide the students with distinct theories of educational leadership and management with a focus on their similarities and differences. In addition, the student will be introduced to the requirements and training for those who plan to enter into the executive branches of education and its administration. Lastly, the students are exposed to challenges and complexities of leadership within the educational system. (Formerly: HPE 3305)

ETAL 3306 Instructional Design (3 Semester Hours)

This course is designated to provide an in depth examination of the essential elements of instructional design. The key procedures within the Instructional Design process: learner analysis; task analysis; needs analysis; developing goals and objectives; organizing instruction; developing instructional activities; addressing learner achievement and evaluating the success of the instructional design are covered. This course provides students the information they need to make informed decisions as they design and develop instruction. (Formerly: HPE 3306)

ETAL 4307 Healthcare Ethics and Law (3 Semester Hours)

This course requires students to apply key constituent parts of healthcare ethics to real ethical/legal dilemmas. The course is suitable for any healthcare professional wanting to acquire this skill. Topics include rights and responsibilities, ethical/legal frameworks, beginning and end of life issues, governance of human subject research, and healthcare justice. (Formerly: HPE 4307)

ETAL 4308 Educational Theory (3 Semester Hours)

This course requires students to learn and apply key educational theories to real life scenarios within military medical education and training. The course begins by introducing Behaviorism, Cognitive Development, Social Cognitive, and Sociocultural theories. Next students focus on Moral Development, Experiential Learning, Bioecological Model of Human Development, and Psychosocial Theory of Identity Development theories. Finally, students move to Multiple Intelligences, Bloom's Taxonomy, Human Motivation, and Information Processing theories. (Formerly: HPE 4308)

CARDIOPULMONARY LABORATORY APPRENTICE PROGRAM

Cardiopulmonary Laboratory Apprentice are allied healthcare professionals who use equipment to help physicians diagnose and treat diseases and illnesses related to the heart and lungs. The Cardiopulmonary Laboratory Apprentice program is an introduction to the delivery of respiratory care and cardiovascular technology. This program is designed to prepare the student for entry-level positions as a cardiopulmonary laboratory apprentice. Resident training is first conducted at the METC and then the student transitions to clinical training that is conducted at military and/or civilian medical treatment facilities. This program produces a major of Cardiopulmonary Laboratory Care in the degree.

Accreditation or Related Information:

The Medical Education and Training Campus/College of Allied Health Sciences (Cardiopulmonary Laboratory Apprentice Program), located at the METC Branch Campus at JBSA Fort Sam Houston, Texas is accredited by the Commission on Accreditation for Respiratory Care (WWW.COARC.COM).

Commission on Accreditation for Respiratory Care
1248 Harwood Road
Bedford, TX 76021-4244
(817) 283-2835

Credentialing Information:

Students will take the national certification exam for credentialing as Certified Respiratory Therapists by the National Board for Respiratory Care (WWW.NBRC.ORG) upon completion of the program.

CARDIOPULMONARY LABORATORY APPRENTICE COURSE DESCRIPTIONS

DSAE 1240 Diagnostic Electrocardiography (2 Semester Hours)

Provides the basic technical skills of 12 lead electrocardiographic procedure, introduction to equipment, interpretation of EKG rhythm strips and their relation to various pathophysiology. The course also provides fundamental didactic training in Exercise Stress Testing and Holter/Event Monitoring. Presents terminology, instrumentation setup, monitoring, and interpretation of final results. Provides the basic technical skills of 2D, M Mode and Doppler echocardiography and cardiovascular hemodynamic monitoring of patients in critical care units. The course covers invasive diagnostic cardiovascular procedures, including cardiac catheterization, intra-arterial pressure monitoring, and indwelling arterial catheter insertion and hemodynamic monitoring.

RSPT 1109 CPR for Healthcare Providers (1 Semester Hour)

This is a blended course which provides students with the knowledge and skills necessary to respond a patient requiring cardiopulmonary resuscitation. It also instructs the proper techniques used to manage a choking victim. The patient age range is from infant to adult.

RSPT 1123 Respiratory Therapeutics II (1 Semester Hour)

This course establishes the basic therapeutics of respiratory care beginning with a review of medical gas storage indications; the use of low flow and high flow delivery devices for oxygen and mixed gas administration, bland aerosol and humidification. Administering and monitoring effectiveness of medicated aerosol therapy will be covered. Airway clearance therapies and lung expansion devices are also presented. The students will learn appropriate charting and documentation methods. Laboratory sessions will provide practical experience in the clinical application of the therapeutic modalities discussed.

RSPT 1201 Respiratory Care (2 Semester Hours)

This course provides an introduction to the Cardiopulmonary career field and science of pulmonary and cardiovascular specialties. Communicates the current trends in professional practice. Also covers issues in the ethics of public health, healthcare and health promotion, such as health bioethics, DNA manipulation, contraception and end-of-life decisions. The second focus of this course is to inform students of alternative settings for providing respiratory care, rehabilitation and related testing. Home care/home medical equipment, pulmonary and cardiac rehabilitation and patient education. The course provides an introduction to research methods and is designed to acquaint the student with the necessary skills to conduct research in respiratory care. Students will perform an assessment of research article as part of the course.

RSPT 1202 Anatomy and Physiology (2 Semester Hours)

This course begins with the basic principles of medical terminology, the use of word parts including prefixes, suffixes and root words used with a combining form to establish medical terms. Correct spelling, definition and pronunciation of medical terms is stressed. The course provides an introduction to gross human anatomy and physiology of human organ systems, followed by elementary principles of general, organic and biochemistry, covering the composition of matter, nomenclature, atomic structure, ionic and covalent, stoichiometry, properties of solids, liquids, gases, acids/ bases and periodic relations.

RSPT 1307 Cardiopulmonary Anatomy and Physiology (3 Semester Hours)

This course provides a solid foundation in the physiology of the cardiopulmonary system. Emphasis is placed on normal structure and function of the heart and lungs. Cardiac specific topics include structures and functions of the heart, cardiovascular circulation, electrophysiological basis for cardiac action potential, mechanisms that regulate the cardiovascular system, and hemodynamics pressures, measurements, and interpretation. Pulmonary specific topics include functional pulmonary anatomy, mechanics of spontaneous breathing, pulmonary circulation, gas conduction and exchange, gas transport and acid base regulation.

RSPT 1311 Respiratory Care Procedures II (3 Semester Hours)

This course begins with artificial airway management from simple airway adjuncts to endotracheal intubation to facilitate mechanical ventilation, followed by patient positioning techniques, the use and interpretation of information from critical care noninvasive monitors. Next elements of instruction cover the identification and treatment of pneumothorax, hemothorax and pleural effusion along with the role of the respiratory therapist during these procedures. Subsequent focus is on the operating principles of mechanical ventilators used in critical care. Pneumatic, electronic circuits, the phases of the respiratory cycle, ventilator modes, determining initial settings for the implementation of mechanical ventilation and alarms and troubleshooting are emphasized. The course concludes with the process of weaning and terminating the use of mechanical ventilation support. Emphasis is given to hands-on practice and performance evaluations with the actual equipment on high fidelity simulator manikins.

RSPT 2131 Simulations in Respiratory Care (1 Semester Hour)

This course summarizes knowledge and cognitive training with analysis and application skills. It tests the student's ability in the decision-making process in simulated clinical scenarios.

RSPT 2139 Advanced Cardiac Life Support (1 Semester Hour)

ACLS builds on the foundation of basic life support (BLS) skills. It emphasizes the importance of continuous, high-quality CPR and takes healthcare provider training to the next level- highlighting the importance of high-performance team dynamics and communication, systems of care, recognition and intervention of cardiopulmonary arrest, immediate post-cardiac arrest, acute dysrhythmia, stroke, and acute coronary syndromes.

RSPT 2141 Advanced Respiratory Care Pharmacology (1 Semester Hour)

This course will provide a strong foundation of the principles of pharmacology, including pharmacokinetics, dynamics, drug interactions, emphasizing drug groups used in treatment of cardiopulmonary disease drugs presently pertaining to respiratory and cardiac care. General principles of pharmacology as applied to aerosol drug therapy, IV and instilled drugs and calculations of drug doses. Non-aerosol drugs such as antibiotic therapy, diuretics and cardiovascular drugs are also covered.

RSPT 2153 Basic Neonatal / Pediatric Cardiopulmonary Care (1 Semester Hour)

This course covers the diagnosis and treatment of cardiopulmonary diseases unique to the newborn and pediatric patient populations with discussion on development of the fetus, high-risk pregnancies and the role respiratory therapists in labor and delivery. Neonatal and pediatric pulmonary diseases, assessment and resuscitation of neonates, and principles of monitoring and mechanical ventilation for the neonatal and pediatric patient are covered.

Emphasis is given to hands-on practice and performance evaluations using actual equipment and high fidelity simulator manikins.

RSPT 2158 Respiratory Care Patient Assessment *(1 Semester Hour)*

This course establishes basic clinical assessment skills needed by a respiratory care professional to initiate basic care to the patient. Patient assessment will include obtaining, evaluating abnormal findings on physical assessment, breath and heart sounds, vital signs, pulse oximetry and various routine lab results.

RSPT 2310 Cardiopulmonary Disease *(3 Semester Hours)*

This course covers the underlying pathophysiology of cardiac, cardiovascular and pulmonary diseases. A systematic approach is used to study of the etiology, diagnosis, pathogenesis, pathophysiology, treatment, and prognosis of various cardiac, cardiovascular and pulmonary pathologies emphasizing abnormal physiological processes which result in the signs and symptoms of each disorder.

RSPT 2366 Clinical Practicum IV (Neonatal & Pediatric Critical Care) *(3 Semester Hours)*

This course provides students with the essential clinical skills necessary to function as competent respiratory therapists specifically caring for pediatric and/or Neonatal critical care areas with a focus on airway management, mechanical ventilation, and patient monitoring. Students will apply knowledge gained in thus far to perform direct patient care in an ICU setting, evaluate medical records, assess oxygen therapy needs, administer medical gas, humidity, and aerosol therapy, oxygen analysis, sterilization/infection control procedures, hyperinflation therapy, bronchopulmonary hygiene techniques, airway management, bronchopulmonary hygiene, lung expansion therapy, pharmacotherapy, arterial blood gas punctures and analysis, invasive and noninvasive mechanical ventilation, and airway management techniques including extubation. Students work under the direct supervision of a clinical instructor. Case presentations are required to integrate clinical and classroom theory.

RSPT 2405 Pulmonary Diagnostics w/ Lab *(4 Semester Hours)*

This course provides the basic technical skills of pulmonary function testing, including an introduction to the instrumentation and principles of measurement, procedures for measuring lung volumes, spirometry and flow volume loops, bronchodilator response, bronchial provocation, lung diffusion, and interpretation of tests results and their relation to various pathophysiologies. The course teaches entry-level didactic training in polysomnographic technology. Presents terminology, instrumentation setup and calibration, monitoring and recording techniques and final documentation of results. Basic knowledge and techniques for the collection of arterial blood samples, operation and management of blood gas analyzers and interpretation of acid base balance and oxygenation status, along with basic imaging studies of x-ray, MRI and CT scan with emphasis on chest x-ray is covered.

RSPT 2666 Clinical Practicum I (General Floor Therapy) (6 Semester Hours)

This course introduces respiratory therapy students into the hospital departments and clinical situations in which they will apply knowledge gained in didactic training to perform direct patient care by evaluating medical records, assessing oxygen therapy needs, administer medical gas therapy, humidity/aerosol therapy, pharmacotherapy, oxygen analysis, sterilization/infection control procedures, arterial blood gas punctures and analysis, hyperinflation therapy, and bronchopulmonary hygiene techniques. The student may be involved in emergency medical procedures, including cardiopulmonary resuscitation and the use of manual resuscitators. Students work under the direct supervision of a clinical instructor. Case presentations are required to integrate clinical and classroom theory.

RSPT 3566 Clinical Practicum V (Cardiac Diagnostics) (5 Semester Hours)

This course provides students with the skills necessary to competently perform all levels of Non-Invasive Cardiac tests, obtain and analyze 12 lead EKG's, and apply quality control measures in a Cardiology diagnostic clinic. Students are assigned to the cardiology lab where they will apply knowledge gained to date performing and interpreting 12 lead electrocardiograms, Cardiac Exercise Stress tests, Holter and Event Monitoring studies. Additional rotations in echocardiography and cardiac catheterization lab where the students will observe and assist with diagnostic studies.

RSPT 3567 Clinical Practicum VI (Pulmonary Diagnostics) (5 Semester Hours)

This course provides students with the skills necessary to competently perform all levels of pulmonary function tests, obtain and analyze blood gasses, and apply quality control measures in a pulmonary function laboratory. Students are assigned to the Pulmonary Function Lab where they will apply knowledge gained thus far to perform basic spirometry, pre-post bronchodilator spirometry, diffusion studies, total lung volume studies, bronchial provocation studies, blood gas puncture and analysis, quality control measures, and assist in bronchoscopic procedures.

RSPT 3966 Clinical Practicum II (Internal Medicine Critical Care) (9 Semester Hours)

This course provides students with the essential clinical skills necessary to function as competent respiratory therapists specifically in the internal medicine critical care unit with a focus on airway management, mechanical ventilation, and patient monitoring. Students will apply knowledge gained in thus far to perform direct patient care in an ICU setting, evaluate medical records, assess oxygen therapy needs, administer medical gas, humidity, and aerosol therapy, oxygen analysis, sterilization/infection control procedures, hyperinflation therapy, bronchopulmonary hygiene techniques, airway management, bronchopulmonary hygiene, lung expansion therapy, pharmacotherapy, arterial blood gas punctures and analysis, invasive and noninvasive mechanical ventilation, and airway management techniques including extubation.

Students work under the direct supervision of a clinical instructor. Case presentations are required to integrate clinical and classroom theory.

RSPT 3967 Clinical Practicum III (Trauma Critical Care) (9 Semester Hours)

This course provides students with the essential clinical skills necessary to function as competent respiratory therapists specifically in the trauma critical care unit with a focus on airway management, mechanical ventilation, and patient monitoring. Students will apply knowledge gained thus far, performing direct patient care in an ICU setting, evaluate medical records, assess oxygen therapy needs, administer medical gas, humidity, and aerosol therapy, oxygen analysis, sterilization/infection control procedures, hyperinflation therapy, bronchopulmonary hygiene techniques, airway management, bronchopulmonary hygiene, lung expansion therapy, pharmacotherapy, arterial blood gas punctures and analysis, invasive and noninvasive mechanical ventilation, and airway management techniques including extubation. Students work under the direct supervision of a clinical instructor. Case presentations are required to integrate clinical and classroom theory.

CARDIOVASCULAR TECHNICIAN PROGRAM

Cardiovascular Technicians (also referred to as Technologists) are allied health professionals specifically focused on the diagnostic and interventional treatment of patients with cardiac and peripheral vascular disease under the care of the physician. Resident training is conducted at the METC with students transitioning to clinical training conducted at military and/or civilian medical treatment facilities.

Accreditation or Related Information:

The Cardiovascular Technician program is accredited by the Commission on Accreditation of Allied Health Education Programs (WWW.CAAHEP.ORG) upon the recommendations of the Joint Review Committee on Education in Cardiovascular Technology (JRC-CVT).

Commission on Accreditation of Allied Health Education Programs
25400 US Hwy 19 N., Suite 158
Clearwater, FL 33763
(727)210-2350

Credentialing Information:

Graduates of the Cardiovascular Technician program are eligible to apply for the Registered Cardiovascular Invasive Specialist (RCIS) and Registered Cardiac Sonographer (RCS) credentials through Cardiovascular Credentialing International (WWW.CCI-ONLINE.ORG).

CARDIOVASCULAR TECHNICIAN COURSE DESCRIPTIONS

CVTT 1120 Cardiovascular Radiography Equipment and Methodology (1 Semester Hour)

The operation of cardiovascular radiology equipment, focusing on routine protocols, basic principles, theory, electronics, and instrumentation.

CVTT 1140 Cardiovascular Pathophysiology w/ Lab (1 Semester Hour)

Continuation of Cardiovascular Anatomy and Physiology. Methods of hemodynamic data collection and implications in relation to cardiac diseases.

CVTT 1203 Cardiovascular Pharmacology (2 Semester Hours)

Pharmacology relating to the treatment of cardiovascular diseases. Includes drug classification, indications, contraindications, action, dosage, route of administration, and side effects.

CVTT 1204 Diagnostic Electrocardiography I w/ Lab (2 Semester Hours)

Cardiac testing including the techniques and interpretation of patient physical assessment. Covers electrocardiography, stress testing, Holter monitoring, vital signs, and cardiovascular pharmacology.

CVTT 1205 Diagnostic Electrocardiography II w/ Lab (2 Semester Hours)

Principles and procedures of 12 lead electrocardiography (EKG) which may include stress testing and Holter monitoring and care and maintenance of equipment and exam area.

CVTT 1206 Electrophysiology (2 Semester Hours)

Course combines lecture/lab to provide advanced study in electrocardiography and 12-Lead interpretation and analysis to include procedures and case studies of intracardiac electrograms, that are used to map the electrical currents within the heart and assist physicians in selecting the most appropriate treatment for chronic arrhythmias, including ablation, pacemaker and implantable cardioverter-defibrillators. Antiarrhythmic drug therapy will also be discussed.

CVTT 1301 Essentials of Medical Law & Ethics for Health Professionals (3 Semester Hours)

Introduction to the field of invasive cardiovascular technology and the role of the cardiovascular technologist. Introduction to the relationship between legal aspects and ethics in health care, with emphasis on the ethical and legal responsibilities of health care professionals. Topics include medical terminology, ethical concerns & aspects, legal requirements, Helsinki Accords, and communication skills.

CVTT 1302 Physics for the Health Sciences (3 Semester Hours)

Introduction to physics for industrial applications including vectors, motion, mechanics, simple machines, matter, heat, and thermodynamics.

CVTT 1350 Cardiac Catheterization w/ Lab (3 Semester Hours)

Basic life support, cardiac pharmacology, and emergency procedures as they relate to the catheterization lab experience. Includes an intensive study of advanced cardiovascular diagnostic and therapeutic procedures including percutaneous transluminal coronary angioplasty and electrophysiology studies.

CVTT 1404 Cardiovascular Anatomy and Physiology w/ Lab (4 Semester Hours)

A study of the anatomy, physiology, and structural relationships of the human heart and vascular system. Focuses on cardiac anatomy, electrocardiology, cardiac hemodynamics, and the innervation of the heart.

CVTT 2101 Critical Care (1 Semester Hour)

Knowledge, skills and professional values within a legal and ethical context addressing emerging technologies and professional development as it relates to the field of Cardiovascular Technology. This class covers the performance of physical assessments, pharmacological

interventions, nutritional measurements, and diagnostic tests in critical care settings. Course topics are often taught in relationship to the cardiovascular system

CVTT 2102 Pre-clinical and Registry Assessment *(1 Semester Hour)*

Knowledge, skills and professional values within a legal and ethical context addressing emerging technologies and professional development as it relates to the field of Cardiovascular Technology. Course integrates all aspects of the cardiovascular didactic curriculum in preparation for clinical application, registry review techniques and registry preparedness.

CVTT 2158 Blood Gases Analysis *(1 Semester Hour)*

Integration of patient examination techniques, including patient history and physical exam, lab studies, arterial blood gases, and invasive and noninvasive hemodynamics.

CVTT 2402 Diagnostic Echocardiography w/ Lab *(4 Semester Hours)*

An introduction to scanning techniques and procedures with hands-on experience in a lab setting and to the cardiovascular anatomy and physiology, including hemodynamics and spatial relationships of the normal adult heart. Topics include anatomical correlation of 2-D, M-Mode, and Doppler sonographic imaging, as well as advanced echocardiographic procedures to include: stress echo, contrast studies, transesophageal echocardiograms, and invasive and noninvasive cardiac testing. Scanning techniques are correlated and taught in the laboratory sessions. Emphasis is placed on the sonographic evaluation of the normal adult heart.

CVTT 2501 Cardiovascular Technologist Clinical I *(5 Semester Hours)*

A health-related work-based learning experience enabling the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

CVTT 2502 Cardiovascular Technologist Clinical II *(5 Semester Hours)*

A continuation of the health-related work-based learning experience, enabling the student to apply increased specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

CVTT 2503 Catheterization Clinical Rotation I *(5 Semester Hours)*

Basic life support, cardiac pharmacology, and emergency procedures as they relate to the catheterization (cath) lab experience. Introduction to the diagnostic procedures used in the cath lab. Prior didactic instruction in cardiac physiology and medical instrumentation applied to cath lab procedures including patient preparation and monitoring, angiographic equipment set-up, and the coronary angiography procedure itself.

CVTT 3401 Catheterization Clinical Rotation III *(4 Semester Hours)*

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

CVTT 3501 Catheterization Lab II *(5 Semester Hours)*

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Student will acquire advanced knowledge of the cardiovascular system and how it will relate to other body systems and cardiovascular procedures.

CVTT 3601 Cardiovascular Technologist Clinical III *(6 Semester Hours)*

A culminating, work-based learning experience, enabling the student to apply critical decision making, specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

EMERGENCY MEDICAL SERVICES PARAMEDIC PROGRAM

The College of Allied Health Sciences Emergency Medical Services Paramedic Programs include the Army Combat Paramedic Program at Fort Sam Houston, Texas and the Special Operations Paramedic Program at the JSOMTC, Ft. Bragg, North Carolina. Both of these programs lead to the Associate of Science in Health Sciences degree with a major of Emergency Medical Services Paramedic.

The Army Combat Paramedic Program at Fort Sam Houston, Texas has been issued a Letter of Review by the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP). This letter signifies that the program was successful in demonstrating adherence to the Standards and Guidelines for Accreditation from the Commission on Accreditation of Allied Health Education Programs (CAAHEP). It also signifies eligibility of the program graduates to be admitted to the National Registry of Emergency Medical Technicians – Paramedic (NREMT-P) credentialing exam. However, it is NOT a guarantee of eventual accreditation.

The Special Operations Paramedic Program at the JSOMTC, Ft. Bragg, North Carolina is fully accredited by CAAHEP. Graduates meet the qualifications to take the National Registry of Emergency Medical Technicians – Paramedic (NREMT-P) credentialing exam.

To contact CoAEMSP:

8301 Lakeview Parkway, Suite 111-312

Rowlett, TX 75088

214-703-8445

Fax: 214-703-8992

www.coaemsp.org

EMERGENCY MEDICAL SERVICES PARAMEDIC COURSE DESCRIPTIONS

EMSP 1401 Anatomy and Physiology I with Lab (4 Semester Hours)

A study of the structure and function of the human body, emphasis will be given to the study of cells and tissues, and anatomical and physiological interrelationships of the skeletal, muscular, nervous, and endocrine systems. Laboratory work with cadavers is required. This course is designed primarily for Operational Paramedic students.

EMSP 2109 Clinical II - Paramedic (1 Semester Hour)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. This course provides the student clinical rotations in designated areas in contracted hospitals. The student will be required to learn and demonstrate multiple skills and a requisite number of patient contacts while rotating through the various hospital areas. Direct supervision is provided by the clinical professional.

EMSP 2201 Emergency Pharmacology (2 Semester Hours)

Integrates comprehensive knowledge of pharmacology to formulate a treatment plan intended to mitigate emergencies and improve the overall health of the patient. Course is designed to complement Cardiology, Special Populations, and Medical Emergency courses.

EMSP 2210 Practicum - Paramedic (2 Semester Hours)

A health-related work-based learning experience that serves to reinforce didactic learning in specialized occupational theory, skills, and concepts of the paramedic while operating in the prehospital environment.

EMSP 2305 Clinical I - Paramedic (3 Semester Hours)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. This course provides the student clinical rotations in designated areas in contracted hospitals. The student will be required to learn and demonstrate multiple skills and a requisite number of patient contacts while rotating through the various hospital areas. Direct supervision is provided by the clinical professional.

EMSP 2308 Special Populations (3 Semester Hours)

Integrates assessment findings with principles of pathophysiology and knowledge of psychosocial needs to formulate a field impression and implement a comprehensive treatment/disposition plan for patients with special needs.

EMSP 2401 Anatomy and Physiology II w/ Lab (4 Semester Hours)

A study of the structure and function of the human body, emphasis will be given to the study of cells and tissues, and anatomical and physiological interrelationships of the skeletal, muscular, nervous, and endocrine systems. This course is designed primarily for Operational Paramedic students.

EMSP 2402 Medical Emergencies (4 Semester Hours)

Integrates scene and patient assessment findings with knowledge of epidemiology and pathophysiology to formulate a field impression of varying medical emergencies. This includes developing a list of differential diagnoses through clinical reasoning to modify the assessment and formulate a treatment plan.

EMSP 2403 Cardiology (4 Semester Hours)

Cardiology prepares students for assessment and management of patients with life-threatening and non-life-threatening cardiac emergencies. Students will learn basic dysrhythmia interpretation, recognition of 12-lead ECGs for field impression, and electrical and pharmacologic interventions for cardiac arrest and cardiac emergencies.

HISTOLOGY TECHNICIAN PROGRAM

The Histology Technician Program (also known as Histotechnician, Histopathology Technician and Histopathology Apprentice) provides education and training in the techniques and technology to diagnose diseases at the cellular level. Resident training occurs at the METC with clinical training occurring in Medical Training Facilities (MTF) in the San Antonio, Texas area. The program prepares the student to exercise judgment and accept responsibility in performing diagnostic procedures in the care of patients. Education includes, but not limited to: grossing tissue, embedding and sectioning blocks, staining and cover slipping slides, assisting in necropsies, and assisting in administrative tasks. The program enjoys programmatic accreditation with the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Students are certified upon program completion by the American Society for Clinical Pathology (ASCP).

Accreditation or Related Information:

The Histotechnician program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (WWW.NAACLS.ORG).

National Accrediting Agency for Clinical Laboratory Sciences
5600 N. River Rd., Suite 720
Rosemont, IL 60018-5119
Telephone: 773-714-8880
FAX: 773-714-8886

Credentialing Information:

Histotechnician students are certified upon program completion by the American Society for Clinical Pathology (ASCP). To be eligible for the certification examination, an applicant must satisfy the requirements, and successful completion of a NAACLS- accredited Histotechnician program within the last five (5) years.

HISTOLOGY TECHNICIAN COURSE DESCRIPTIONS

HLS 1101 Introduction to Histotechnology *(1 Semester Hour)*

This course is designed to introduce students to laboratory and environmental safety, the histopathology mission, organizational structure, and administration, medical material and supply discipline, professional standards of ethics, HIPPA, and customer service basics.

HLS 1102 Basic Scientific Information *(1 Semester Hour)*

This course is designed to provide the students with a comprehensive understanding of medical terminology, terms and principles of chemistry, organic chemistry, and cellular organization. Acquire comprehensive knowledge on the function, operation, and maintenance of a light compound microscope.

HLS 1103 Specimen Processing for Histological Study (1 Semester Hour)

Students will acquire a comprehensive understanding of the fundamentals, theories, and techniques of tissue fixation, tissue decalcification, tissue dehydration, tissue clearing, and tissue infiltration, and the basic operation of automated tissue processors.

HLS 1204 Routine Technical Procedures (2 Semester Hours)

This course provides students with a comprehensive knowledge and skills of tissue embedding, microtomy, and frozen section techniques. Students are introduced to the operation, function, and maintenance of tissue embedders, microtomes, and cryostats. In addition, students are introduced to the theories and chemistry of the hematoxylin and eosin stain method (H&E), mounting media, microscopic slide cover-slipping and repair techniques.

HLS 2107 Autopsy Procedures (1 Semester Hour)

This course introduces students to the knowledge, skills, terminology, and techniques needed to assist in routine and special postmortem examinations. The student learns the safety precautions, use of specialized equipment, specimen recovery techniques, and toxicology specimen protocols necessary to perform routine and special autopsies. Students learn to identify the different types of special autopsies, the functions, and support role with the pathologist or medical examiner.

HLS 2108 Cytopreparatory Techniques (1 Semester Hour)

This course introduces students to the knowledge and basic preparatory techniques of cytological specimens using the Papanicolaou and Diff-Quick methods. Emphasis is placed on the knowledge and skills to receive, fix, make, cytologic preparations from GYN, NON-GYN, and FNA specimens to include smears, cytospins, thinpreps, and cell blocks.

HLS 2109 Immunohistochemistry (1 Semester Hour)

This course introduces students to all the key immunohistochemistry (IHC) concepts, theories, and techniques, their applications in cancer diagnosis, relationship to companion diagnostics, and targeted therapies.

HLS 2205 Special Stains for Histologic Study (2 Semester Hours)

This course introduces students to essential concepts of laboratory measurements and mathematical calculations for percentages, volume, concentration and dilutions. The nomenclature, proper use, and maintenance of laboratory glassware, list reagents, explain theories, and perform staining procedures for carbohydrates, connective tissue, microorganisms, pigments and minerals, and frozen section special stains.

HLS 2306 Anatomy, Physiology, and Tissue Identification *(3 Semester Hours)*

This course provides students with a comprehensive knowledge of the basic human anatomy and physiology, basic function and microscopic arrangement of human cells, tissues and organs. Students are introduced to the knowledge and skills to microscopically and macroscopically identify the most salient characteristics and structures of the major organs and tissue of the 10 human body systems.

HLS 3112 Histology Practicum II *(12 Semester Hours)*

This course provides students with ample hands-on experience performing all the entry level competencies and the use of equipment of a typical histology laboratory in preparation for their clinical rotations. This course is conducted in a state-of-the-art functioning training laboratory where the operation of a histology laboratory is simulated in a safe and controlled environment. This course enables the students to prepare chemical solutions, accession specimens, perform basic laboratory administration, perform gross surgical procedures, tissue fixation and decalcification, tissue processing, tissue embedding, routine microtomy, frozen sections, special/routine staining.

HLS 3501 Histology Practicum I *(5 Semester Hours)*

This course provides students with ample hands-on experience performing all the entry level competencies and the use of equipment of a typical histology laboratory in preparation for their clinical rotations. This course is conducted in a state-of-the-art functioning training laboratory where the operation of a histology laboratory is simulated in a safe and controlled environment. This course enables the students to prepare chemical solutions, accession specimens, perform basic laboratory administration, perform gross surgical procedures, tissue fixation and decalcification, tissue processing, tissue embedding, routine microtomy, frozen sections, special/routine staining.

HLS 4503 Histology Practicum III *(5 Semester Hours)*

This course provides students with ample hands-on experience performing all the entry level competencies and the use of equipment of a typical histology laboratory in preparation for their clinical rotations. This course is conducted in a state-of-the-art functioning training laboratory where the operation of a histology laboratory is simulated in a safe and controlled environment. This course enables the students to prepare chemical solutions, accession specimens, perform basic laboratory administration, perform gross surgical procedures, tissue fixation and decalcification, tissue processing, tissue embedding, routine microtomy, frozen sections, special/routine staining.

HLS 4504 Histology Clinical I (5 Semester Hours)

This course strengthens the students' technical skills and develops entry-level competency in the areas of grossing, embedding, frozen sectioning, microtomy and histochemical staining and cytopreparatory techniques. Technical skills and troubleshooting ability are expanded upon, and emphasis is placed on productivity, teamwork and professionalism in the workplace.

HLS 4505 Histology Clinical II (5 Semester Hours)

This course strengthens the students' technical skills and develops entry-level competency in the areas of grossing, embedding, frozen sectioning, microtomy and histochemical staining and cytopreparatory techniques. Technical skills and troubleshooting ability are expanded upon, and emphasis is placed on productivity, teamwork and professionalism in the workplace. This course provides an opportunity for the student to further develop professional behaviors, strengthen interpersonal relationships, and build upon the skills necessary to function effectively as a professional in the laboratory and health care setting. Students receive comprehensive academic preparation to successfully pass the histotechnician board of certification examination of the American Society for Clinical Pathology (ASCP).

HLS 4506 Histology Clinical III (5 Semester Hours)

This course provides an opportunity for the student to further develop professional behaviors, strengthen interpersonal relationships, and build upon the skills necessary to function effectively as a professional in the laboratory and health care setting. Students receive comprehensive academic preparation to successfully pass the histotechnician board of certification examination of the American Society for Clinical Pathology (ASCP).

INDEPENDENT DUTY CORPSMAN SUBMARINE PROGRAM

This course is designed to instruct Hospital Corpsman (E5-E7) in Radiation Health, Submarine Medical Administration, Submarine Medical Training, and the management of a medical department and all associated tasks in accordance with Navy Medicine standards of care, performed under the indirect supervision of a medical officer on submarines.

INDEPENDENT DUTY CORPSMAN SUBMARINE COURSE DESCRIPTIONS

SUBI 3203 Submarine Atmosphere Controls *(2 Semester Hours)*

This course is designed to teach students how to assess a vessel's operational atmosphere. Focus is given to the atmospheric control system to ensure the health, safety, and efficiency of personnel and to prevent or minimize the deleterious effects of atmosphere contaminants on a vessel's machinery and equipment.

SUBI 3204 Intro to Water Sanitation and Planned Maintenance *(2 Semester Hours)*

This course is designed to teach students how to assess and ensure potable for a seagoing vessel. Topics include transfer of potable water from a supply point to a vessel, procedures for testing potable water, calculations for disinfecting water, and extrapolating required halogen residuals for disinfection of potable water afloat. Additional topics will address the policy and responsibilities for the vessel's 3-M System, testing and support, and scheduling of Planned Maintenance.

SUBI 3301 Introduction to Radiation Health Program *(3 Semester Hours)*

This course is designed to teach the student the principles of managing a Radiation Health Program on a vessel at sea. Topics include monitoring radiological dosimetry, radiation health controls. These topics are applied to the assessment and treatment of radiological effects on personnel.

SUBI 3302 Principles of Radiation Health *(3 Semester Hours)*

This course is designed to teach the students atomic structure and radiophysiology/pathology. Focus is given to applying how fission affects atoms and which is applied to larger effects on molecules, tissues, organs, and the whole body. Topics may include major components of an atom, interactions of radiation with matter, and direct/indirect ionizing radiation.

SUBI 3305 Resuscitative Therapy and Policy *(3 Semester Hours)*

This course is designed to teach principles of resuscitative therapy and administration. Focus is given to single-rescuer and team resuscitation in a variety of settings. Topics include anatomy and physiology from a systems perspective. These topics are applied to the maintenance of

homeostasis of dynamic polymorbid patient populations. Focus is also placed on medical department administrative duties, patient administration, medical evaluations, and readiness assessments.

SUBI 3306 Clinical Medicine I *(3 Semester Hours)*

This course is designed to teach the principles of pharmacology. It requires students to assess diagnosis and formulate treatment plans for pathology of the integumentary system including prescription of select medications. Topics include the structural and functional organization of the tissues, the functions of the four types of human tissue, types of connective tissue, and the types of cell membranes and treatment of infectious disease.

SUBI 4307 Clinical Medicine II *(3 Semester Hours)*

This course provides instruction on structural and functional organization of blood and lymph fluids. It requires students to assess diagnosis and formulate treatment plans for disorders of blood, lymph, and HEENT. Topics include types of blood groups, and the mechanisms to prevent blood loss and disorders of the lymphatic system. This course also places focus on receptors for tactile, thermal, and pain sensation; and of the eyes, ears, nose, and auditory and equilibrium pathways of the brain.

SUBI 3308 Clinical Medicine III *(3 Semester Hours)*

This course is designed to teach the structural and functional organization of the respiratory system. It requires students to assess diagnosis and formulate treatment plans for conditions of the respiratory system. Additional topics focus on the management and clinical care of dental disorders to include dental anatomy and dental terminology, dental trauma, utilizing anesthesia, and dental pathological conditions.

SUBI 3309 Clinical Medicine IV *(3 Semester Hours)*

This course is designed to teach the structural anatomy and functional organization of the heart. It requires students to assess diagnosis and formulate treatment plans for pathology of the cardiac system. Topics also include how blood flows through the heart, the phases of the cardiac cycle, how a wave form is created on an electrocardiogram, and the relationship between exercise and the heart.

SUBI 3410 Clinical Medicine V *(4 Semester Hours)*

This course is designed to teach the structural anatomy and functional organization of the digestive system. It requires students to assess diagnosis and formulate treatment plans for disorders of the gastrointestinal and musculoskeletal systems. Topics include phases of digestion and the categorization of bones of the body into the axial and appendicular divisions, functions of fibrous, cartilaginous, and synovial joints, and the functions of muscular tissue.

SUBI 3311 Clinical Medicine VI *(3 Semester Hours)*

This course is designed to teach the structural and functional organization of the nervous and endocrine tissue. It requires students to assess diagnosis and formulate treatment plans for conditions of the nervous and endocrine system. Topics include the organization of the nervous and endocrine system, the relationship between the hypothalamus and the pituitary gland, functions of the thyroid, parathyroid, pancreatic islets, and adrenal glands.

SUBI 3312 Clinical Medicine VII *(3 Semester Hours)*

This course is designed to teach the structural and functional organization of the genitourinary system. It requires students to assess diagnosis and formulate treatment plans for disorders of the genitourinary system. Topics include the components, functions performed by the nephrons, transportation, storage, and elimination of urine, and the electrolyte composition of fluid compartments.

SUBI 4115 Emergency Medicine I Practicum *(1 Semester Hour)*

This course requires the practical application of lessons learned over the entire course of instruction. Students must successfully complete a three-day, enhanced hospital-based simulation training program at the end of the course.

SUBI 4214 Emergency Medicine I *(2 Semester Hours)*

This course is designed to teach essential emergency and trauma treatment protocols. It requires students to assess diagnosis and formulate treatment plans using the foundation of Basic Life Support (BLS), emphasizing the importance of CPR. The hands-on instruction and simulated cases in this advanced course are designed to help enhance skill in the recognition and intervention of cardiopulmonary arrest immediate post-cardiac arrest, acute arrhythmia, stroke, and acute coronary syndromes.

SUBI 4313 Community Health and Occupational Safety *(3 Semester Hours)*

This course is designed to teach the basic principles of radiology, common normal and abnormal findings seen on a chest film, and common fractures seen in orthopedic x-rays. Topics also include management and clinical care of psychiatric disorders and Post-Traumatic Stress Disorder (PTSD). Emphasis is also given to dive injuries and the Navy Occupational Safety and Health (NAVOSH) Program.

SUBI 4816 Administrative Practicum *(8 Semester Hours)*

This course is designed to teach students to perform the administrative duties of the Senior Medical Department Representative (SMDR). Topics include the Quality Assurance Program, administrative documents maintained by the SMDR and required reports and the controlled

substance program. Students are placed with experienced preceptors who mentor students to become an independent SMDR.

SUBI 4917 Clinical Rotation (*9 Semester Hours*)

This course provides students the opportunity to independently apply all aspects of the didactic portion of the Surface Force Independent Duty Corpsman curriculum from the past year with minimal supervision of a licensed medical practitioner. Clinical rotations are conducted at various locations including Military Health System clinical sites, and aboard vessels in port and at sea. Students develop the skills necessary to perform the prescribed medical scope of an independent practitioner.

INDEPENDENT DUTY CORPSMAN SURFACE PROGRAM

This course is designed to instruct independent practitioners in Primary Care, Preventive Care, Emergency Treatment, Occupational Medicine, Preventive Medicine Programs, Shipboard Medical Administration, Aviation Medicine, Tactical Medicine, Shipboard Medical Training, and the management of a medical department and all associated tasks in accordance with Navy Medicine standards of care, performed under the indirect supervision of a medical officer on surface vessels, FMF, NECC, NSW, shore commands, and Military Treatment Facilities.

INDEPENDENT DUTY CORPSMAN SURFACE COURSE DESCRIPTIONS

SURI 3101 Intro to Anatomy & Physiology and Medical History (1 Semester Hour)

This course is designed to teach the structural and functional organization of the human body, how body systems relate to one another, and anatomical positions. Topics include medical terminology, medical history and physical exam with a focus on ethical considerations in patient-examiner relationships, aspects of communication that affect the interview process, and multicultural considerations while obtaining a patient's medical history.

SURI 3110 CBRNE & Planned Maintenance (1 Semester Hour)

This course is designed to prepare personnel to effectively respond to all hazardous incidents including those emanating from chemical, biological, radiological, nuclear, or high-yield explosives (CBRNE) sources. Topics include the effects of threat agents, principles of personal protection, agent detection, recognition and emergency treatment after exposure. Further focus address the policy and responsibilities for a vessel's testing, support, and scheduling of Planned Maintenance.

SURI 3203 Emergency Medicine I (2 Semester Hours)

This course is designed to teach that Basic Life Support (BLS) is the foundation for saving lives after cardiac arrest and teaches both single-rescuer and team basic life support skills for application in both in-facility and prehospital settings. It also builds on the foundation of BLS, emphasizing the importance of continuous, high-quality Cardiopulmonary Resuscitation (CPR). The hands-on instruction and simulated cases in this advanced course are designed to help enhance their skills in the recognition and intervention of cardiopulmonary arrest immediate post-cardiac arrest, acute arrhythmia, stroke, and acute coronary syndromes.

SURI 3208 Intro Radiography, Psych Disorders, & Infectious Disease (2 Semester Hours)

This course is designed to teach the basic principles of radiology, common normal and abnormal findings seen on a chest film, and common fractures seen in orthopedic x-rays. Topics also include management and clinical care of psychiatric disorders and Post-Traumatic

Stress Disorder (PTSD). It requires students to assess diagnosis and formulate treatment plans for infectious disease.

SURI 3302 Clinical Medicine I (3 Semester Hours)

This course is designed to teach the principles of pharmacology. It requires students to assess diagnosis and formulate treatment plans for pathology of the integumentary system including prescription of select medications. Additionally this course will teach structural anatomy and functional organization of the heart. It requires students to assess diagnosis and formulate treatment plans for pathology of the cardiac system. Topics also include how blood flows through the heart, the phases of the cardiac cycle, how a wave form is created on an electrocardiogram, and the relationship between exercise and the heart.

SURI 3306 Clinical Medicine IV (3 Semester Hours)

This course provides instruction on structural and functional organization of Head, Eyes, Ears, Nose, Throat (HEENT) and dental disorders. It requires students to assess diagnosis and formulate treatment plans for disorders of HEENT and Dental. This course also places focus on receptors for tactile, thermal, and pain sensation; and of the eyes, ears, nose, auditory and equilibrium pathways of the brain, dental anatomy and dental pathological conditions.

SURI 3404 Clinical Medicine II (4 Semester Hours)

This course is designed to teach the structural and functional organization of the respiratory, gastrointestinal, and hematologic and lymphatic system. It requires students to assess diagnosis and formulate treatment plans for conditions of the respiratory, gastrointestinal, and hematologic and lymphatic system. Topics include phases of digestion, types of blood groups, and the mechanisms to prevent blood loss and disorders of the lymphatic system.

SURI 3505 Clinical Medicine III (5 Semester Hours)

This course is designed to teach the structural and functional organization of the nervous and genitourinary system. It requires students to assess diagnosis and formulate treatment plans for conditions of the nervous and genitourinary system. Topics include the organization of the nervous system and the components, functions performed by the nephrons, transportation, storage, and elimination of urine.

SURI 3507 Clinical Medicine V (5 Semester Hours)

This course is designed to teach the structural anatomy and functional organization of the musculoskeletal, Integumentary, and Endocrine system. It requires students to assess diagnosis and formulate treatment plans for disorders of the Musculoskeletal Integumentary, and Endocrine system systems. Topics include the structural and functional organization of the tissues, the functions of the four types of human tissue, types of connective tissue, and the

types of cell membranes. As well as a focus on the organization of the endocrine system, the relationship between the hypothalamus and the pituitary gland, functions of the thyroid, parathyroid, pancreatic islets, and adrenal glands.

SURI 3509 Emergency Medicine II (5 Semester Hours)

This course is designed to teach the management and clinical care of a trauma patient in accordance with emergency medicine guidelines. Topics include triage during a mass casualty incident, analysis of scene safety, scene situation and kinematics into the assessment of a trauma patient. Other related topics include the physiological characteristics of combat injuries, primary and secondary survey on a patient, chest tube insertion, needle thoracentesis, and surgical cricothyrotomy.

SURI 4311 Emergency Medicine Practicum (3 Semester Hours)

This course requires the practical application of lessons learned over the entire course of instruction. Students must successfully complete a three-day, enhanced hospital-based simulation training program at the end of the course. The practicum is situated with a Technical Assist Visit (TAV) and the Final Evaluation Problem (FEP).

SURI 4312 Administration and Safety (3 Semester Hours)

This course is designed to teach students the responsibilities and requirements within the Decedent Affairs Program. Topics include governing the disposition of remains, objectives of the Decedent Affairs Program, expenses and reimbursement allowances, and reporting requirements. Further focus is placed on laboratory safety requirements and bio hazardous waste program. Also included in this course is an overview of the Navy Occupational Safety and Health (NAVOSH) program.

SURI 4313 Community Health & Medical Information (3 Semester Hours) (89 contact hours)

This course is designed to teach students how to assess and ensure potable for a seagoing vessel. Topics include transfer of potable water from a supply point to a vessel, procedures for testing potable water, calculations for disinfecting water, and extrapolating required halogen residuals for disinfection of potable water afloat. Topics include the requirements for safeguarding medical record information, the Privacy Act Program, and penalties for violations of the Privacy Act and Health Insurance Portability and Accountability Act (HIPAA). Further topics covered will teach Theater Medical Information Program (TMIP) and Shipboard Non-Tactical ADP Program (SNAP) Automated Medical System (SAMS) program.

SURI 4516 Administrative Practicum (5 Semester Hours)

This course is designed to teach students to perform the administrative duties of the Senior Medical Department Representative (SMDR). Topics include the Quality Assurance Program,

administrative documents maintained by the SMDR and required reports and the controlled substance program. Students are placed with experienced preceptors who mentor students to become an independent SMDR.

SURI 4614 Clinical Rotation I *(6 Semester Hours)*

This course provides students the opportunity to apply all aspects of the didactic portion of the Surface Force Independent Duty Corpsman curriculum from the past year. This course is conducted under the direct supervision of a licensed medical practitioner. Clinical rotations are conducted at various locations including Military Health System clinical sites, and aboard vessels in port and at sea. Students develop the skills necessary to perform the prescribed medical scope of an independent practitioner.

SURI 4615 Clinical Rotation II *(6 Semester Hours)*

This course provides students the opportunity to independently apply all aspects of the didactic portion of the Surface Force Independent Duty Corpsman curriculum from the past year with minimal supervision of a licensed medical practitioner. Clinical rotations are conducted at various locations including Military Health System clinical sites, and aboard vessels in port and at sea. Students develop the skills necessary to perform the prescribed medical scope of an independent practitioner.

MEDICAL LABORATORY TECHNICIAN PROGRAM

The Army & Navy Medical Laboratory Technician (MLT) program provides education and training in the major disciplines of the clinical laboratory. The program prepares the laboratory technician to perform laboratory procedures at a medical treatment facility under the supervision of a qualified laboratory technician/technologist. This program has a two-phase, field of study schedule. Resident training is first conducted at the METC Branch Campus and then the student transitions to clinical training that is conducted at military and/or civilian.

Clinical training provides students with clinical knowledge and hands-on experiential training which consists of clinical practicum in a MTF. The program prepares the student to exercise judgment and accept responsibility in performing clinical laboratory procedures in the care of patients. The training includes the application of specimen collection, clinical chemistry, microbiology, hematology and coagulation, immunohematology, urinalysis, and immunology/serology in a medical laboratory setting, using the areas of practice of medical laboratory department technicians at MTFs.

Accreditation or Related Information:

The Medical Laboratory Program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (WWW.NAACLS.ORG).

National Accrediting Agency for Clinical Laboratory Sciences
5600 N. River Rd., Suite 720
Rosemont, IL 60018-5119
Telephone: 773-714-8880
FAX: 773 -714-8886

Credentialing Information:

Graduates are eligible to take the credentialing examination for Medical Laboratory Technician certification through the American Society of Clinical Pathology (WWW.ASCP.ORG) Board of Certification.

MEDICAL LABORATORY TECHNICIAN COURSE DESCRIPTIONS

MLTS 1201 Introduction to Laboratory Science *(2 Semester Hours)*

This course is designed to provide the students with an introduction to the clinical laboratory, anatomy, medical terminology, blood collection procedures, and basic mathematics. This course is designed with a Modified Didactic format. The student is expected to successfully complete the equivalent of 48 hours of study in class.

MLTS 1206 Urinalysis and Body Fluids *(2 Semester Hours)*

This course introduces the principles and concepts of urine and body fluid analysis procedures. This course is designed to provide the student with a foundation in urinalysis and body fluids

and prepares the student for clinical phase 2 rotation. Upon successful completion of this course, the student will be able perform manual and automated urine and body fluid procedures and interpret results and recognize clinical significance and correlations in a laboratory setting under the supervision of a qualified laboratory technician/technologist.

MLTS 1304 Hematology I *(3 Semester Hours)*

This course introduces principles and concepts of hematology. The course focuses on red blood cells and white blood cells. Upon successful completion of this course, the student will be able to perform manual hematology procedures, review results and recognize clinical significance and correlations in a laboratory setting under the supervision of a qualified laboratory technician/technologist.

MLTS 1305 Hematology II *(3 Semester Hours)*

This course presents advanced principles and concepts in hematology to include differentials, cell counts, and coagulation. This course prepares the student for clinical phase 2 rotation. Upon successful completion of this course, the student will be able to perform manual hematology procedures, review results and recognize clinical significance and correlations in a laboratory setting under the supervision of a qualified laboratory technician/technologist.

MLTS 1403 Chemistry for the Medical Laboratory II *(4 Semester Hours)*

This course builds on CHEM 1501 and presents more advanced principles and concepts of clinical laboratory chemistry. This course prepares the student for procedures that will be conducted during the clinical practicum rotations. This course may be used to fulfill the Natural/Physical Science requirement for General Education.

MLTS 1502 Chemistry for the Medical Laboratory I *(5 Semester Hours)*

This course introduces the principles and concepts of general chemistry, organic chemistry, and biochemistry as applicable to clinical chemistry. Upon successful completion of this course, the student will be able to perform manual and automated chemistry procedures on patient specimens in a laboratory setting under the supervision of a qualified laboratory technician/technologist. This course may be used to fulfill the Natural/Physical Science requirement for General Education.

MLTS 1607 Blood Banking *(6 Semester Hours)*

This course introduces and develops concepts and principles of immunohematology theory. Additionally, principles and procedures of advanced instrumentation and procedures to execute blood donor operations is delivered. This course prepares the student for Clinical Phase 2. Upon successful completion of the course, the student will be able to perform in a laboratory setting under the supervision of a qualified laboratory technician/technologist. In addition, the student will be able to review results and recognize clinical significance and correlations.

MLTS 2104 Army Field Laboratory Methods *(1 Semester Hour)*

This course provides Army students an overview of Army field laboratory operations. Topics include Army Warrior Tasks and Battle Drills (WTBD), Basic Rifle Marksmanship, Basic Life Support (BLS) training and certification, and ASCP Board of Certification MLT Practice Exam.

MLTS 2105 Navy Laboratory Methods *(1 Semester Hour)*

This course provides Navy students an overview of Navy Blood Donor Center Operations. Additional topics include Navy Pride and Professionalism, and administration of an ASCP Board of Certification MLT Practice Exam.

MLTS 2201 Immunology *(2 Semester Hours)*

This course is designed to provide the student with a foundation in immunologic and serologic principles and prepares the student for clinical phase 2 rotation. Upon successful completion of this course of instruction students will be able to perform manual serological procedures in a laboratory setting under the supervision of a qualified laboratory technician/technologist. Students will interpret results and recognize clinical significance and correlations.

MLTS 2205 Army Certification Examination Strategy and Review *(2 Semester Hours)*

This course provides Army students with a review of the American Society for Clinical Pathology (ASCP) Board of Certification (BOC) Medical Laboratory Technician (MLT) examination content guidelines. Study and testing strategy are presented. Students take a cumulative simulated certification examination.

MLTS 2206 Navy Certification Examination Strategy and Review *(2 Semester Hours)*

This course provides Navy students with a review of the American Society for Clinical Pathology (ASCP) Board of Certification (BOC) Medical Laboratory Technician (MLT) examination content guidelines. Study and testing strategy are presented. Students take a cumulative simulated certification examination.

MLTS 2403 Medical Microbiology II *(4 Semester Hours)*

This course presents advanced principles and procedures in medical microbiology. This course introduces virology, mycology, anaerobic bacteriology, mycobacterium and parasitology. This course prepares the student for Clinical Phase 2. Upon successful completion of this course, the student will be able to perform manual and automated advanced microbiology procedures and interpret results and recognize clinical significance and correlations in a laboratory setting under the supervision of a qualified laboratory technician/technologist. This course may be used to fulfill the Natural/Physical Science requirement for General Education.

MLTS 2502 Medical Microbiology I *(5 Semester Hours)*

This course introduces the principles and concepts of instrumentation, microbiology procedures, bacteriology and mycobacterium. This course prepares the student for Medical Microbiology 2. Upon successful completion of this course, the student will be able to perform manual and automated identification and susceptibility microbiology procedures in a laboratory setting under the supervision of a qualified laboratory technician/technologist. This course may be used to fulfill the Natural/Physical Science requirement for General Education.

MLTS 3901 Clinical Practicum I *(9 Semester Hours)*

This clinical rotation is designed to give students basic competencies necessary for career entry requirements in the areas of Clinical and Special Chemistry, Clinical Microbiology, Parasitology, Mycology, Immunology, and Urinalysis testing. Students achieve psychomotor proficiency through structured hands-on training in a clinical setting. Laboratory hours are dedicated to the practice and performance of daily operations in a clinical laboratory.

MLTS 3902 Clinical Practicum II *(9 Semester Hours)*

This clinical rotation builds on MLTS 3901 and is designed to give students more experience in the competencies necessary for career entry requirements in the areas of Clinical and Special Chemistry, Clinical Microbiology, Parasitology, Mycology, Immunology, and Urinalysis testing. Students achieve psychomotor proficiency through structured hands-on training in a clinical setting. Laboratory hours are dedicated to the practice and performance of daily operations in a clinical laboratory.

MLTS 4901 Clinical Practicum III *(9 Semester Hours)*

This clinical rotation builds on MLTS 3902 and is designed to give students more independent experience in the competencies necessary for career entry requirements in the areas of Phlebotomy, Specimen Handling and Processing, Laboratory Information Systems, Hematology, Coagulation, Blood Bank and Transfusion Services and Blood Donor Center Operations. Students achieve psychomotor proficiency through structured hands-on training in a clinical setting. Laboratory hours are dedicated to the practice and performance of daily operations in a clinical laboratory.

MLTS 4902 Clinical Practicum IV *(9 Semester Hours)*

This culminating clinical rotation builds on MLTS 4901 and is designed to give students more experience in nearly autonomous competencies necessary for career entry requirements in the areas of Phlebotomy, Specimen Handling and Processing, Laboratory Information Systems, Hematology, Coagulation, Blood Bank and Transfusion Services and Blood Donor Center Operations. Students achieve psychomotor proficiency through structured hands-on training in a clinical setting. Laboratory hours are dedicated to the practice and performance of daily

operations in a clinical laboratory. Clinical rotations are conducted at one of 29 affiliated hospital laboratories. This course is designed with a Modified Clinical Internship format. The student is expected to successfully complete the equivalent of 260 hours of study in class.

NEURODIAGNOSTIC TECHNOLOGIST PROGRAM

The Neurodiagnostic Technologist program is responsible for providing students with advanced training in the field of electroneurodiagnostics. Graduates will function as entry-level technologists in military treatment facilities throughout the United States and overseas. This program has a two-phase, field of study schedule. Resident training is first conducted at the METC Branch Campus and then the student transitions to clinical training that is conducted at military and/or civilian medical treatment facilities.

Accreditation or Related Information:

The Neurodiagnostic Technologist program is accredited by the Commission on Accreditation of Allied Health Education Programs (WWW.CAAHEP.ORG) upon the recommendation of the Committee on Accreditation for Education in Neurodiagnostic Technology (CoA-NDT).

Commission on Accreditation of Allied Health Education Programs
25400 U.S. Highway 19 North, Suite 158
Clearwater, FL 33763
(727)210-2350
WWW.CAAHEP.ORG

Credentialing Information:

Graduates are eligible for multiple credentials upon completion of the program through the American Board of Registration of Electroencephalographic and Evoked Potential Technologists (ABRET) or the Board of Registered Polysomnographic Technologists (BRPT).

Per the American Board of Registration of Electroencephalographic and Evoked Potential Technologists (www.abret.org), applicants must meet the following requirements:

To be eligible for the Electroencephalography (EEG) credential, applicants must be enrolled for at least 6 months in a CAAHEP accredited program and have a current CPR/BCLS certification. During clinical training, students are eligible to take the EEG Part 1 credential examination. Graduates who have passed EEG Part 1, are then eligible to take the EEG Part 2 certification examination.

Graduates are eligible for the Evoked Potential (EP) credential examination upon completion of a CAAHEP accredited program.

Per the Board of Registered Polysomnographic Technologists (www.brpt.org), applicants must meet the following requirements:

1. Graduates are eligible for the Registered Polysomnographic Technologist (RPSGT) examination, upon completion of a CAAHEP accredited polysomnography education program.
2. To be eligible for the Certified Polysomnographic Technologist (CPSGT) examination, applicants can be students within 2 months of graduating from, or a graduate of, a CAAHEP accredited polysomnography education program.

NEURODIAGNOSTIC TECHNOLOGIST COURSE DESCRIPTIONS

NDTS 1301 Fundamentals of Neurodiagnostics *(3 Semester Hours)*

This course is designed to provide the learner with a theoretical and practical understanding of the NDT field, and to prepare the learner to initiate an electroencephalograph (EEG) recording. Learners will also study the anatomical structures of the brain as it relates to the International 10-20 system. Additional topics include electrode types and application for various neurodiagnostic studies.

NDTS 2101 Neuroanatomy and Physiology *(1 Semester Hour)*

This course includes basic and advanced neuroanatomy and neurophysiology for the Neurodiagnostic Technologist. It is designed to develop the foundation in neuroanatomy and neurophysiology required to begin training in neurodiagnostics. Topics include the nerve cell, Cerebral Protection and Circulation, central nervous system, peripheral nervous system to include structure, function, blood supply, and neuropathways as well as basic neurophysiology.

NDTS 2104 Neurodiagnostic Technical Science II *(1 Semester Hours)*

This course provides training on the International Classification of Seizures and Epilepsies and includes anticonvulsant drugs. Students examine abnormal encephalographic recordings as well as the signs, symptoms, and etiology of disorders including encephalopathies, neoplasms, cerebrovascular disorders, headaches and head traumas as seen in both the clinical and electroencephalographic settings.

NDTS 2202 Intermediate Neurodiagnostics *(2 Semester Hours)*

This course covers the recognition and measurement of normal wave patterns and normal variants. It also covers the identification and correction of various types of artifacts, performance of activation procedures and corresponding results and the identification of evolutionary changes in awake and sleep patterns from neonates to adulthood.

NDTS 2307 Polysomnography *(3 Semester Hours)*

This course requires mastery of concepts required for polysomnography, sleep disorders, and other related procedures. This course requires mastery of the practical application of recording devices, performance of polysomnography, multiple sleep latency testing, and maintenance of wakefulness testing. Cardiopulmonary anatomy and physiology, and electrocardiogram recognition are also reviewed.

NDTS 2503 Neurodiagnostic Technical Science I (5 Semester Hours)

This course provides the learner with the special techniques used in recording adult, pediatric and neonatal patients. Also covers recording techniques applicable to Long Term Monitoring of Epilepsy (LTME), and an overview of pediatric and neonatal recording and performance of electrocerebral inactivity studies in accordance with American Clinical Neurophysiology Society (ACNS) guidelines.

NDTS 2506 Nerve Conduction/Electromyography (5 Semester Hours)

This course provides students an introduction to Nerve Conduction Studies (NCS). It is designed to provide the participant with a baseline set of terms to help prepare the Neurodiagnostic Technologist to add nerve conduction studies to their technical skills. It is designed to develop skills to perform basic upper and lower extremity NCS studies with an understanding of the basic anatomy and neurophysiology, instrument setting, measurement techniques, electrode placements, muscles and nerves involved in the testing and testing procedures.

NDTS 2605 Evoked Potentials (6 Semester Hours)

This course has been developed to teach students how to perform clinical evoked potentials (EP) as well as to provide a foundation for intraoperative neuromonitoring professionals in the basics of Evoked Potentials. The course includes all modalities of EP, Visual, Brainstem Auditory and Somatosensory. Instrumentation is also included as are the ACNS Guidelines in clinical EPs.

NDTS 3301 Neurodiagnostic Registration Studies (3 Semester Hours)

This course provides students an opportunity to master electroencephalographic principles in preparation for national registry examination. Topics include neuroanatomy and physiology, electronics, instrumentation, normal and abnormal patterns, normal variants, treatments and disease correlations. ACNS guidelines, universal precautions, and patient safety and are a focus throughout the course.

NDTS 4901 Neurodiagnostic Clinical Practicum I (9 Semester Hours)

This course is the first in a series of two clinical practicum courses. Successful completion of this course requires mastery of all procedures within standards and under direct supervision of a credentialed Neurodiagnostic professional. Mastery that must be demonstrated within the course of clinical practicum studies includes adult and neonatal/pediatric electroencephalograms.

NDTS 4902 Neurodiagnostic Clinical Practicum II (9 Semester Hours)

This course is the second in a series of two clinical practicum courses. This course builds upon the application of instructional material presented in all previous courses. Successful

completion of this course requires mastery of all procedures within standards and under direct supervision of a credentialed Neurodiagnostic professional. Mastery that must be demonstrated within the course of clinical practicum studies includes adult, neonatal/pediatric electroencephalograms, all modalities of evoked potential testing, polysomnograms, multiple sleep latency onset testing, and telemetry and ambulatory monitoring.

NUCLEAR MEDICINE TECHNOLOGIST PROGRAM

A Nuclear Medicine Technologist (NMT) is an allied health professional who, under the direction of an authorized user, is committed to applying the art and skill of diagnostic imaging and therapeutics through the safe and effective use of radionuclides. This program has a two-phase, field of study schedule. Resident training is first conducted at the METC Branch Campus and then the student transitions to clinical training that is conducted at military and/or civilian medical treatment facilities.

Accreditation or Related Information:

Credentialing Information:

Graduates are eligible to take national credentialing examinations through the American Registry of Radiologic Technologists* (WWW.ARRT.ORG) and the Nuclear Medicine Technology Certification Board** (WWW.NMTCB.ORG) upon meeting degree requirements.

*Effective 01 JAN 2015, the ARRT will only accept applicants who have earned an associate's degree (or more advanced degree) from an accrediting agency recognized by the ARRT. The degree will not need to be in nuclear Medicine science, and it can be earned before entering the educational program or after graduation from the program.

**Effective 01 JAN 2016, the NMTCB will only accept entry-level applications from graduates of a programmatically accredited nuclear medicine technology program. The NMTCB has granted METC's Nuclear Medicine program a waiver to challenge the NMTCB registry.

NUCLEAR MEDICINE TECHNOLOGIST COURSE DESCRIPTIONS

NMTS 3203 Radiation Safety (2 Semester Hours)

This course introduces radiation safety concepts including units of radiation exposure and dose licensing directives and guidelines of the Nuclear Regulatory Commission, accountability and records, receipts, storage, handling, transportation, and disposal of radioactive materials. Topics also include monitoring, shielding, dose-distance relationships, personnel dosimetry, radiological safety clothing, and radioactive spill procedures and denotation techniques.

NMTS 3301 Applied Technical Mathematics (3 Semester Hours)

This course provides a review of basic mathematics, algebraic equations, common and natural logarithms and their manipulation, linear and logarithmic graphing. Provides didactic instruction in principles of mathematics as applied to the field of Nuclear Medicine, basic statistics terminology, frequency distributions, Gaussian distribution, Poisson distribution of confidence limits, standard error, efficient distribution of counting time, and the statistics relating to imaging procedures. This course may be used to fulfill the Mathematics requirement for General Education.

NMTS 3305 Radiation Biology and Pharmacology (3 Semester Hours)

This course reviews the interaction of radiation with matter, and radiation effects on molecule, cell, tissue and organ levels. Genetic and somatic effects of ionizing radiation, staging of radiation illness, and the Medical Internal Radiation Dose method of absorbed dose calculations are instructed. And the course provides an introduction to the uses of radionuclides in medicine, basic principles of generator systems, radiopharmaceuticals and their interactions within the body, preparation of pharmaceuticals using generator produced nuclides, quality control procedures, radioactive equilibrium states, and calculations of doses pertaining to pharmaceuticals utilized in the field of nuclear medicine.

NMTS 3402 Applied Nuclear Physics and Chemistry (4 Semester Hours)

This course provides instruction of basic principles of nuclear and atomic physics including quantum theory, atomic and nuclear structure, radioactivity and decay, the basic decay formula and its variations, alpha and beta particles, electromagnetic radiation and series decay. Ionization and ionizing interactions are examined. This course also includes instruction of basic chemistry, matter, atomic structure, electron configurations, periodic table organization, chemical bonding, formulas and equations, acid-base theory, solutions, suspensions, colloids, and other concepts of inorganic chemistry and associated nomenclature.

NMTS 3604 Radiation Instrumentation (6 Semester Hours)

This course provides instruction of theoretical and practical aspects of radiation detectors, types of detectors, operation of detectors, collimation, geometry consideration, and quality control. The course also includes an introduction to computer applications, whole body and stationary imaging, Single Photon Emission Computed Tomography imaging, and ancillary imaging devices and equipment.

NMTS 4107 Radiation Safety, Administrative Procedures, Continuing Education and Didactic Review, and Senior Rotation (10 Semester Hours)

This clinical rotation focuses on radiation safety and administrative procedures for provision of materials and supplies required for a completely functional nuclear medicine department. Administrative topics also include scheduling of patients and record maintenance of the filing system for both reports and images. Continuing Education is provided for mastery of clinical objectives that are not readily available through actual performance evaluations. The Senior Rotation will be allotted to students in clinical rotations as deemed appropriate by the Phase II Clinical Coordinator after a thorough review of the individual student's capabilities and limitations.

NMTS 4124 Diagnostic Imaging I (12 Semester Hours)

This clinical rotation provides the student an opportunity to develop basic skill in the practice of nuclear medicine technology. This includes performing multiple procedures, imaging, and scanning protocols and processes. Emphasis is placed on the safety of the patient and practitioner. Focus is also placed on computer/technology applications as well as general patient care protocols and procedures.

NMTS 4125 Diagnostic Imaging II (12 Semester Hours)

This clinical rotation is designed to build on the proficiencies developed in NMTS 4124. The student is provided an opportunity to master skill and confidence in the practice of nuclear medicine technology. This includes more efficiently performing multiple procedures, imaging, and scanning protocols and processes. Safety of the patient and practitioner remains a focus. And ability improves related to computer/technology applications as well as general patient care protocols and procedures.

NMTS 4201 Advanced Radionuclear Procedures, Therapy & Imaging (2 Semester Hours)

This course explores anatomy, physiology and pathology of non-imaging procedures underlying non-imaging protocols. Various imaging modalities used throughout radiology are reviewed including PET, CT, PET/CT and MRI. Emphasis is placed on principles of instrumentation, and operation and imaging procedures. This course may be used to fulfill the Natural/Physical Science requirement for General Education.

NMTS 4303 Healthcare Administration and Patient Care (3 Semester Hours)

This course is designed to address administrative and clinical aspects of patient care. Emphasis is placed on patient and practitioner safety. Specific topics include: communication; age-related considerations; professionalism; ethics and basic law; infection control and aseptic technique; patient assessment, safety and assistance; venipuncture, medication administration, and emergency medicine procedures.

NMTS 4502 Advanced Diagnostic Procedures (5 Semester Hours)

This course is designed to further explore anatomy and physiological functions associated with various organs and organ systems. These concepts are then applied to specific diagnostic procedures required of nuclear medicine technology. Safety of the patient and practitioner are also emphasized. This course may be used to fulfill the Natural/Physical Science requirement for General Education.

NMTS 4906 Radiopharmacy, Nuclear Laboratory, and Therapy Procedures *(9 Semester Hours)*

This clinical experience provides the student an opportunity to master competencies required for preparation, measurement, utilization and proper disposal of all radionuclides and radiopharmaceuticals used in a Nuclear Medicine clinic. Quality control and calibration, as well as preventive maintenance are emphasized. These competencies are applied to the preparation and administration of doses for diagnostic and therapeutic procedures. Appropriate radiation safety procedures will be monitored in this clinical rotation. Patient and practitioner safety are a focus.

NUTRITION SCIENCE PROGRAM

The Nutrition Science Program provides education and training in basic nutrition concepts, medical nutrition therapy, and performance nutrition for health and fitness. Therapeutic diet preparation quality control, principles and practical application of food production, safety, and sanitation for various lifecycles are discussed, in depth, throughout the program. Methods of instruction include, but are not limited to: lecture, demonstration, online materials, simulations, laboratory practice, and practical exercises. A simulation for military contingency operations is provided in a non-classroom setting.

NUTRITION SCIENCE COURSE DESCRIPTIONS

NUTR 1101 Intro to Nutrition *(1 Semester Hour)*

Nutrition Care Specialist in the military healthcare system. Students are introduced to basic human nutrition science including the sources and functions of nutrients and components of a healthy diet throughout the life cycle. Students will learn about the processes of digestion, absorption, and metabolism of nutrients, as well as how to determine daily energy requirements.

NUTR 1302 Human Nutrition *(3 Semester Hours)*

This course introduces clinical nutrition concepts with an emphasis on Medical Nutrition Therapy (MNT). Students will learn how to conduct nutrition screening and assessments, modify nutrition requirements and dietary intake for given medical conditions, and perform basic Medical Nutrition Therapy (MNT). Students are introduced to modified and therapeutic diet preparation and the principles of food sanitation and safety and kitchen operations for health-compromised populations.

NUTR 1303 Applications in Human Nutrition *(3 Semester Hours)*

A study of advanced nutrition applications including malnutrition, metabolic stress, food allergies, and nutrition focused physical exam. Emphasis is on preparation to perform basic Medical Nutrition Therapy (MNT) in a healthcare facility and public health nutrition skills in a community site. Students are introduced to administrative forms and documents related to clinical operations within a Nutritional Medicine Department. This course provides practical application of therapeutic diet preparation and operation of patient meal service. Supervised application of desirable work habits and skills needed in institutional food service: sanitation, safety, food preparation, modified diets, quality service, patient tray line, menus, purchasing, and inventory control.

NUTR 1104 Nutrition for Performance Optimization *(1 Semester Hour)*

This course introduces performance nutrition concepts to support the military warrior/athlete for health and wellness.

NUTR 2205 Army Nutrition Field Operations *(2 Semester Hours)*

This course provides students a practical experience, operating the Army Medical Field Feeding System. Students simulate providing nutrition care to patients, refugees, and prisoners in an operational setting. The scenario includes austere environments, ethics, religious accommodations of diet, as well as caring for patients in an “all hazards”, Chemical Biological Radiological Nuclear and High Explosive (CBRNE) Environment.

NUTR 1403 Air Force Food Production *(4 Semester Hours)*

Students are introduced to food procurement, storage, and inventory procedures. Students will acquire foundational knowledge and skills in food preparation for the health-compromised population. This course builds on previously learned concepts of food sanitation and safety, hygiene, and kitchen operations. Students will apply all concepts by preparing meals and the initial stages of a patient tray line.

NUTR 2305 Air Force Nutrition Operations *(3 Semester Hours)*

This course continues to build on kitchen operation concepts and expands to the advanced application of patient meal service and dietary intake modifications. Students will apply all patient meal service concepts by preparing regular, modified, and therapeutic diets for a complete patient tray line. Students are introduced to the Diet Therapy career-field in both the deployment and in-garrison settings. Via the Expeditionary Medical Readiness Course (EMRC), students will accomplish their initial medical readiness training. Upon completion of this course, the Diet Technician will be qualified for the Air Force Medical Service.

NUTR 2396 Warrior Nutrition Basics *(3 Semester Hours)*

This course provides an introduction to nutrition for health and performance for the Warfighter. Students will learn about nutrient requirements for Warfighters, dietary supplements, combat rations, and the principles of nutrient timing. This course supplements initial entry training for personnel in the nutrition care specialist (Army MOS 68M) and diet therapy (Air Force AFSC 4D).

OCCUPATIONAL THERAPY ASSISTANT PROGRAM

The Occupational Therapy Assistant (OTA) program provides education in occupational therapy care. The student learns to assist Occupational Therapists in data gathering, treatment planning and implementation within the framework of occupational behavior/performance. OTAs assist in providing health maintenance services to decrease effects of physical/mental disabilities and promote physical fitness/wellness of patients. The OTA program is consolidated between the Army & Navy, and has two phases. Resident training is first conducted at the METC, with students transitioning to clinical training conducted at military and/or civilian medical treatment facilities. All coursework may be included in undergraduate degree plans of the CAHS.

Accreditation or Related Information:

The Occupational Therapy Assistant Program is granted probationary accreditation by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA).

The American Occupational Therapy Association, Inc.
4720 Montgomery Lane, Suite 200
Bethesda, MD 20814-3449 Telephone: 301-652-AOTA
WWW.ACOTEONLINE.ORG

Credentialing Information:

Graduates of this program are eligible to sit for the national credentialing examination and qualify for the designation, Certified OTA.

OCCUPATIONAL THERAPY ASSISTANT COURSE DESCRIPTIONS

OTA 1201 Fundamentals of Occupational Therapy (2 Semester Hours)

This course provides in-depth instruction into the broad overview of the profession of Occupational Therapy (OT). Instructional materials include the management and delivery of Occupational Therapy services in both civilian and military locations. Interrelated therapies, Speech Pathology and Physical Therapy, are presented to demonstrate the multi-provider aspects of patient care. Lessons on diversity and multicultural aspects of therapy are presented along with an in-depth discussion on the Americans with Disabilities Act.

OTA 2402 Human Anatomy, Physiology & Kinesiology (4 Semester Hours)

This course provides instruction on medical terminology as well as basic anatomy and physiology of the human body. Human development from birth to death is presented with special emphasis on pediatrics, young adults, and geriatrics. Kinesiology study begins with the trunk and lower extremities and develops fully in instruction on the upper extremities. Students are given the opportunity to participate in lecture, laboratory, and practical exercises.

OTA 2403 Client Evaluations & Assessment (4 Semester Hours)

Instructors provide a general introduction to evaluations and assessments. Students are given the opportunity to practice evaluations in laboratory/practical exercise settings in the areas of pediatric development, cognitive and mental wellness, kinetic, physical assessments, and activities of daily living assessments.

OTA 2604 Clinical Interventions (6 Semester Hours)

Students will receive a broad-spectrum exposure to OT Interventions. Practical applications are provided for Physical Agent Modalities, splinting, assistive technologies. They will receive hands-on experience with architectural barriers from the patient's point of view in a real-world setting. Students will learn to assist in pain and edema management while learning to care for upper extremity wounds. In-depth instruction and practical exercises are provided in the areas of work preparation, ADLs, therapeutic exercises, client instruction, psychosocial interventions, pediatric protocols, and art as a therapeutic medium.

OTA 2305 Client Conditions (3 Semester Hours)

In this unit, students are exposed to a broad introduction to client medical conditions. Instruction focuses on pediatric medical conditions, clients with physical dysfunctions or physiological conditions, the elderly, and clients with terminal illnesses. Practical application is provided for Occupational Therapy to clients with the following: common pediatric conditions, upper extremity neuromusculoskeletal conditions, degenerative neuromuscular disorders, central nervous systems conditions, common gerontology conditions to include arthritis, and conditions common with substance abuse. Students receive an introduction to mental health conditions in order to assist clients with abnormal psychology, PTSD, and traumatic stress. Students will learn assistive techniques in the care of patients in burn units and those with terminal illnesses.

OTA 2408 Clinical Analysis and Reasoning Skills (4 Semester Hours)

Instruction in this unit provides students with the opportunities to demonstrate skills in documentation, medical research, and professional speaking skills while presenting a case study, OT process review, and diagnosis review. Students will conduct an activity analysis and brief their findings. They will design and create a modality for therapeutic interventions.

OTA 2209 OTA Fieldwork (2 Semester Hours)

Level I Fieldwork provides students with experiences designed to apply didactic coursework through directed observation and participation under supervision in a real-world medical clinic. Students apply knowledge to practice and develop concepts related to the needs of the Client. This unit completes Level I Fieldwork requirements for the Accreditation Council for Occupational Therapy Education.

OTA 2100 Army Specific Course Situational Training Exercise (1 Semester Hour)

This Army specific field training provides Soldiers the opportunity to practice skills learned throughout the program in a cumulative field training exercise using simulated clients and patients with various disabilities, wounds, and conditions specific to combat operational stress control. The learning experience begins with a diagnosis and case study of an assigned client/patient. Soldiers will perform modalities with their client/patient and document the visit on appropriate forms, then educate and dismiss the client/patient.

OTA 3999 Level II Field Work (Part I) (10 Semester Hours)

Level II Fieldwork. Students are assigned to DoD Medical Treatment Facilities or civilian institutions in which they are given the opportunity to develop performance skills appropriate to the initial-entry OTA. Students receive the opportunity to work with clients of all ages, with a wide range of injuries and/or disabilities in a minimum of 2 practice settings. This unit completes Level II Fieldwork requirements for the Accreditation Council for Occupational Therapy Education and the American Occupational Therapy Association.

OTA 3999 Level II Field Work (Part II) (10 Semester Hours)

Level II Fieldwork. Students are assigned to DoD Medical Treatment Facilities or civilian institutions in which they are given the opportunity to develop performance skills appropriate to the initial-entry OTA. Students receive the opportunity to work with clients of all ages, with a wide range of injuries and/or disabilities in a minimum of 2 practice settings. This unit completes Level II Fieldwork requirements for the Accreditation Council for Occupational Therapy Education and the American Occupational Therapy Association.

OPHTHALMIC TECHNICIAN PROGRAM

The Ophthalmic Technician Program prepares Service Members to function as entry-level Ophthalmic Technicians in fixed and deployable medical facilities, performing tasks associated with ocular health and vision care. Upon completion of this program, the student is expected to provide competent Ophthalmic Technician Assistant services in the areas of patient evaluation, treatment, documentation, health promotion, and injury prevention under the supervision of a qualified licensed Doctor of Optometry or Ophthalmology within a variety of clinical and field environments. Technical proficiency in all skills required to fulfill the role of an entry-level ophthalmic technician is required to complete this course. This is a two phase program, with phase one occurring at the METC Branch Campus, Fort Sam Houston, Texas; phase two occurs at a Defense Health Agency (DHA) coordinated clinical facility, in accordance with respective Service requirements.

Accreditation or Related Information:

The Ophthalmic Technician Program Air Force Track is accredited by the Accreditation Council on Optometric Education, 243 N. Lindbergh Blvd., Flr. 1, St. Louis, MO 63141-7881; Telephone: 314-991-4100/800-365-2219; (WWW.AOA.ORG).

The Ophthalmic Technician Program Army and Air Force Tracks are accredited by the Commission on Accreditation for Ophthalmic Medical Programs (CoA-OMP), 2025 Woodlane Dr., St. Paul, MN 55125; Telephone: 651-731-7245/FAX: 651-731- 0410; (WWW.COA-OMP.ORG).

Credentialing Information: N/A

OPHTHALMIC TECHNICIAN COURSE DESCRIPTIONS

OPHT 1102 Ocular Pathology, Trauma, and Pharmacology (1 Semester Hour)

The course provides an overview of common ocular pathology and injuries as well as triage of ocular conditions and emergencies. The principles of ocular pharmacology are introduced. Students will demonstrate basic knowledge, triage, and treatment of common ocular diseases and trauma. Assignments and readings in selected text will be given. Two major written exams will be given.

OPHT 1201 Intro to Ophthalmic Care, Ocular Anatomy and Physiology (2 Semester Hours)

This course provides an overview of the military ophthalmic technician's role in the health care delivery system. Students become familiar with basic duties of an ophthalmic technician and gain and apply basic knowledge of ophthalmic medical terminology in verbal and written settings. Students exhibit professional and ethical conduct in patient care settings while adhering to the standards of patient privacy and confidentiality, and proper handling of medical records. Students learn of gross ocular structure, anatomical terms and major external

structures. Assignments and readings in selected texts may be given. Students will participate in several exercises and two laboratories. Two major written exams will be given.

OPHT 1203 Optics *(2 Semester Hours)*

Optics introduces the physical, geometric, and physiological properties of light. Fundamentals of math and refractive properties are discussed. Dispensing, patient education, and care of ophthalmic devices are covered. One major written exam will be given.

OPHT 2101 Introduction to Ophthalmic Surgery *(1 Semester Hours)*

The course introduces the student to pre-operative, operative, and post-operative management of ophthalmic conditions. Emphasis is placed on safety and aseptic technique. Students will demonstrate proper aseptic techniques for ophthalmic surgery and identify common ophthalmic procedures and instruments. One major written exam will be given.

OPHT 2104 Operational Ophthalmic Care *(1 Semester Hour)*

This course provides the student an overview of an ophthalmic technician's role in a deployed, disaster, or austere setting. Students will be able to perform as an entry-level Ophthalmic Technician.

OPHT 2502 Fundamentals of Patient Screening and Ancillary Testing *(5 Semester Hours)*

This course introduces the student to procedures performed by an ophthalmic technician. Numerous practical exercises will be conducted. Students will conduct eye screening and treatments in a simulated patient care setting.

OPHT 2703 Army Ophthalmic Clinical Phase 2 *(7 Semester Hours)*

This clinical practicum prepares the student to provide hands-on direct patient care in a military health care facility with direct clinical oversight. Highlights include Optometry and Ophthalmology clinical rotations, administrative skills, neutralization of spectacles, medication handling and administration, visual field testing, ancillary specialized testing, emergency care, surgical procedures, and proper use of ophthalmic equipment.

OPHT 2713 Introduction to Air Force Clinical Practicum *(7 Semester Hours)*

This course prepares the student to provide hands-on direct patient care in a military health care facility with direct clinical oversight. Highlights include instruction in following areas: administrative skills, neutralization of spectacles, medication handling and administration, visual field testing, ancillary specialized testing, emergency care, pre-surgical screenings and evaluations, and proper use of ophthalmic equipment. Students will receive Basic Life support training.

PUBLIC HEALTH PROGRAMS

Public Health Programs include two areas of instruction, the Preventive Medicine Technician program at the METC and the Public Health (HEALTH PHYSICS) courses at the MEDCoE.

PREVENTIVE MEDICINE TECHNICIAN

The Public Health program prepares graduates to function independently in multiple disciplines including Risk Communications, Food Service Sanitation, Potable and Non-potable Water, Waste Water, Deployment Environmental Health Surveillance, Operational Preventive Medicine, and Entomology. Quality control and safety techniques are emphasized throughout the program. The program provides formal didactic and performance training at the METC Branch Campus that is designed to develop students into entry-level positions in fixed or deployable assets, in support of full spectrum military operations, as required.

Army specific courses at METC focus on Chemical Biological Radiological Nuclear Events (CBRNE) and Industrial Hygiene. Navy specific courses focus on Microbiology, Epidemiology and Communicable Disease Control, Biostatistics, Parasitology, Immunization Programs and Vaccines, Occupational Safety and Health, Environmental Sanitation, and Shipboard Preventive Medicine.

Accreditation or Related Information: N/A

Credentialing Information:

Graduates of the Preventive Medicine program are certified with the following credentials: ServSafe through the National Restaurant Association (WWW.SERVSAFE.COM), the DoD Pesticide Application through the Armed Forces Pest Management Board (WWW.AFPMB.ORG), Basic Industrial Hygiene through AMEDDC&S, and Shipboard Sanitation through Navy Medicine (Navy specific).

PREVENTIVE MEDICINE TECHNICIAN COURSE DESCRIPTIONS

PVNT 1201 Introduction to Public Health - Army (2 Semester Hours)

This course introduces students to the Military Public Health System through a combination of lectures and activities. The course covers the purpose and history of the field of Public Health, providing students with an appreciation for the discipline. The course also presents a background in disease transmission, public health microbiology, and disease investigation, which students will build on in other courses as they progress through the program.

PVNT 1302 Aspects of Food Safety with Risk Communication (3 Semester Hours)

This course provides students with an understanding of the proper management of food service facilities to reduce the risk of food borne illness as well as to provide students with the fundamentals of instruction and instructional presentations by covering the basic concepts of learning theory and instructional techniques. Students who successfully complete this course

will obtain the National Restaurant Association's ServSafe Food Protection Manager Certification, which is accredited by the American National Standards Institute (ANSI)-Conference for Food Protection (CFP).

PVNT 2201 Microbiology - Navy *(2 Semester Hours)*

This course covers principles of microbiology and the impact organisms have on humans and the environment. The student learns basic concepts in microbiology, including scientific terminology relevant to the field as well as how to use and maintain a Compound Light Microscope to examine microbes. Additional skills are attained in the characteristics and lifecycles of viruses and fungi; virus taxonomy; virus culture; identification of fungi, and the types of fungal disease affecting humans. Bacteria, microbiology diagnostics, and pathogenic organisms are also studied. This course may be used to fulfill the Natural/Physical Science requirement for General Education.

PVNT 2502 Introduction to Epidemiology and Biostatistics – Navy *(5 Semester Hours)*

This course provides an introduction to the basic theory and methods of probability and statistics as they apply to Public Health. Students explore principles of epidemiology and control of communicable diseases. Topics include disease transmission, and prevention of viral, bacterial, and parasitic disease. Special emphasis is given to Rabies and Tuberculosis prevention and control. This course may be used to fulfill the Mathematics requirement for General Education.

PVNT 3202 Operational Preventive Medicine *(2 Semester Hours)*

This course prepares students to provide preventive medicine support across the full spectrum of military operations, including disaster relief / humanitarian assistance operations, defense support to civil authorities (DSCA), and combat environments. The course confronts students with the myriad medical threats to military forces in an operational environment and examines individual and unit level preventive medicine measures which can be employed to mitigate health risks in an operational environment.

PVNT 3204 Parasitology - Navy *(2 Semester Hours)*

This course requires students to master principles of parasitology, including the classification of parasites and the epidemiology of parasitic diseases. Students will learn the basic biology, lifecycles, and taxonomy of medically important parasites. Emphasis is given to Class Lobosea, Zoomastigophora, Kinetofragminophorea, Sporozoa, Trematoda, and Cestoidea. This course may be used to fulfill the Natural/Physical Science requirement for General Education.

PVNT 3206 Shipboard Environmental Health - Navy (2 Semester Hours)

This course explores environmental sanitation for a variety of environments. Focus is placed on principles of infection control and on potable and waste water at sea. Students learn sanitation requirements for living and common gathering spaces ashore and afloat. Students learn to advise on infection control prevention, policies, and procedures. Students have opportunity to become certified in the Navy's Ship Sanitation Certificate Program (SSCP).

PVNT 3301 Occupational and Environmental Health Surveillance – Army (3 Semester Hours)

In this course, students learn to perform a variety of environmental sampling procedures, conduct environmental threat assessments, and identify risk management techniques. Students learn about different types of air pollution and regulatory guidelines. Students will conduct air and water sampling using a variety of sampling equipment according to EPA guidelines. Soil sampling and industrial chemicals including exposure protocols are also studied.

PVNT 3302 Occupational & Environmental Health Surveillance – Navy (3 Semester Hours)

This course is designed to teach students a variety of environmental sampling procedures, focusing on the three methods a human receives an environmental threat; ingestion, inhalation and dermatologic contact. These threats are assessed using EPA and OSHA guidelines and sampling methodologies. Sampled media include water, air, soil, industrial contaminants and radiological assessments. Students are afforded an opportunity to complete shipboard pest management certification as well as perform various preventive medicine functions in a simulated shipboard environment.

PVNT 3303 Public Health Program Administration (3 Semester Hours)

This course focuses on the study of Preventive Medicine Systems & Immunizations. Students learn the function of Navy Medicine in disease prevention and health promotion. Medical readiness, correspondence and directives, and the MILVAX immunization program are also studied and practiced.

PVNT 3305 Occupational Health and Safety - Navy (3 Semester Hours)

This course introduces the Navy's Occupational Safety and Health Program. Students learn the purpose and key provisions of the Occupational Safety and Health Act; the role of the National Institute for Occupational Safety; and the policies governing the Navy Occupational Safety and Health (NAVOSH) Program. Students learn the scope of the NAVOSH Program.

PVNT 3403 Occupational & Environmental Health & Safety – Army (4 Semester Hours)

This course provides students an overview of the United States Army Medical Department's (AMEDD) Health Physics program including radiation protection. The course also focuses on the basics of industrial hygiene. Upon successful completion of this course, each student will have an understanding of the potential health effects of Chemical Biological, Radiological, and Nuclear (CBRN) events and basic Industrial Hygiene operations.

PVNT 4401 Water Quality in Environmental Health (4 Semester Hours)

This course is designed to develop student understanding of water sanitation in both garrison and operational environments. This course is comprised of four segments; Potable Water Supplies; Chemical, Biological, and Radiological Test of Water Supplies; Field Water Supplies; and Auxiliary Water Supplies. Upon completion of this course, students will have a basic mastery of water systems and water safety that they can build upon as they move through their careers as Preventive Medicine Specialists/Technicians.

PVNT 4502 Integrated Pest Management (5 Semester Hours)

This course prepares students to execute the basics of medical entomology, vector and pest control, and prevention of arthropod-borne disease. Students will identify and control vectors of medical importance, prepare specimens for museum specimens, conduct retrograde inspections to AFIP requirements, and implement the principles of integrated pest management (IPM). Upon successful completion of this course, students receive DoD Pesticide Applicator Certification in the following Environmental Protection Agency (EPA) categories: Right-of- Way Pest Control (Category 6); Industrial, Institutional, Structural, and Health Related Pest Control (7); and Public Health Pest Control (8).

ADDITIONAL MEDCoE Offered PUBLIC HEALTH (HEALTH PHYSICS) Courses

The Army additionally offers an Additional Skill Identifier (N4), to students who follow on at MEDCoE from their initial Public Health training. The Health Physics courses are offered up to twice a year. Student learns to conduct radiation surveys, ensure worker's exposure is within the principal of "As Low As Reasonably Achievable" (ALARA), maintain worker records on radiation exposures, to safely inspect incoming shipments of radioisotopes, and ensure compliance with Nuclear Regulatory Commission license and DA radioisotope authorizations.

HEALTH PHYSICS COURSE DESCRIPTIONS

PVNT 2105 Survey Techniques *(1 Semester Hour)*

This course enables students to perform and properly document surveys of x-ray producing equipment. The course builds on the foundational skills necessary to perform the testing requirements of X-ray producing equipment to minimize exposure to patients and workers, maintaining compliance with "As Low As Reasonably Achievable" (ALARA) principles, and the Nuclear Regulatory Commission (NRC).

PVNT 2205 Mathematical Calculations in Health Physics *(2 Semester Hours)*

In this course students are introduced to the profession of Health Physics and refresh math skills through a combination of lectures and homework. The course builds on the foundational skills of algebra, statistics, translating units of measure, force and atomic decay, logarithms, and scientific notation necessary to perform the mathematical calculations throughout entire field of study. The course presents background in Health Physics and the reason for the control of radiation exposure.

This course satisfies quantitative health science / mathematics general education requirements of the CAHS.

PVNT 2206 Radiation Physics *(2 Semester Hours)*

In this course, students focus on the principle of radioactive decay through a combination of lectures and activities. The course builds upon the foundational skills of classical physics and radiation terminology. The course presents background physics and the interactions of atoms and radiation.

PVNT 2405 Radiation Protection & Dosimetry *(4 Semester Hours)*

In this course, students learn and implement laboratory procedures for using radiation sampling and detection equipment. The course develops an understanding of the principles of radiation protection and applies the principles of time, distance and shielding to solve real-life radiation problems. The student will get familiar with radiation detection equipment, capabilities, limitations, calibration and maintenance.

PVNT 4405 Operational Health Physics (4 Semester Hours)

In this course, students develop an understanding of planning, guidelines and directives relating to radiation protection in operational and fixed facility operations laid out by the NRC and OSHA. The course builds foundational skills of identifying factors contributing to military occupational illnesses in deployment or garrison environments; conditions increasing long-term risks; effects of a nuclear detonation; Chemical Biological Radiological and Nuclear (CBRN); depleted uranium (DU) characteristics and associated hazards mitigation strategies. The course familiarizes students with the Army Radiation Detection, Identification and Computation (RADIAC) equipment and to plan and perform an area radiation survey.

PVNT 4505 Health Physics (5 Semester Hours)

Students learn the profession and application of Health Physics in the military, industrial, and medical fields through a combination of lectures and activities. The course is designed to capitalize on the health physics skills gained in PVNT 2205, PVNT 2206, and PVNT 2405 to perform radiation safety surveys and assessments necessary throughout the entire field of study. The course focuses on the application of radiation safety principles within the health physics career field.

RADIOLOGIC TECHNOLOGIST PROGRAM

The Radiologic Technologist Program (also known as Radiology Specialist, Advance Radiographer and Diagnostic Imaging Apprentice) will prepare graduates to function as entry-level Radiographers in fixed and deployable medical facilities, performing radiographic procedures and related patient care duties under the supervision of a healthcare provider. Graduates will demonstrate the ability to comprehend, apply, and evaluate information relevant to the role of the entry-level radiographer; technical proficiency in all skills required to fulfill the role of an entry-level radiographer; and personal behaviors consistent with professional expectations for the entry-level radiographer.

Accreditation or Related Information:

The Radiologic Technologist program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT) (WWW.JRCERT.ORG).

Joint Review Committee on Education in Radiologic Technology
20 N. Wacker Drive, Suite 2850
Chicago, IL 60606-3182
Telephone: 312-704-5300
FAX: 312-704-5304
WWW.IRCERT.ORG

Credentialing Information:

Graduates are eligible to take national credentialing examinations through the American Registry of Radiologic Technologists* (WWW.ARRT.ORG) upon meeting degree requirements.

American Registry of Radiologic Technologists
1255 Northland Drive
St. Paul MN 55120-1155

*Effective 01 JAN 2015, the ARRT will only accept applicants who have earned an associate's degree (or more advanced degree) from an accrediting agency recognized by the ARRT. The degree will not need to be in radiologic science, and it can be earned before entering the educational program or after graduation from the program.

RADIOLOGIC TECHNOLOGIST COURSE DESCRIPTIONS

RADT 1101 Introduction to Radiology (1 semester hour)

This course provides an introduction to the foundations of radiography and the practitioner's role in the health care delivery system. Principles, practices, and policies of healthcare organizations to include concepts of patient care: consideration of the physical and psychological needs of the patient, safety, drug administrations, vital signs and infection control procedures.

RADT 1109 The Radiology Technologist in the US Air Force *(1 semester hour)*

This course provides a foundation of Air Force special topics. The course highlights the Air Force medical service, career progression, safety, security and supply. Basic Life Support (BLS) training and certification is provided.

RADT 1302 Principles of Radiographic Imaging w/ Lab *(3 semester hours)*

This course covers the fundamentals of fixed and mobile radiographic equipment, image-intensified fluoroscopy, image components and operation, beam limiting devices, automatic exposure control (AEC) systems and the effects of exposure variables on image quality. Automatic film processing, radiographic cassettes, radiographic film, intensifying screens and film processing steps are examined. Students operate fixed and mobile digital imaging equipment in both live and simulated laboratory settings, selecting correct technical factors for optimal image quality and minimal patient exposure. This course provides the fundamentals of image analysis. Students learn methods to solve problems or compensate for density, contrast, recorded detail, distortion, grids, and image artifacts. Students discuss the importance of quality control with respect to health care costs, radiation exposure to patients and diagnostic quality of films.

RADT 1509 Basics of Patient Care *(5 semester hours)*

This course provides the basic concepts of patient care in a radiology setting to include routine and emergency procedures and the role of the radiographer in patient evaluation and education. Medical terminology, airway management, cardio vascular disorders/emergencies, traumatic chest injuries of the soft tissue, head, face, neck, and skull, spine, and upper and lower extremity are discussed. Principles of bandaging and splinting, burns, medical treatment for geriatric and pediatric emergency patients are also discussed. Infection control, injections, initiating and managing intravenous solutions, and basic pharmacology are also included. Basic Life Support (BLS) training and certification is provided.

RADT 2207 Radiographic Procedures of the Thorax and Abdomen w/Lab *(2 semester hours)*

This course provides the knowledge required to perform standard imaging procedures for the thorax and abdomen. The problem solving process and image analysis are applied in the live and/or simulated laboratory using radiographic machines, IR processing, and digital imaging methods.

RADT 2301 Anatomy and Physiology for the Radiology Technologist *(3 semester hours)*

In this course students learn in depth details of human anatomy, physiology, common traumatic injuries and pathology necessary to perform radiographic procedures. The course studies the structure and function of the human body including the musculoskeletal, circulatory, lymphatic, reproductive, endocrine, respiratory, and gastrointestinal systems. Disease processes identifiable on a radiograph are discussed. This course also provides the

knowledge required to read and write medical terminology and interpret oral and written forms of medical communication. Students translate root words, interpret acronyms, abbreviations, and symbols, define general medical terms and identify the planes of the body and concepts related to radiographic positioning.

RADT 2302 Calculations in Radiation, Physics, Biology & Protection (3 semester hours)

This course covers mathematics applicable to the physics of radiologic technology. Use of logarithms, scientific notation; geometry; basic trigonometric functions; linear equations; Cartesian coordinate planes; slope of straight lines; and linear equations are covered. Mathematical calculations determining compensation factors for density and contrast, radiation thresholds, beam characteristics and optimal techniques for radiographs are used. Basic Physics terms and laws, standard units of measurement, matter and energy, the atom and the structure of matter are covered along with the effects of radiation exposure on biological systems are covered. Methods for measuring and monitoring radiation exposures; protecting personnel patients from excessive exposure; physical and biological factors influencing radiation responses; principles of radiation protection; room design, protective devices, and techniques employed with radiographic equipment to reduce radiation exposures to the public, the patient and the radiographer are discussed.

RADT 2308 - Ethical Considerations for the Radiologic Technologist (3 semester hours)

This course introduces students to the ethical, professional, and legal framework of current radiology and healthcare practices, including the role of the radiographer within the healthcare delivery system. Students discuss healthcare ethics, human diversity, patient consent & confidentiality, basic legal doctrine, radiography practice standards, and accreditation & credentialing for radiographers. Students participate in exercises to identify and resolve possible ethical and / or legal situations. The course provides the practical application of image acquisition, image processing, and manipulation in digital imaging and image storage, and retrieval in the Picture Archiving and Communication Systems (PACS). The course has comprehensive laboratory testing; students apply principles of medical ethics, patient care, radiation safety, while performing radiographic routine.

RADT 2407 Advanced Medical Imaging w/Lab (4 semester hours)

This course provides in-depth knowledge of the procedures required to perform standard imaging procedures for the gastrointestinal/genitourinary systems, nervous system and the circulatory systems. The problem solving process and image analysis are incorporated throughout the course. Pharmaceuticals used in imaging studies, contrast agents, and intravenous drug administration are discussed. Angiography and interventional procedures such as venography and arteriography will be discussed. This course presents the basic equipment and principles of the imaging modalities within the profession of radiographic sciences, inclusive of mammography, nuclear medicine, radiation therapy, magnetic resonance imaging, sonography and interventional radiology (IR). Radiographic anatomy and positions are

discussed and applied in the live and/or simulated laboratory using radiographic machines, IR processing, and digital imaging methods. The course introduces terms related to Computed Tomography (CT), the historical development of CT, basic cross-sectional anatomy, components, CT data processing steps, and radiation protection practices and devices used to reduce patient dose.

RADT 2505 Radiographic Procedures of the Extremities w/Lab *(5 semester hours)*

This course provides in-depth knowledge of the procedures required to perform standard radiographic positioning for upper and lower extremities. The problem solving process and image analysis are incorporated throughout the course. Radiographic anatomy, osteology, and positioning are discussed and applied in live and/or simulated laboratories using radiographic machines, processors, and digital imaging methods.

RADT 2506 Radiographic Procedures of the Skull and Spine w/Lab *(5 semester hours)*

This course provides the knowledge required to perform standard imaging procedures for the skull and spine. The problem solving process and image analysis are applied in the live and/or simulated laboratory using radiographic machines, IR processing, and digital imaging methods.

RADT 2901 Clinical Practicum I *(9 semester hours)*

This course provides clinical training and experience to perform radiographic procedures/exams and related patient care duties. Emphasis is to acquire competency in performing upper/lower extremity procedures on sick and injured patients under the supervision of a qualified radiographer and radiologist in a Medical Treatment Facility.

RADT 2902 Clinical Practicum II *(9 semester hours)*

This course continues to provide clinical training and experience in performing radiographic procedures/exams and related patient care duties. Demonstration of basic competency in performing upper/lower extremity procedures on sick and injured patients under the supervision of a qualified radiographer and radiologist in a Medical Treatment Facility is required to progress to the culminating course.

RADT 2903 Clinical Practicum III *(9 semester hours)*

This course culminates clinical training and experience in performing radiographic procedures/exams and related patient care duties. Demonstration of competency in performing upper/lower extremity procedures on sick and injured patients under the supervision of a qualified radiographer and radiologist in a Medical Treatment Facility is required to graduate the course.

RESPIRATORY THERAPY PROGRAM

Respiratory Therapists are allied health professionals with the knowledge and skills to provide a wide range of high-technology and high-touch therapeutic interventions to patients, in acute and chronic care settings. The Respiratory Therapy program is an advanced-level, associate degree granting program preparing students to function as entry-level respiratory therapists in fixed and deployable medical facilities. Resident training is first conducted at the METC with students transitioning to clinical training, conducted at military and/or civilian medical treatment facilities.

Accreditation or Related Information:

The Medical Education and Training Campus (Respiratory Therapy Program), located at the METC Branch Campus at JBSA Fort Sam Houston, Texas, is accredited by the Commission on Accreditation for Respiratory Care (WWW.COARC.ORG).

Commission on Accreditation for Respiratory Care
1248 Harwood Road
Bedford, TX 76021-4244
Telephone: 817-283-2835

Credentialing Information:

Students will take the national certification exam for credentialing as Certified Respiratory Therapists by the National Board for Respiratory Care (WWW.NBRC.ORG) upon completion of the program.

RESPIRATORY THERAPY COURSE DESCRIPTIONS

RSPT 1101 Introduction to Respiratory Care (*1 Semester Hour*)

Provides history and evolution of the profession of respiratory care, the legal and ethical implications of the profession, as well as the application of physical laws and principles to respiratory therapy modalities.

RSPT 1102 Respiratory Care Therapist Practicum I (*1 Semester Hour*)

Practical workplace training occurring inside a Military Treatment Facility. This is an introductory course to the hospital setting.

RSPT 1203 Introduction to Anatomy and Physiology (*2 Semester Hours*)

This course introduces the student to the structure and function of the human body.

RSPT 1310 Respiratory Care Procedures I (*3 Semester Hours*)

Develops essential knowledge and equipment and techniques used in the treatment of cardiopulmonary disease.

RSPT 1340 Advanced Cardiopulmonary Anatomy & Physiology (3 Semester Hours)

Provides an advanced presentation of anatomy and physiology of the cardiovascular and pulmonary system.

RSPT 1425 Respiratory Care Sciences (4 Semester Hours)

This course introduces the student to microbiology, health communication, human development, terminology, patient assessment, and life support as related to respiratory care.

RSPT 2101 Advanced Mechanical Ventilation w/ Lab (1 Semester Hour)

This course provides more complex concepts of mechanical ventilation and ICU monitoring, and builds upon the knowledge and skills acquired in RSPT 2414. This course combines lecture and lab with emphasis given to hands-on practice and performance evaluations with simulator manikins.

RSPT 2143 Research in Respiratory Care (1 Semester Hour)

This course is an introduction to research methods and is designed to acquaint the student with the necessary skills to conduct research in respiratory care. Students will perform an assessment of research articles as part of the course. Students will also be introduced to alternative healthcare settings, cardiopulmonary rehabilitation and the importance of patient education and the promotion of wellness.

RSPT 2201 Airway Assessment and Management w/ Lab (2 Semester Hours)

This course provides the information and skills necessary to assess and manage a respiratory patient. Morbidity may range from minor cardiopulmonary disease to critically ill. Standard of care diagnostic assessment procedures and techniques as well as maintenance of airways are taught. Emphasis is placed on hands-on practice and performance evaluations with the appropriate equipment on simulator manikins.

RSPT 2302 Diagnostic Monitoring w/ Lab (3 Semester Hours)

Study of pulmonary function techniques and interpretation, arterial blood gas analysis and various techniques of monitoring critically ill patients, including EKG's pulmonary function studies and hemodynamic monitoring. Student will perform full lung studies in a plethysmograph and interpret the results.

RSPT 2317 Respiratory Care Pharmacology w/ Lab (3 Semester Hours)

A study of drugs affecting cardiopulmonary systems. Emphasis on classification, route of administration, dosages/calculations, and physiological interactions.

RSPT 2353 Neonatal/Pediatric Cardiopulmonary Care (3 Semester Hours)

Describes fetal development and transition to extrauterine life; maternal and fetal history; respiratory therapy as it applies to neonatal/pediatric patients; etiology, pathophysiology, clinical manifestations and management of neonatal/pediatric disorders; initiating and

maintaining mechanical ventilation; ventilator management strategies; weaning criteria and methods; and indications, complications, and physiological effects of ventilator support.

RSPT 2403 Respiratory Care Therapist Practicum II *(4 Semester Hours)*

Practical workplace training supported by an individualized learning plan developed by the supporting Military Treatment Facility. The course enables students to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This course introduces respiratory therapy students into the hospital departments and situations in which they may be expected to perform the procedures applicable to this point in their education. The course includes close supervision of the performance of these procedures.

RSPT 2404 Respiratory Care Therapist Practicum III *(4 Semester Hours)*

Practical workplace training supported by an individualized learning plan developed by the supporting Military Treatment Facility. This course provides students with the essential clinical skills necessary to function as competent respiratory therapists in critical care areas and focuses on airway management, mechanical ventilation, and monitoring.

RSPT 2414 Mechanical Ventilation w/ Lab *(4 Semester Hours)*

The study of mechanical ventilation with emphasis on ventilator classification, methods, principles, and operational characteristics.

RSPT 3102 Pulmonary Pathologies *(1 Semester Hour)*

Pulmonary pathology provides an in-depth study of common diseases of the cardiopulmonary system, to include their etiology, pathophysiology, clinical picture and treatment.

RSPT 3405 Respiratory Care Therapist Practicum IV *(4 Semester Hours)*

Practical workplace training supported by an individualized learning plan developed by the supporting Military Treatment Facility. This course provides students with the skills necessary to competently perform all forms of pulmonary function tests, obtain and analyze blood gases, and apply quality control measures in a pulmonary function laboratory. Students are assigned to the Pulmonary Function Lab where they will apply knowledge gained to perform basic spirometry, pre-post bronchodilator spirometry, diffusion studies, total lung volume studies, bronchial provocation studies, blood gas puncture and analysis, quality control measures, and assist in bronchoscopic procedures.

RSPT 3406 Respiratory Care Therapist Practicum V *(4 Semester Hours)*

Practical workplace training supported by an individualized learning plan developed by the supporting Military Treatment Facility. This course provides students with the essential clinic skills necessary to function as competent respiratory therapists in neonatal and pediatric critical care settings under the supervision of a clinical instructor. The student applies knowledge gained in RSPT 2353 to perform patient assessment, oxygen therapy, humidity/aerosol therapy,

aerosolized medication delivery methods, airway management and suctioning, oximetry, apnea monitoring, conventional mechanical ventilation, CPAP, high frequency ventilation, and weaning procedures.

RSPT 3407 Respiratory Care Therapist Practicum VI *(4 Semester Hours)*

Culminating practical workplace training supported by an individualized learning plan developed by the supporting Military Treatment Facility. This course provides students with the skills necessary to administer respiratory care to patients in alternative healthcare settings. It also introduces the student to sleep studies, pulmonary rehabilitation, advanced diagnostics, and smoking cessation education. Students will participate in simulated National Board for Respiratory Care credentialing examinations in preparation for the credentialing examinations.

UROLOGY TECHNICIAN PROGRAM

This program prepares graduates to function as entry-level Urological Technicians, able to facilitate the safe and effective execution of urological procedures at fixed and deployed settings. The instructional design of this programs' courses is group-lock step. The Urological Technician program is a consolidated program with two military services (Navy and Air Force) with a two phase, field of study schedule. Resident training occurs first at the METC and followed by student rotations at clinical training sites at military and/or civilian medical treatment facilities.

The student leaves prepared to function as clinical and surgical assistants to a urologist, or a physician health care provider serving as a urologist in a clinical setting. Students are trained to assist with the management of urology clinics, assist the physician in treatment of patients with urologic condition or injuries and to provide pre-op and post-operative care specific to the specialty and assist in minor surgery. Outcomes-based practice, performance improvement and safety techniques are emphasized throughout the program. Methods of instruction include, but are not limited to: lecture, demonstration, online materials, simulations, laboratory practice, and practical exercises. Quality control and safety techniques are emphasized throughout the program. Clinical training provides students with clinical knowledge and hands-on experiential training which consists of clinical practicum in a MTF.

The specific nature of this program is to train Urology Technician students in urology procedures including but not limited to: rotations within the urology department including the observation, assisting, and performing the following: minor procedures, minor diagnostic procedures, laboratory testing, and radiographic studies. Trainees will also rotate to the main operating room, gaining the necessary training by observing and assisting with urology surgical procedures. Navy and Air Force students are recognized by the Certification Board for Urologic Nurses and Associates (CBUNA).

Accreditation or Related Information:

The Urology Technician Program Navy and Air Force Tracks are recognized by the Certification Board for Urologic Nurses and Associates (CBUNA) (WWW.CBUNA.ORG) at:

CBUNA National Office
East Holly Avenue Box 56 Pitman, NJ 08071-0056
Telephone: 856-256-2351
Website: WWW.CBUNA.ORG

Credentialing Information: N/A

UROLOGY TECHNICIAN COURSE DESCRIPTIONS

URT 3301 Introduction to Urology A&P, Genitourinary Disorders, and Cancers *(3 Semester Hours)*

This course introduces the duties and responsibilities of a Urology Technician and provides discussion of genitourinary embryology and anatomy & physiology. There is an exploration of the developmental stages of the male and female genitourinary system and common congenital anomalies. Instruction centers on anatomy and physiology of the urinary system, the male reproductive system, and an overview of common genitourinary diseases and disorders. The student will understand classifying urinary tract obstructions, infections, disorders of the external male genitalia, and treatment methods available. This course provides an in-depth instruction in cancers of the genitourinary system, including tumor location, stages of tumor development, diagnostic tests and medical/surgical methods of treatment.

URT 3202 Urologic Radiology *(2 Semester Hours)*

This course provides an introduction to basic x-ray production, function, use and operation of radiographic equipment. The student will be able to explain the basic process and various elements necessary for digital radiography, as it pertains to image acquisition and display, as well as stating the factors affecting the quality of radiographic images and describing corrective actions taken to improve substandard radiographic images. The course also explains the means and methods used to provide radiation protections to both the patient and technician in the radiographic suite. The student will be able to identify radiographic and ultrasonic procedures specific to urology, describe the indications, contradictions for each procedure and discuss the use of contrast media, signs and symptoms of hypersensitivity reactions, emergency interventions for contrast media in urologic radiology.

URT 3203 Clinical Urology *(2 Semester Hours)*

This course introduces students to the theory and practice in performing selected urine tests, completing seminal fluid analysis, and performing adjunct laboratory tests in the clinical setting. Provides an in-depth coverage of voiding disorders, and their causes and treatment modalities. A discussion of genitourinary trauma and appropriate medical/surgical interventions. Implications for selected minor surgical procedures, including surgical/urologic equipment and instrumentation.

URT 3904 Clinical Rotation I *(9 Semester Hours)*

In this course, the student, while under supervision, is introduced to the practice of performing duties as a urology technician in a clinical setting. Students will apply critical thinking skills and demonstrate the knowledge, skills and abilities to perform procedures in urologic radiography, laboratory, and minor procedures.

URT 4405 Clinical Rotation II (4 Semester Hours)

In this course, the student, utilizing the critical thinking skills needed while performing duties as a urology technician in a surgical setting, will assist a physician conducting urologic surgery. The student will perform circulating duties during surgical cases, focusing on surgeries of the male and female urinary tract system and the male reproductive organs.

STANDALONE COURSE OFFERINGS:

CRITICAL CARE AIR TRANSPORT COURSE

Critical Care Air Transport (CCAT) is an upper-division health science course for qualified Respiratory Therapists (RT). The RT becomes part of a 3-person medical team, able to operate a portable ICU on board any transport aircraft, in flight. This course is conducted at Wright-Patterson AFB, OH.

CCAT 3301 Critical Care Air Transport Team *(3 Semester Hours)*

The CCAT course is an upper-division health science course for qualified Respiratory Therapists. The CCAT course trains the Respiratory Therapist to function as a member of a three-person, highly specialized medical team that operates within an Intensive Care Unit (ICU) environment on board aircraft. The course focuses on aerospace physiology, clinical training, operational training, and critical thinking and decision making.

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