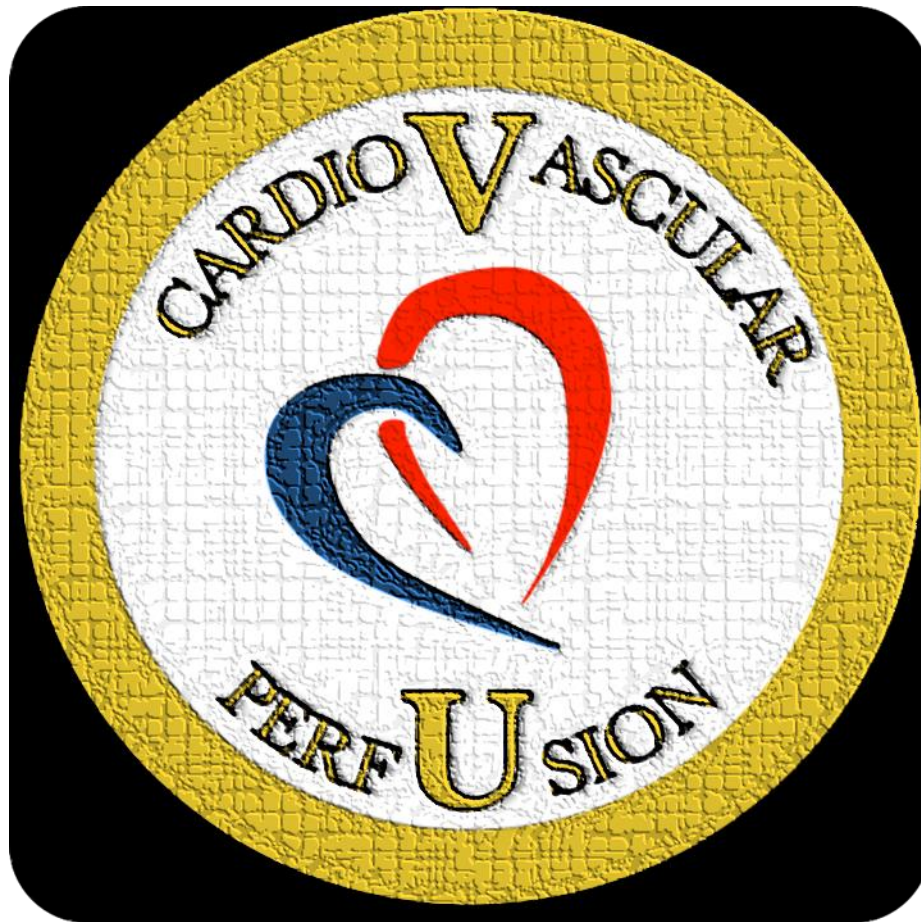


VANDERBILT  UNIVERSITY

MEDICAL CENTER



**Perfusion Program
Student Handbook
Academic Year 2017-18**

The purpose of the handbook is to serve as a reference and resource for the students in the Perfusion Program. It defines the mission and goals of both Vanderbilt University Medical Center (VUMC) and the VUMC Perfusion Program. Students are required to be familiar with and follow the guidelines and policies described in this handbook in order to successfully complete the Perfusion program.

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WELCOME

We are happy you chose our Perfusion Program and it is our goal to deliver a perfusion education experience that exceeds your expectations. This program has been designed to serve as a learning experience for the development of academic achievement, clinical competency, and professional skills. Your responsibility is to help maintain the objectives of Vanderbilt University Medical Center, the Perfusion Program, and the affiliated institutions.

The purpose of this Student Handbook is to acquaint the students of the Vanderbilt University Medical Center, Programs in Allied Health, Perfusion Program (VUMC-PP) with the objectives, policies and regulations of the Program, the Medical Center and the Allied Health Programs. The Perfusion Program Director will direct you during your educational and clinical experience. Any questions regarding program policies and procedures should be directed to the program director. We look forward to having you in the program. Your cooperation in our mutual endeavors is expected and appreciated.

VANDERBILT UNIVERSITY MEDICAL CENTER

Vanderbilt University Medical Center is a general medical and surgical facility known as a teaching hospital. The medical clinic where the allied health programs originate (1301 Medical Center Drive, Nashville, Tennessee 37232) is over 500,000 square feet. The Medical Center encompasses over 20 acres of land that house a variety of facilities from which students in the allied health programs gain knowledge and experience. Each facility has up-to-date medical equipment and supplies to serve the research / patient needs, which in turn provides students the opportunity to utilize, as their program permits, under the supervision of a qualified supervisor.

VUMC Mission

“To bring the full measure of human knowledge, talent, and compassion to bear on the healing of sickness and injury and the advancement of health and wellness through pre-eminent programs in patient care, education, and research.”

VUMC Credo:

- We provide excellence in healthcare, research, and education.
- We treat others as we wish to be treated.
- We continuously evaluate and improve our performance.

VUMC Vision:

We value:

- Service to our patients and communities
- Education and research
- Respect for our patients and each other
- Quality, efficiency, and cost effectiveness
- Collaboration and
- Caring careful use of our resources

Credo Behaviors:

- I make those I serve my highest priority.

- I respect privacy and confidentiality.
- I communicate effectively.
- I conduct myself professionally.
- I have a sense of ownership.
- I am committed to my colleagues.

ABOUT VANDERBILT UNIVERSITY MEDICAL CENTER

Website: www.mc.vanderbilt.edu

Vanderbilt University Medical Center (VUMC) is a comprehensive healthcare facility dedicated to patient care, research, and biomedical education. Its reputation for excellence in each of these areas has made VUMC a major patient referral center for the Mid-South. Each year, people throughout Tennessee and the Southeast choose VUMC for their health care needs, not only because of its excellence in medical science, but also because the faculty and staff are dedicated to treating patients with dignity and compassion.

The Vanderbilt Clinic accommodates over 573,000 outpatient visits, in addition to hospital admissions in excess of 31,000, with a substantial number of patients from outside Tennessee. A principal referral center for physicians and patients throughout the region, Vanderbilt University Hospital and The Vanderbilt Clinic consistently rank among the premier health care facilities in the United States. Many of the services offered by Vanderbilt University Medical Center have been ranked among the foremost programs in the nation by U.S. News & World Report's listing of "America's Best Hospitals". Vanderbilt's programs in cancer; cardiology and heart surgery; digestive tract; ear, nose and throat; hormonal disorders; gynecology; orthopedics; respiratory care; rheumatology; and urology were assessed among the top such programs in hospitals nationwide.

Vanderbilt University Medical Center (VUMC) is a major medical treatment, research and education institution comprised of many hospitals and buildings, including Vanderbilt University Hospital (VUH), Rudolph Light Hall (LH), Medical Center North (MCN), Vanderbilt Children's Hospital (VCH), Medical Center East (MCH), and The Vanderbilt Clinic (TVC). VUMC serves the health care needs of the Nashville community and the surrounding areas of Middle Tennessee, southern Kentucky and northern Alabama. VUMC is dedicated to patient care, biomedical research, and education for health care professionals.

Among Vanderbilt's specialty clinics are the Henry-Joyce Cancer Clinic and Clinical Research Center, the patient care arm of the Vanderbilt-Ingram Cancer Center (VICC). The VICC, a National Cancer Institute Clinical Cancer Center, provides comprehensive care for cancer patients along with basic and bench-to-bedside research. The state-of-the-art research program provides the latest breakthroughs in treatment for our patients. Additionally, VUMC's Level I trauma center, comprehensive burn center, LifeFlight air emergency transport program, the Voice Center, the Vanderbilt Bill Wilkerson Center, and 19 specialty services of Children's Hospital, including the Level IV neonatal intensive care unit, are the only programs of their kind in middle Tennessee.

LOCATIONS OF SERVICE AT VUMC

The diagnostic laboratories and outpatient services are located in The Vanderbilt Clinic (TVC). Medical Center North (MCN) houses various administrative offices, medical research facilities and other support services. For the most part, VUMC-PP students will conduct clinical services on the third floor of the Vanderbilt University Hospital (VUH) and the Main Operating Room (“MOR”), as well as the Hybrid OR, which is located in the Cardiac Catheterization laboratory on the fifth floor of VUH. Students will rotate on through each of the VUMC affiliated facilities, including Monroe Carell Children’s Hospital Vanderbilt University. Students will also rotate through the Veterans Administration Hospital in Nashville (on the same campus as VUMC). Time spent in each of the VUMC rotations will be dependent on the student’s clinical educational goals. Research laboratory facilities in which perfusion services may be needed are generally located in Medical Center North.

INCORPORATION BY REFERENCE

Adopted herein, and expressly incorporated by reference, are all Vanderbilt University Medical Center and Vanderbilt Hospital policies, guidelines, and other matters pertaining to the relative safety of patients, employees, visitors, and students, including but not limited to: OSHA regulations, radiation safety, fire safety, infectious disease/universal precautions, sterile techniques, etc. Program-specific policies, guidelines, and the like are available only from the Program. Students who have program-specific questions should inquire with the Program Director. Student orientation will include sufficient exposure to the appropriate VUMC and program policies and guidelines so as to be deemed competent to participate in perfusion care at VUMC. Students in the Perfusion Program are required to adhere to the institutional policies of Vanderbilt University Medical Center and the VUMC Programs in Allied Health.

HISTORY OF THE VANDERBILT PROGRAM IN PERFUSION

The origination of the Perfusion Program began with its inception in 1979; the program was directed and underwritten by the Vanderbilt Heart and Vascular Institute (formerly the Department of Cardiac and Thoracic Surgery) and the Vanderbilt University School of Medicine. In July of 2017, the Perfusion Program under the auspices of Vanderbilt University was closed and opened under Vanderbilt University Medical Center. The only revenue for the Program is in the form of tuition payments, and all direct costs of the program are paid exclusively from that funding source.

ACCREDITATION

The Perfusion Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) (www.caahep.org) upon the recommendation of the Accreditation Committee–Perfusion Education (AC-PE) (<http://www.acpe.org/>).

PROGRAM OFFICIALS

Medical Director/Advisor:	Dr. Michael Petracek, MD
Assistant Medical Director:	Dr. Clay Kaiser, MD
Program Director:	Nicole M. Michaud, MS, CCP, LCP, CPBMT
Program Administrative Assistant:	Kristen Smith
Director, Programs in Allied Health:	Petrice Sprouse, MHSA
Assistant Director, Programs in Allied Health:	Sharon Ream
Clinical Competency Committee:	Clinical Instructors

Admission Committee:

Communities of Interest

Advisory Committee:

Communities of Interest

Website:

<https://ww2.mc.vanderbilt.edu/perfusion/>

CODES OF CONDUCT, CODE OF ETHICS AND HONOR CODE

VUMC CODE OF CONDUCT

Vanderbilt University Medical Center (VUMC) is committed to the highest standards of ethics, honesty, and integrity in pursuit of its mission of education, research, patient care, and public service. All staff, faculty, students, vendors, delegated entities, business associates, and other community members who participate in the work and mission of VUMC are expected to adhere to the VUMC Code of Conduct in the discharge of their duties. Consistent with other VUMC policies and procedures, the Code of Conduct provides guidance for the VUMC community, and sets forth our commitment to good practices and following the law.

Students are required to be aware of and adhere to the VUMC Code of Conduct. The full Code of Conduct is available at the following link:

<https://ww2.mc.vanderbilt.edu/dcci/23390>. The Code of Conduct is reviewed at the time of orientation into the program, and Perfusion students are required to sign an acknowledgement that they agree to adhere to the VUMC Code of Conduct.

PROFESSIONAL CODES OF ETHICS

Upon becoming a clinical perfusionist, one has the professional obligation to follow the code of ethics as described by the certifying body of the profession, American Board of Cardiovascular Perfusion (ABCP), and the professional organization, American Society of Extracorporeal Technology. Both of code of ethics from these perfusion professional bodies has been adopted as an official part of the program. Students enrolled in the program are expected to abide by these codes and follow the outlined regulations.

ABCP CODE OF ETHICS

The American Board of Cardiovascular Perfusion (ABCP) is dedicated to the provision of safe, competent medical care for any and all patients. To that end, the ABCP administers certification examinations and monitors recertification, and therefore requires those participating in these credentialing processes to ascribe to the following ethical standards.

- I. The Certified Clinical Perfusionist (CCP) (candidate for certification), hereinafter, referred to as "individual," complies and will comply with all existing and future rules, regulations and standards of the ABCP and will bear responsibility for demonstrating compliance with same. The individual is eligible to apply for certification/recertification only when in compliance with all ABCP rules, regulations and standards. The ABCP may deny, revoke, suspend or otherwise act upon certification or recertification where an individual is not in compliance with ABCP rules, regulations or standards.
- II. The individual who willfully fails to promotes the safety and welfare of the public, whether through negligent acts, acts of omission or through misrepresentation shall be considered to be not in compliance with these ethical standards.
- III. The individual convicted of, or pleading guilty to, a felony directly related to public

health or the provision of safe, competent medical care shall be considered ineligible to apply for certification/recertification for a period of one year from the exhaustion of the appeals proceeds or release from confinement, whichever is later. Felony convictions considered for this standard include, but are not limited to, fraud, violence, rape, sexual abuse of a patient or child, or misuse of controlled substances.

- IV. The individual may not use or reproduce, in any manner or fashion, any certification examination materials, or contents thereof, documents, recertification materials, certificates, logos, abbreviations, or emblems recognized as the exclusive property of the ABCP without the expressed, written consent of the ABCP.
- V. The individual shall immediately relinquish, refrain from using, and correct at the individual's expense any outdated or otherwise inaccurate use of any ABCP certificate, title, logo, emblem, the ABCP name, and/or related abbreviations in the case of limitation, revocation or resignation from the ABCP, or as otherwise directed by the ABCP. The ABCP shall be entitled to obtain injunctive relief, damages and costs, and attorney's fees incurred in obtaining such relief in the event that said individual refuses, when requested, to immediately relinquish or refrain from using any ABCP certificate, title, logo, emblem, the ABCP name, and/or related abbreviations.
- VI. The individual shall not willfully misuse any title or membership in any professional organization or community.
- VII. The individual shall not be under suspension, revocation or disciplinary action by any licensing board or credentialing agency.
- VIII. The individual shall have had no unauthorized possession of, use of, or access to any examination documents or materials nor shall the individual receive any unauthorized assistance during the conduction of any portion of the certification examinations. The individual shall not subsequently divulge information gained from his/her examination experience for personal or financial gain.
- IX. The individual shall not make any material misrepresentation of fact during application for certification/recertification.
- X. The individual shall report possible violations of these Ethical Standards in writing to the Executive Director of the ABCP. This report should include information regarding the identity of the person(s) involved in the alleged misconduct with as much specific detail and documentation as possible. The identity of the person making the report must be made known as well as others with knowledge of the facts and circumstances surrounding the alleged misconduct.

Information obtained from the following website:

http://www.abcp.org/code_of_ethics.htm

AMSECT CODE OF ETHICS

Preamble

The purpose of a code of ethics is to acknowledge a profession's acceptance of the responsibility and trust conferred upon it by society and to recognize the internal obligations inherent in that trust. The following paragraphs delineate the standards governing the conduct of members in their professional interactions with patients, colleagues, other health professionals and the general public. Realizing that no code can

encompass all ethical responsibilities of the members, this enumeration of obligations in the code of ethics is not comprehensive and does not constitute a denial of the existence of other obligations, equally imperative, and not specifically mentioned herein. This code of ethics shall be binding on the members of this Society.

Canon 1

Members must uphold the dignity and honor of the profession, accept its disciplines and expose without hesitation illegal, unethical and incompetent conduct.

Interpretive Statements

- a. Members are part of a collaborative effort to deliver proper health care to the patient under the members' care.
- b. The member has a personal, as well as a professional, obligation to protect and safeguard the patients from illegal and/or unethical actions or the incompetence of any person.
- c. The member must maintain personal integrity and establish the appropriate means to fully protect his freedom of conscience for the delivery of services to the patient.
- d. A member who demonstrates incompetence or illegal conduct as it pertains to this Code of Ethics shall be exposed to the proper authorities.

Canon 2

Members shall respect the patients' rights and dignity and shall uphold the doctrine of confidentiality regarding privileged patient information.

Interpretive Statements

- a. Information about the patient's clinical situation will be kept confidential, unless otherwise required by law, in order to protect the welfare of an individual or community. Written guidelines or protocols of an institution or department may be instrumental in deciding the manner in which confidential information is handled for release.

Canon 3

Members shall provide only those services for which they are qualified. Members shall not misrepresent in any manner, either directly or indirectly, their skills, training, professional credentials, identity or services.

Interpretive Statements

- a. Members will accept responsibility for the exercise of sound judgment in the delivery of services to the patient and shall be accountable for the quality of the service provided.
- b. Members will provide accurate information about the profession, and services they provide, as well as the members' own qualifications.
- c. The members shall not engage in practices beyond their competence or training.
- d. Members shall not delegate to a less qualified person any activity which requires the unique skill, knowledge and judgment of a formally educated perfusionist. Services rendered by supportive personnel will be under the supervision of a formally educated perfusionist.

Canon 4

Members shall strive to improve their medical knowledge and skills on a continuing basis.

Interpretive Statements

- a. Members shall support quality didactic and clinical education.
- b. Professional conduct will be maintained toward members' peers, students, medical staff and patients.
- c. Members shall participate in educational activities, either by individual study or through continuing education, which will enhance their basic knowledge in order to continue to provide quality health care to the patient.

Canon 5

Members shall maintain and promote high standards for perfusion practice which may include education, research and scientific presentations and/or publications.

Interpretive Statements

- a. Members shall protect the rights of patients and animals involved in research and conduct research in accordance with accepted ethical and reporting standards.
- b. All members who participate or contribute as an author or investigator will receive proper recognition and responsibility for the data being presented and/or published.
- c. The members shall maintain and promote high standards for research, including:
 1. Full public disclosure and/or acknowledgments of support for research.
 2. Avoidance of fraud and plagiarism.
 3. Scientific articles will not be published in more than one journal without referencing the primary publishing journal, and the consent of the editors of all publications must be obtained.
- d. Representation of the Society by members should be in writing and/or at the direction of or by the Board of Directors and/or Executive Committee.

Canon 6

A member shall at all times hold the well-being of the patient to be paramount and shall not act in such a way as to bring the member's interests into conflict with the patient's interests. A member shall deliver health care services without regard to race, color, creed, national origin, sex, age, religion, sexual preference or physical and/or mental condition.

Interpretive Statements

- a. A member's professional practice and adherence to ethical principles shall take preference over business practices. Members shall place service before material gain.
- b. A member should fully disclose to clientele other business practices that may appear as conflict of interest to clientele and/or public. These may include but are not limited to:
 - o Consultant for fee
 - o Clinical instructor (support staff from industry)
 - o Sales representative
 - o Technical advisor
 - o Lecturer for fee
 - o Acceptance of fees, gratuities, funding from industry
- c. The American Society of ExtraCorporeal Technology (AmSECT) is the professional

society for the cardiopulmonary perfusionist. Its membership encompasses the vast majority of practicing perfusionists. The purpose of the Society is defined in its mission statement: "The mission of AmSECT is to foster improved patient care and safety by providing for the continuing education and professional needs of the ExtraCorporeal Technology community." In that the ultimate concern of the Society is to improve patient care, it is our position that clinicians engaged in the practice of cardiopulmonary bypass are required to and must be allowed to periodically evaluate the equipment which is utilized in cardiopulmonary bypass in the effort of continuously improving patient care which should include not only patient outcomes but safety as well. To this end, AmSECT holds that each perfusionist has the following ethical and professional responsibilities:

- The perfusionist being the most qualified individual, by training, education, experience, and job description has the responsibility to evaluate, recommend, select, and implement the components of the ExtraCorporeal circuit so that patient safety and care are optimized.
- The perfusionist will always attempt to fairly evaluate all competing products and services, with the principal selection criteria being that of regard for patient safety and well-being.
- The perfusionist shall always base any decision on product and service selection on clinical evaluations and documented clinical and scientific data.
- The perfusionist will not allow the opportunity to arise whereby objective evaluations of products and services are compromised by gratuities, gifts, entertainment, consulting engagements, employment status, or any other material or personal gain.

In conclusion, it is the responsibility of the perfusionist to make decisions regarding the selection of clinical products with the patient as the primary concern.

Information obtained from the following website: <http://www.amsect.org/page/code-of-ethics>

PERFUSION PROGRAM HONOR CODE

The members of the VUMC Perfusion Program hold a compact of mutual trust between and among students and faculty. Each student promises integrity in work submitted and the faculty members, in turn, presume the honesty of the student. Faculty members do not routinely monitor tests and examinations to apprehend violators. Instructors who remain in examination rooms are there primarily to give assistance. The honor system is important because it provides an atmosphere of trust essential to the fulfillment of the program's purpose of educating men and women of professional character. The members of the Vanderbilt community regard a breach of honor as a serious breach of their principles, their purpose and the academic enterprise.

All work submitted as a part of course requirements is assumed and expected to be the product of the student submitting it unless credit is given by the student using proper footnoting and bibliographic techniques or as prescribed by the course instructor. Cheating, plagiarizing, falsifying results of study or any action designed to deceive any member of the faculty are prohibited. The system applies not only to examinations but also to all work handed in such as papers, lab reports, solutions to problems, practical exams, etc.

The Honor Code at VUMC Perfusion Program specifically prohibits actions deemed as breaches of the mutual trust for which the honor system stands. Violations of provisions of the Honor Code are cause for disciplinary actions imposed by the Program Advisory Committee.

It is the duty of all students to show their appreciation of the trust placed in them not only by their own conduct but also by their insistence on the absolute integrity of their fellow students. Students may feel this is a heavy burden, but it is a much more serious situation when they allow themselves or a fellow student to begin the process of dishonor which destroys both the individual and the community. It is, therefore, the duty of every student to behave in a manner that will discourage their fellow students from violating the honor code. Additionally, it should be noted that failure to report a violation of the Honor Code is in and of itself a violation of the Honor Code.

As students in the Perfusion Program and Vanderbilt University Medical Center, it is expected that the Honor Code is followed at all times. All projects submitted are presumed to be the student's own work unless credit is given using the proper format. The following are considered violations of the Honor Code and will be subject to the disciplinary action protocol and up to dismissal from the program.

- Cheating on an examination, test or written project
- Plagiarizing in an assigned paper, report, project, lab report, or manuscript
- Falsely reporting personal illness
- Falsification of patient records or student evaluations

The grievance procedure shall be available to the student when disciplinary action is taken as a result of the alleged violation of the Honor Code. In addition, students in the program are subject to the policies of academic integrity of the Allied Health Program as outlined in the institutional catalog.

PERFUSION PROGRAM MISSION, PHILOSOPHY, GOALS AND OBJECTIVES

“Through the dedication to the cardiovascular perfusion profession and patient care, the Perfusion Program will inspire its’ students to become leaders in independent thinking in the promotion of medical evolvement. Our students will recognize the commitment to life-long learning and the benefit of interdisciplinary collaboration to provide world class patient care to each and every patient not only today but in the future.”

VUMC PERFUSION PROGRAM PHILOSOPHY

It is the philosophy of the program that all patients have a right to receive and deserve competent and compassionate not only cardiac care but medical care. Perfusionists must possess skills and knowledge necessary to operate the heart lung machine (HLM) during the care of a patient who requires cardiac and/or pulmonary support. The perfusionist must possess critical thinking skills and well as professional collaboration skills. The perfusionist must not only be able to operate the HLM but they must understand the physiological implications of the management of all aspects of cardiovascular perfusion. The program is committed to providing the healthcare community with perfusionists who are competent, knowledgeable, and compassionate critical thinking professionals with ability to work well with other medical professionals with the ultimate goal of delivering

safe, efficient, and effective patient care. Perfusionists of this program will understand the value of continuous learning in the promotion of medicine.

VUMC PERFUSION PROGRAM OBJECTIVES

The Program bases its educational process and strategy on those principles that are essential in preparing students to achieve the ideals of the profession. The Program strives to instill in each student:

- the knowledge, skills and professional attitude necessary to safely and effectively perform clinical perfusion care;
- a concern for others, which carries with it the responsibility of good patient care combined with professional cooperation with fellow students and staff and faculty;
- the desire to strive for new knowledge and to accept and adopt changing trends in the profession;
- the capacity to accept leadership roles, whether in management or education; and
- interest in the growth and development of the perfusion profession.

VUMC PERFUSION PROGRAM GOALS

Goal 1: To prepare entry level perfusionists in core curriculum competencies and clinical competencies as a route to eligibility for certification by the American Board of Cardiovascular Perfusion.

Outcome Measures

Pass Rate of the Certification Exam over a Five Year Period

- 85% of first time test takers will pass the certification exam.

At completion of the program

- 100% of the students will achieve an overall score of $\geq 80\%$ in the Cardiovascular Perfusion Technology Courses
- 100% of the students will have passed all their clinical rotations
- 85% of students will be “satisfied” with the academic and clinical experience provided through VUMC’s Perfusion Program
- 95% of the students will complete the program requirements within 22 months of starting the program

6 month post program completion

- 85% of the graduates surveyed will be employed in the area of perfusion.
- 90% of employers of graduates surveyed will be “satisfied” with graduate they employed.
- 95% of the graduates surveyed will be “satisfied” with the education received from the program.

Goal 2: To provide a supply of competent entry-level perfusionists to influence the supply and distribution of perfusionists for the nation.

6 month post program completion

- 90% of employers of graduates surveyed will be “satisfied” with graduate employed as an entry level perfusionist
- 90% of employers of graduates surveyed will rank VUMC as preparing their graduate as “adequately”

A Perfusion Program Graduate, with appropriate orientation will be able to perform adequately in the following areas:

- Will be able to take on-call responsibilities after three months of employment.
- Can review a patient’s records and prepare a patient specific Cardiopulmonary Bypass Plan.
- Will practice sterile technique and universal precautions.
- Will demonstrate the ability to set-up a sterile circuit with two weeks of employment.
- Will demonstrate the ability to problem solve with little or no assistance.
- Will be able to read and understand professional literature in the field.
- Follows approved protocols and makes judgments for the good of the patient after one month.
- Will be a respectful member of the team from day one.

Goal 3: To provide the students of the program with a comprehensive and high fidelity perfusion simulation program.

- Will collaborate with other vested departments in perfusion/cardiac education to develop a team approach to cardiac surgery.
- Will collaborate with other vested departments to develop a comprehensive curriculum with provides clinical and interpersonal benefit which is multidisciplinary
- Will be able to assess a student’s clinical competency in simulated cases prior to entry into the clinical arena.
- Will expose students to low frequency events in cardiac in order to develop an efficient action plan to reduce adverse patient outcomes.
- Will provide continued support to the development of the students clinical skills after entry into the actual clinical environment.

EVALUATION OF THE PROGRAM

A vital part of the education system is a continual review and evaluation of the instructional curriculum and techniques used in teaching to be able to assess the effectiveness of the program and meet the expected goals. These evaluations are used to identify those areas which need improvement or updating. Evaluation of the program is accomplished in the following manner:

- The program participates in an annual review of the program as required to maintain our accreditation through Accreditation Committee – Perfusion Education

(AC-PE). This organization requires a periodic self-study to assess program compliance with established guidelines for the operation of a training program. This also involves peer review of the self-study and an on-site visit for continued accreditation.

- Students play a large role in the evaluation process by completing formal evaluations on each course as it is completed in both the lecture and the practicum operations of the program at the completion of each semester. These evaluations are distributed and administered through the REDCap online tool and are anonymous. These evaluations are collected by the program director and shared with the faculty, clinical instructors, their managers, and the program officials. Information from these evaluations provides input on the effectiveness of our faculty and suggestions for improvement in the program curriculum.
- Students are also asked to complete an evaluation at the end of the training program to provide input on the overall organization and operations of the program. These evaluations are distributed and administered by the Perfusion Program Director. The program director shares the feedback with the faculty, the clinical coordinator, and the program officials. Information from these evaluations provides input on the effectiveness of our faculty and suggestions for improvement in the program curriculum.
- Evaluations are distributed to the graduates of the program to assess the effectiveness of the program's curriculum between 6 months and one year following graduation. Once again, this information is used to assess the effectiveness of the program curriculum and effectiveness. These evaluations are distributed and administered by the AC-PE with results sent to the Perfusion Program Director. The program director shares the feedback with the faculty, the clinical coordinator, and the program officials. Information from these evaluations provides input on the effectiveness of our faculty and suggestions for improvement in the program curriculum.
- Evaluations are distributed to the employers of recent graduates to assess the effectiveness of the program's curriculum between 6 months and one year following graduation. Once again, this information is used to assess the effectiveness of the program curriculum and effectiveness. These evaluations are distributed and administered by the AC-PE with results sent to the Perfusion Program Director. The program director shares the feedback with the faculty, the clinical coordinator, and the program officials. Information from these evaluations provides input on the effectiveness of our faculty and suggestions for improvement in the program curriculum.
- The Programs in Allied Health administer and distribute an annual evaluation to the student body of the all the Programs in Allied Health to assess the effectiveness of the students respective program and the administration.
- The Perfusion Program administers and distributes an annual evaluation to all the programs clinical affiliations to assess the effectiveness of the program and the quality of our students. These evaluations are distributed and administered through the REDCap online tool and are anonymous to the respondent but not the clinical site. These evaluations are collected by the program director and shared with the faculty, the clinical coordinator, and the program officials. Information

from these evaluations provides input on the effectiveness of our faculty and suggestions for improvement in the program curriculum.

PROGRAM ADMISSION

The Perfusion Program seeks to select the applicant for our program that will be successful all aspects of the program. The Admission Committee is committed to selecting a class that will be able to develop team dynamics amongst the each while both fostering and challenging each other to reach their potential in the program. The selection process involves an application review and an in person interview.

Academic Requirements

- Bachelor's Degree from an accredited college or university
- A cumulative and science grade point average (GPA) of at least 3.0 on a 4.0 scale.

Prerequisite Requirements:

- Six (6) credit hours in the following course:
 - Anatomy and/or Physiology
- Four (4) credit hours in each of the following courses:
 - General Biology
 - General Chemistry
 - Another applied science such as Biochemistry or Microbiology or Organic Chemistry or Inorganic Chemistry
- Three (3) credit hours in each of the following courses:
 - Mathematics (College Algebra or Higher)
 - Physics
- At a minimum of one credit hour in the following course:
 - Medical Terminology (REQUIRED, regardless of previous work experience)
- Graduate Record Examination (GRE) is not required for entry.
- Previous healthcare experience is strongly preferred but is not required to apply for this program.

The pre-requisite requirements can be in progress to apply to the program. If selected for the program, those applicants having courses in progress will be required to have verification (in the form of an official transcript sent to the program) to the program by matriculation into the program or as outlined in the applicant's acceptance letter.

Foreign Applicant Requirements:

- The Test of English as a Foreign Language test (TOEFL) is only required for overseas students. A total TOEFL score of at least 88, on the internet-based version, 570 on the paper-based version, and 230 on the computer-based version must be achieved.
- Applicants with pre-requisite course work from an institution, which does not have English as its primary language of instruction, must have an official, detailed evaluation of their coursework sent to the program from the World Education Services (WES). International applicants that do not provide official documentation of acceptable US or Canadian course and degree equivalency will not be considered during the application process.

- Applicants holding a permanent residency card will not be subject to the TOEFL requirement.

Interviews require a minimum of 2 hours of the applicant's time and are conducted in January of each year.

Application Process

1. Applications are accepted throughout the calendar year with a final deadline of November 1st of each year. Applications postmarked after November 1st will not be accepted and the application fee will be returned.
2. Once all application materials and transcripts are received, the program director will review all applicants and score each of the following areas:
 - a. *Overall GPA* – points awarded is equivalent to the applicants GPA
 - b. *Science GPA* – points awarded is equivalent to the applicants science GPA
 - i. Science GPA will be calculated to include all science pre-requisites at a minimum
 - ii. If an applicant retook a science pre-requisite, the applicants science GPA will be calculated using the highest grade achieved for the required pre-requisite
 - c. *Additional Degrees* – points awarded is based on yes or no; yes will be given 1 point and no will be given 0 points
 - d. *Certifications* – points awarded is based on yes or no; yes will be given 1 point and no will be given 0 points
 - e. *Academic Honors* – points awarded is based on yes or no; yes will be given 1 point and no will be given 0 points
 - f. *Paid Work Experience* – points awarded is based on yes or no; yes will be given 1 point and no will be given 0 points
 - g. *Medical Work Experience* – points awarded is based on the amount of experience and relevance to perfusion
 - i. 1 point awarded to working in the hospital environment/medical research environment but no relevance to perfusion
 - ii. 2 points awarded to working in the hospital environment/medical research environment but with relevance to perfusion but less than one year
 - iii. 3 points awarded to working in the hospital environment/medical research environment but with relevance to perfusion with greater than one year experience
 - h. *Volunteer Experience* - points awarded is based on yes or no; yes will be given 1 point and no will be given 0 points
 - i. *Previously Applied-* points awarded is based on yes or no; yes will be given 1 point and no will be given 0 points
 - j. *Previously Interviewed-* points awarded is based on yes or no; yes will be given 1 point and no will be given 0 points
3. The Admission Committee reviews all applicants and the applicant evaluation scoring form is provided to them with the items as listed in part 2 of the application process automatically scored with the cell locked.

- a. Each committee member will be given the application materials at the same time and will be given 3 weeks to review the applicants.
 - i. Applicant information will be released to committee members by November 16th
 - ii. Applicant scoring form will be required to be returned to the program director on or before December 8th
- b. The committee is asked to score the following items based on the key provided.
 - i. *Personal Statement* - scored based on the following:
 - 1. 1-2 points: Weak Candidate
 - 2. 2-3 points: Average Candidate
 - 3. 3-4 points: Good Candidate
 - 4. 5: Exceptional Candidate
 - ii. *Case Log* (required to observe one case)-scored based on the following
 - 1. 0 points: Did not complete Log
 - 2. 1 point: Met Requirement (observed 1-2 cases)
 - 3. 2 points: Met Requirement and provided an average summary of the observational experience (observed 3-6 cases)
 - 4. 3 points: Exceeded Requirement and provided an exceptional summary of the observational experience (observed > 7 cases)
 - iii. *Recommendation Letters/Forms* - scored based on the following:
 - 1. 1-2 points: Weak Candidate
 - 2. 2-3 points: Average Candidate
 - 3. 3-4 points: Good Candidate
 - 4. 5 points: Exceptional Candidate
- 4. Each admission committee member's final score for the applicant is taken and no admission committee member is given more weight, including the program director.
- 5. Each applicant score from the members of the admission committee is averaged based on the number of members that evaluated that applicant.
- 6. The top 16-20 applicants are invited for an in person interview to occur the second Saturday in January.
- 7. Applicants getting an interview will receive a phone call from the program director no later than December 16th.
- 8. Applicants not being awarded an interview will receive communication through conventional mail.
 - a. The program director may elect to personally call applicants that are denied an interview based on their review of the applicant.

Interview Process

An interview schedule is provided to each applicant no later than December 23rd.

Interviews include the following:

1. Each applicant will be given two (2) 20 minutes in person interviews with a panel of admission committee members.
2. Each applicant will be given 45 minutes to write an in person essay.
3. Each applicant will be given a dexterity test.
4. A tour of the simulation lab, classroom facilities, and VUMC campus
5. An opportunity to speak with current students in the program.
6. During the interview, applicants are given an overview of the program, the

selection process, and asked about their level of competency with regard to computer skills and learning management systems.

7. Interview score will be based on the following:
 - a. Average of admission committee in person evaluation and applicant essay
 - b. Dexterity score

Final selection of the applicant is based on the following:

- $(.30 \times \text{average of application score}) + (.10 \times \text{dexterity score}) + (.60 \times \text{average of interview evaluations by the committee})$

Notification of Applicants

- Each applicant that interviewed for a spot in the program is personally called by the program director.
 - In the personal phone call, those applicants that are chosen for the program are notified.
 - In the personal phone call, those applicants that are alternates are notified during this discussion.
 - In the personal phone call, those applicants not selected for the alternate list are notified of not be selected for the program
- Formal letters and denial letters are sent to all applicants.

NON-DISCRIMINATION POLICY STATEMENT

In compliance with federal law, including the provisions of Title IX of the Education Amendments of 1972, Title VI of the Civil Rights Act 1964, Title VII of the Civil Rights Act of 1964, Sections 503 and 504 of the Rehabilitation Act of 1973, the Age Discrimination in Employment Act (ADEA) of 1967, the Americans with Disabilities Act (ADA) of 1990, the ADA Amendments Act of 2008, Executive Order 11246, the Uniformed Services Employment and Reemployment Rights Act, as amended, and the Genetic Information Nondiscrimination Act of 2008 ⁱ, VUMC does not discriminate against individuals on the basis of their race, sex, religion, color, national or ethnic origin, age, disability, military service, veteran status or genetic information in its employment. In addition, the VUMC does not discriminate against individuals on the basis of their sexual orientation ⁱⁱ, gender identity ⁱⁱⁱ, or gender expression ^{iv} consistent with the VUMC Anti-harassment, Non-Discrimination and Non-Retaliation policy (for more information please go to the following: <https://hr.mc.vanderbilt.edu/policies/equal-opportunity.php> The Employee and Labor Relations team is responsible for investigating employee relations issues including concerns, both internal and external, raised to VUMC about harassment, retaliation and discrimination. If an employee, faculty, patient, vendor, government agency or visitor feels that someone within VUMC has discriminated, harassed or retaliated against them, please contact Employee and Labor Relations directly at 615.343.4759 or employeerelations.vumc@vanderbilt.edu.

HARASSMENT

Harassment of individuals based on their race, gender (including but not limited to sexual harassment), color, national or ethnic origin, age, disability, genetic information, sexual

orientation, gender identity, or gender expression is unacceptable and not tolerated by Vanderbilt University Medical Center and the Cardiovascular Perfusion Technology Program. Students in violation of this policy are subject to the disciplinary protocol and up to dismissal from the program. If a student feels that he/she is being harassed, the student should notify the Program Director immediately and should seek assistance through the Equal Opportunity, Affirmative Action, and Disabilities Department (EAD). Please refer to institutional catalog for specific information.

STUDENT PERFORMANCE EXPECTATIONS

PERFUSION CLINICAL CHAIN-OF-COMMAND

Students are required to follow the designated chain-of-command in the clinical assignments they will encounter as Perfusion students. In the event of a question regarding a clinical or other assignment, the student is strongly encouraged to resolve the question first with the clinical instructor who has been assigned to the student's case or other duties. If resolution of the issue cannot be reached at this level within a reasonable amount of time, the question should be posed to the Chief Perfusionist or the Clinical Site Coordinator, with notification to the Program Director (or designee) for further inquiry. If the Chief Perfusionist and/or Clinical Site Coordinator cannot resolve the matter in a reasonable amount of time, the clinical instructor will conduct primary perfusion care for that case without significant student participation (charting and first-assisting is appropriate to continue on all cases, barring extreme circumstances). The Program Director will then resolve the matter with the Chief Perfusionist and/or Program Medical Director, as appropriate to the situation. Failure to follow the clinical chain-of-command is a violation of Program policy, subject to disciplinary action. In short, the chain of command is the following during all clinical assignments:

1. Clinical Instructor (if one is assigned)/Clinical Coordinator
2. Chief Perfusionist and/or Clinical Site Coordinator
3. Program Director (or designee)
4. Medical Director

STUDENT PHYSICAL REQUIREMENTS

A perfusionist must be able to perform a variety of physical movements in order to operate and manipulate the heart lung machine and other heavy equipment. All students applying to the program acknowledge their ability to carry out the physical standards with or without reasonable accommodations:

- Push, Pull, or lift 50 pound routinely and more than 50 pounds occasionally.
- Stand, bend, stoop, kneel, squat or sit and reach for long periods of time.
- Adequately control and manipulate equipment weighing up to 500 pounds on wheels.
- Sufficiently distinguish audible differences including audio signals, patient and co-worker communication and patient conditions.

- Adequately visualize and perceive image data on computer and video monitors to acquire and interpret hemodynamic data with color distinction.
- Fluently demonstrate English language skills to provide optimum communication with patient and healthcare team members.
- Follow verbal and written instructions to provide optimum care for patients.

Students may be required to obtain a physical examination in order to be eligible to participate in certain clinical rotations.

PROFESSIONAL BEHAVIOR EXPECTATIONS

Professional conduct on the part of students is expected at all times. Expectations of student professional behavior include the following examples:

- Comply with all of the program's policies as outlined in the student program handbook and other program documents. It is the student's responsibility to be familiar with all policies and expectations as outlined in those documents.
- Obey rules and regulations of all affiliated clinical sites.
- Professional communications, at all times conveying respect for other students, professionals and patients.
- Utmost honesty in all documentation, clinical and academic.
- Respect for the authority of program leadership and instructors and cooperation with those individuals in the clinical and classroom settings.
- Ensuring the safety and privacy of patients at all times.

Student behavior that violates policies of the program, of Vanderbilt University Medical Center or of the Code of Ethics for the Profession of Perfusion will result in appropriate disciplinary action, up to and including dismissal. Any student violating clinical affiliate rules and regulations may be barred from returning to that affiliate.

DISCIPLINARY ACTIONS

Any student in the perfusion program who has been identified by the faculty to be in violation of professional behavior expectations will be subjected to disciplinary action. Disciplinary action will be handled with a four-step procedure; however, the Program Director and program officials have the discretion to skip any step, based on the nature and severity of the offense.

1. Verbal Counseling - A discussion will take place between the student and the Program Director to discuss the behavioral concerns and corrective measures.
2. Written Warning – In cases where a written warning is warranted, the student and Program Director will discuss the concerns, and the student will be provided a written warning. This written warning will be signed as received by the student and retained in the student's file.
3. Temporary Suspension – VUMC may temporarily suspend a student for conduct disrupting or otherwise negatively affecting the learning environment, pending

consideration of the student's situation by the Program Director and other relevant faculty and administrators. The Program Director will notify the student in writing of the conditions of the temporary suspension. During temporary suspension students are not allowed to participate in any program activities, including academic and clinical activities. If the student is reinstated following the suspension, the student will work with the Program Director to address any course work missed during the suspension.

4. Dismissal - Students may be dismissed for single egregious or chronic behaviors that are in violation of VUMC, program or affiliate policies or that disrupt or otherwise negatively affect the learning environment. Students may appeal such dismissal. See Dismissal section in this handbook.

STUDENT GRIEVANCES

In the event a student has a concern about program policy or procedures or the administration of such, the student grievance process may be utilized to make the concern officially known to program administration. The procedure provides a systematic and timely process for review of the student's concern. The goal of the process is to review and address the issue, including providing the student any assistance he or she may need to address the concerns.

Students are encouraged to pursue resolution to concerns with other students, with faculty and with staff members directly and in collaboration with the involved individuals. In the event such efforts are unsuccessful, the student may contact the Program Director for assistance. The Program Director will assist the student in addressing the concern, including discussing with any other individuals involved, as appropriate. If the Program Director is not able to resolve the situation to the satisfaction of the student, the student may contact the Director of VUMC Programs in Allied Health. If the Director of VUMC Programs in Allied Health is unable to resolve the situation to the satisfaction of the student, he or she may contact the VUMC Executive Vice President for Educational Affairs (EVP-EA).

PERFUSION PROGRAM GRADING AND ASSESSMENT

DIDACTIC GRADING SYSTEM

Grading determinations for the didactic portion of the Program are made by the didactic instructor. The following is the basis for grading and evaluation of student performance:

Scale	Grade	Definition	GPA
100–95%	A	Excellent	4.0
94–90%	A-	Excellent	3.7
89-87 %	B+	Good	3.3
86-83%	B	Good	3.0
82-80%	B-	Good	2.7
79-77 %	C+	Satisfactory	2.3
76-75%	C	Satisfactory	2.0
74–0%	F	Inadequate	0.0
	I	An Incomplete may be used at the discretion of the instructor in cases in which the student is not able to complete work in the normal time. In those instances, the student and instructor develop a written plan for an extension to provide work by a specific date that falls within the period of time specified by the relevant program’s requirements (but in no circumstances greater than one month). An “I” that is not replaced by a letter grade within the period of time specified by the relevant program’s requirements, will be changed to an F after the period specified by the program (a period not to exceed one month). Any course with an “I” grade is not calculated into the grade point average. Once a grade is assigned to the course (when conditions are met that allow for the removal of the “I” and assignment of a final grade), that grade will be factored into the student’s GPA.	
	W	A Withdrawal is provided when a student leaves the course due to an approved leave-of-absence or is withdrawn from the school prior to the scheduled completion of a course. Any course with a “W” grade is not calculated into the grade point average.	
	R	Some programs allow students to repeat courses. In those programs, for any course that is repeated, a Repeat will be provided as the grade for the first attempt at the course. Any course with an “R” grade is not calculated into the grade point average. However, courses will be considered hours / credit hours attempted for the purpose of determining maximum time frame. Please refer to each program’s student handbook for information about whether students are allowed to repeat courses in any given program.	

Students who do not complete required work or hours in a course will be assigned a failing grade for the course.

CLINICAL ASSESSMENT SYSTEM

Student competence is measured by means of a clinical evaluation form. The clinical evaluation form has been designed to address the cognitive, affective, and psychomotor learning domains of the program as well and the interpersonal domain. The form is reviewed by the student and the instructor immediately following each case.

Instructions for completing clinical evaluation forms: Students are responsible for completing the top portion of the evaluation form and providing the form to the instructor at the beginning of the clinical experience. Students are required to submit their daily evaluations weekly (from the previous week every Friday). Students on rotations outside of Nashville are required to mail evaluations weekly to the program. Ten (10) prepaid envelopes are provided to the student prior to their departure to the outside clinical affiliation. These envelopes MUST be mailed weekly every Friday, with the exception of the last week if the student is returning to Nashville (in this case, the student is required to submit the final week forms no later than Wednesday of the week they return to Nashville). If the evaluation shows consistent deficiency in one or more areas of a student's performance, this will be addressed through increased instruction and practice. Extra simulation sessions facilitated and supervised by the Program Director may also be required.

In addition to the clinical evaluation form, students are evaluated on a middle-of-term and/or end-of-rotation basis by their clinical instructors, as outlined in the syllabus of each clinical course. The evaluation scale is as following:

1. Dependent: > 90% of the time the student almost REQUIRES direction, guidance, monitoring, and support, while < 10% of the time the student EXHIBITS assertiveness, efficiency, focus, and eagerness to learn.
2. Novice: 75% of the time the student REQUIRES direction, guidance, monitoring, and support, while 25% of the time the student EXHIBITS assertiveness, efficiency, focus, and eagerness to learn.
3. Assisted: 50% of the time the student REQUIRES direction, guidance, monitoring, and support, while 50% of the times the student EXHIBITS assertiveness, efficiency, focus, and eagerness to learn.
4. Supervised: 25% of the time the student REQUIRES direction, guidance, monitoring, and support, while 75% of the times the student EXHIBITS assertiveness, efficiency, focus, and eagerness to learn.
5. Self-Directed: < 10% of the time the student REQUIRES direction, guidance, monitoring, and support, while >90% of the time the student EXHIBITS assertiveness, efficiency, focus, and eagerness to learn.

Students are required to make clinical skills progress as outlined in each of the clinical course syllabus in order to maintain Satisfactory Academic Progress.

MODES OF TEACHING RELATED TO CLINICAL OBJECTIVES

- Clinical Rotational Experience
- Simulation
- Medical Conferences/Presentations
- Competency Modules/Checklists

CLINICAL ROTATION I COURSE OBJECTIVES

By the end of the course the student will:

- Demonstrate proficiency all perfusion protocols for adults
- Demonstrate the ability apply the protocols for each surgeon

- Demonstrate proficiency in constructing the proper circuit utilizing the institutions disposables for each case
- Demonstrate proficiency in understanding all of the monitoring equipment used during open heart surgery for both the bypass circuit and the patient
- Demonstrate the ability to interpret the information received from the monitoring equipment
- Demonstrate proficiency in the recalling the normal blood chemistry, blood gas, coagulation, and hemodynamic parameters
- Display the ability to describe various methods of cardiac evaluation including: invasive and non-invasive techniques
- Display the ability to interpret the findings of various diagnostic techniques to the cardiac diagnoses
- Demonstrate proficiency to evaluate patient's pre and post operatively
- Demonstrate competency to perform the required calculations in preparation for cardiopulmonary bypass (CPB)
- Demonstrate competency to perform the required calculation in management of CPB
- Demonstrate competency in assembling and priming the cardiopulmonary bypass circuit
- Demonstrate competency in the assembling and operation of the autotransfusion device
- Demonstrate competency in sterile technique during the set-up and operation of the CPB circuit
- Demonstrate the ability to stay attentive and accountable while in the designated area during the clinical rotation
- Demonstrate the ability to initiation and terminate CPB

Expectations to pass:

1. Mid-term evaluations (mid-March):
 - a. Students are expected to achieve a minimum of 2.5, novice-assisted, on their mid-term evaluation.
 - b. Failure to achieve a 2.5 will result in the student being placed on clinical probation.
 - c. Students will be reassessed in a two week time period through an additional evaluation by the clinical instructor and a simulation assessment.
 - d. Failure to achieve the minimum level for a second time will result in dismissal from the program.
2. End of rotation evaluations (May):
 - a. Students are expected to achieve minimum score of 3, assisted, on their end of rotation evaluation.

- b. Failure to achieve a 3 will result in the student being placed on clinical probation.
 - c. Students will be reassessed in a two week time period through an additional evaluation by the clinical instructor and a simulation assessment
 - d. Failure to achieve the minimum level for a second time will result in dismissal from the program.
3. Overall Course Grade of 75% or greater at the completion of the course.

CLINICAL ROTATION II COURSE OBJECTIVES

By the end of the course the student will:

- Demonstrate proficiency all perfusion protocols for adults
- Demonstrate the ability apply the protocols for each surgeon
- Demonstrate proficiency in constructing the proper circuit utilizing the institutions disposables for each case
- Demonstrate proficiency in understanding all of the monitoring equipment used during open heart surgery for both the bypass circuit and the patient
- Demonstrate the ability to interpret the information received from the monitoring equipment
- Demonstrate proficiency in the recalling the normal blood chemistry, blood gas, coagulation, and hemodynamic parameters
- Display the ability to describe various methods of cardiac evaluation including: invasive and non-invasive techniques
- Display the ability to interpret the findings of various diagnostic techniques to the cardiac diagnoses
- Demonstrate proficiency to evaluate patient's pre and post operatively
- Demonstrate competency to perform the required calculations in preparation for cardiopulmonary bypass (CPB)
- Demonstrate competency to perform the required calculation in management of CPB
- Demonstrate competency in assembling and priming the cardiopulmonary bypass circuit
- Demonstrate competency in the assembling and operation of the autotransfusion device
- Demonstrate competency in sterile technique during the set-up and operation of the CPB circuit
- Demonstrate the ability to stay attentive and accountable while in the designated area during the clinical rotation
- Demonstrate the ability to initiation and terminate CPB

Expectations to pass:

1. End of rotation evaluations:

- a. Students are expected to achieve minimum score of 3-3.5, assisted, on their end of rotation evaluation.
 - b. Failure to achieve a 3-3.5 will result in the student being placed on clinical probation.
 - c. Students will be reassessed in a two week time period through an additional evaluation by the clinical instructor and a simulation assessment.
 - d. Failure to achieve the minimum level for a second time will result in dismissal from the program.
2. Overall Course Grade of 75% or greater at the completion of the course.

CLINICAL ROTATION III COURSE OBJECTIVES

By the end of the course the student will:

- Retain and demonstrate all the objectives from CR501
- Demonstrate competency in setting up and priming of the cardiopulmonary bypass (CPB) circuit
- Demonstrate proficiency and competence at managing basic CPB cases with minimal instructor intervention
- Demonstrate competency at initiating and terminating CPB
- Demonstrate management and leadership skills by participating in the clinical scheduler role
- Demonstrate instructional methods by participating as a facilitator in the RES501
- Demonstrate knowledge of the operative field procedures
- Demonstrate the ability to provide myocardial protection
- Demonstrate the ability to manage anticoagulation of the patient
- Demonstrate the ability to appropriately manage the acid-base status of the patient
- Demonstrate the ability to appropriately manage the gas exchange of the patient
- Demonstrate the ability to appropriately manage the temperature of the patient
- Demonstrate the ability to correlate the cause and effect relationship between actions performed while operating the heart lung machine on the patient and the circuit
- Demonstrate the basic skills of an intra-aortic balloon pump (IABP)
- Demonstrate integrity and professional behavior in all interactions
- Demonstrate the ability to accurately describe cannulation for procedures
- Demonstrate the ability to properly draw, label, and administer pharmaceuticals per the request of the supervising clinical instructor and anesthesiologist
- Demonstrate competency in the set-up and priming of the pediatric circuit prior to admittance in the pediatric rotation.

Expectations to pass:

1. End of rotation evaluations:
 - Failure to achieve a 3.5- 4.25 will result in the student being placed on clinical probation.

- Students will be reassessed in a two week time period through an additional evaluation by the clinical instructor and a simulation assessment.
 - Failure to achieve the minimum level for a second time will result in dismissal from the program.
2. Overall Course Grade of 75% or greater at the completion of the course.

CLINICAL ROTATION IV COURSE OBJECTIVES

By the end of the course the student will:

- Retain and demonstrate competency in all the objectives from CR501 and CR502
- Demonstrate competency in setting up and priming of the cardiopulmonary bypass (CPB) circuit
- Demonstrate proficiency and competence at managing CPB with minimal instructor intervention
- Demonstrate competency at initiating and terminating CPB
- Demonstrate the ability to be skillful in management and leadership by participating in the clinical scheduler role
- Demonstrate the ability to provide instructional methods by participating as a facilitator in the CR501 simulation sessions.
- Demonstrate proficiency in the knowledge of the operative field procedures
- Demonstrate competency in the knowledge of equipment, instrumentation, perfusion policies, pharmacology, physiology, and anatomy by passing a COMPREHENSIVE written exam and oral examination.
- Demonstrate the ability to operation of centrifugal pump as the arterial pump
- Demonstrate the ability to manage catastrophic situations, demonstrate competency CPB managements skills, and demonstrate competency in the development of case set-up from a patient history/physical by passing a practical examination ($\geq 75\%$).

Advanced Skills

The student should be able to perform CPB with minimal supervision and assistance from the clinical instructor. The student should broaden his/her knowledge of their clinical skills and the clinical skills of other professionals within the cardiac operating. The student's goal is to develop a professional awareness of all clinical procedures in which a clinical perfusionist can participate in/

- Understand the use and application of centrifugal pumps.
- Demonstrate an understanding of the implication of the pharmaceuticals a patient is taking.
- Demonstrate the ability to operate an intra-aortic balloon pump (IABP).
- Demonstrate the ability to describe the basic skills of ventricular assist devices (VAD).
- Demonstrate competency in acid base management of the patient.

- Demonstrate the ability to apply adjunctive techniques (hemoncentration, cannulation techniques, and pumps) to case.
- Demonstrates integrity and professional behavior in all interactions.

Expectations to pass:

1. End of rotation evaluations:
 - Failure to achieve a 4.25-5 will result in the student being placed on clinical probation.
 - Students will be reassessed in a two week time period through an additional evaluation by the clinical instructor and a simulation assessment.
 - Failure to achieve the minimum level for a second time will result in dismissal from the program.
2. Overall Course Grade of 75% or greater at the completion of the course.

*If a student is not at the expected level by graduation, the student will be asked to continue Clinical Rotation IV (CR-504) for at least an additional eight weeks and will be required to pay 50% of a semester's tuition.

METHODS OF EVALUATING CLINICAL COURSE PREFORMANCE

A final grade of 75% or greater is necessary to receive a passing mark.

1. Competency Checklist
 - a. Prior to pumping their first case, a student must have completed their clinical competency checklist
2. Pre-pumping evaluation form
 - a. Prior to pumping their first case, a student must have passed a **minimum** of five (5) pre-pumping evaluations
 - b. A students ability to pump a case is dependent on his/her clinical instructors opinion based on their previous exposure and observations of the students clinical skills and understanding of the basic perfusion concepts
3. Case Evaluations
 - a. Submitted weekly and are due at the beginning of the designated didactic day.
4. Mid-term and/or End of Rotation Evaluations
5. Professionalism
 - a. Student communicates effectively, respectfully, and appropriately to the surgical team.
 - b. Student demonstrates a professional attitude: prompt, punctual, reliable, and dependable. Student should assume appropriate workload; accept requests, and follows through with assignments.
 - c. Student is motivated to provide the "best patient care"

- d. Student disposes of the circuit properly without increased exposure to blood. Student leaves his/her work space clean and prepared for the next colleague.
 - e. Student communicates any significant factors affecting the patient's hemodynamic status to his/her clinical instructor.
 - f. Student is required to respect, value, and protect the confidentiality related to patient care.
6. Rotation Write-ups
 - a. Work-Up Forms
 - b. Weekly Progress Reports
 - c. Submission of both A and B will be due weekly and are due at the beginning of the designated didactic day.
 7. Case Log
 - a. Daily Submission of the Information Required for the Case Log
 - b. Case Log is found on the program website
 8. Conference Log (Submitted at the end of semester)
 9. Monthly Timesheets (submitted monthly to the Program Director)

STUDENT CLINICAL ROLES AND SUPERVISION

While in clinical rotation performing patient-care service, students will always be supervised by a clinical instructor. Students shall never be employed to take the place of or assume the responsibilities of the clinical staff at VUMC or its clinical affiliates.

Students are limited to patient care competencies as described in the specific course syllabus. Specific tasks, such as drawing up and checking drugs alone, or co-checking donor blood products, remain the primary responsibility of the clinical instructor in patient care areas, even if the student is a registered nurse. Students do not perform intra-operative blood pumping, autologous blood transfusion, ventricular assist devices or extra-corporeal membrane oxygenation without the direct clinical instructor supervision.

Should students find that they are assigned to or performing patient care activities without direct clinical instructor supervision, the student should immediately cease activity, consult a clinical instructor or clinical site coordinator, and notify the Program Director.

SATISFACTORY ACADEMIC PROGRESS

A student is considered to be maintaining Satisfactory Academic Progress (SAP) when he/she maintains a 75% academic average in each course. In addition, students are required to make clinical skills progress as outlined in each of the clinical course syllabus in order to maintain Satisfactory Academic Progress.

Throughout each term the Program Director monitors student academic performance in order to identify students who may be at risk of falling out of SAP status. If, at any time during a course or term, a student falls below 75% for any course, the student will be provided a SAP warning. The student also will receive academic advising from the Program

Director, with the goal of improving student academic performance. If the student's academic performance falls below the minimum required to maintain Satisfactory Academic Progress by the end of the term, he or she will be put on academic probation. Please refer to Probation section in this document for more information on Probation. Programs report SAP status for every student to VUMC PiAH administration each term.

CLINICAL COMPETENCE COMMITTEE

The Clinical Competence Committee reviews student performance in Clinical Rotations I, II, III and IV, and provides guidance to the Program Director in making progress and promotion decisions regarding students in the Program. The Committee consists of the Program Director, Clinical Coordinator and clinical perfusion instructors of the Perfusion Program. The Perfusion Program Clinical Coordinator acts as Chair of the Clinical Competence Committee. The Committee meets twice a year; ad hoc meetings are scheduled as necessary.

At the completion of the case requirements for each clinical level – or at any time by the request of the Program Director – students' clinical performance will be evaluated by the members of the Clinical Competence Committee. Students advance to the next clinical level by passing the preceding the preceding clinical course.

Each student is evaluated by the Committee prior to graduation to declare the student clinically competent and that he or she meets the minimum requirements of the ABCP (participated in a minimum of 75 clinical cases and 10 pediatric observations). No student will be given clinical clearance from the program until two weeks prior to graduation regardless of the number of clinical cases completed by the student.

STUDENT ADVISING

Students in the program meet with the Program Director and Clinical Coordinator at the end of each semester and after the completion of each ten-week clinical rotation. The Program Director, Clinical Coordinator, and Clinical Instructors maintain an open door policy for students throughout the program. Student meetings may also be scheduled periodically during the program to address any issues that may affect the entire group.

Student conferences are scheduled periodically during the year. An overall performance evaluation will be conducted by the clinical competency committee and reviewed with the student. The Program Director will handle any problems relative to the Program. Differences in interpretation of hospital, laboratory or program regulations should be discussed with the Program Director.

From time to time, program staff may feel that issues in a student's personal life might be interfering with student progress in the program. In such situations, program staff may suggest that the student seek confidential evaluation and assistance for personal, emotional or social support issues from the VUMC Employee Assistance Program in the basement of the Medical Arts Building (936-1327).

PERFUSION PROGRAM GRADUATION REQUIREMENTS

Students in the VUMC Perfusion Program will be required to demonstrate the following in order to graduate with a Certificate in Cardiovascular Perfusion Technology.

1. Complete all courses in the Curriculum Plan with a “C” ($\geq 75\%$) or better as outlined in Progression Policy.
2. Complete an independent research paper.
3. Not be on probation for any reason including professional conduct at the completion of the program.
4. Pass a comprehensive final examination.
5. Pass an oral examination.
6. Pass a final practical examination.
7. Attend graduation ceremony.
8. Receive clearance from the clinical competency committee.

PROGRESSION IN THE PROGRAM

The program and all related courses must be completed in their entirety during the program for a transcript to be created and given. Incompletes are not allowed as final grades in any courses. The normal timeframe to successfully complete all components of the program is 22 months from the time of program matriculation. The Program reserves the right to extend a student’s training to make up for a deficit in a single course, but this remediation is not to extend training more than five (5) months from the end of the program year.

ACADEMIC PROBATION

Students failing to maintain Satisfactory Academic Progress as defined by the program may be placed on academic probation at the discretion of the program. When placed on academic probation, students are provided a notification letter that outlines the reasons why the student has been placed on probation and the requirements the student must meet in order to be removed from probation. While on academic probation, students are required to work with a designated program faculty member to develop a written Academic Plan designed to bring the student into compliance with Satisfactory Academic Progress standards within a designated period of time. The student’s Academic Plan and progress toward its completion will be reviewed with the student during the probationary period as stated on the plan. Perfusion students on academic probation are generally allowed no more than 4 weeks to complete remediation plans and return to satisfactory academic status. Some cases, as determined by the Program Director, may be allowed fewer than 4 weeks.

Students may not have more than one period of probation during their time in the program. Students on probation who do not successfully complete the terms of their Academic Plan will be withdrawn from the program. Students on probation who successfully complete the terms of their Academic Plan will return to satisfactory academic standing, and academic probation status will be removed.

ACADEMIC PROBATION APPEAL

Students who have been placed on academic probation may appeal the probation decision.

To do so, the student must submit an appeal request to the Director of Allied Health Programs in writing (email is acceptable) within five (5) working days of being placed on probation. The appeal request must include:

- Information about the circumstances or events that prevented the student from maintaining Satisfactory Academic progress, and
- What has changed in the student's situation to allow for the student to be successful in the future.

The student may submit documentation along with the appeal request. The Director of Allied Health Programs will review the appeal and any documentation submitted by the student. The Director of Allied Health Programs will also speak with program faculty and staff involved. The student will be notified of the outcome of the appeal in writing within five (5) business days of its submission. The decision of the Director of Allied Health Programs is final.

If the appeal is not successful, probation status will continue until 1) the student meets the requirements of the academic plan and returns to satisfactory academic status, or 2) the student fails to meet the requirements of the academic plan and is terminated from the program.

DISMISSAL

Students who have been placed on probation and who do not return to satisfactory academic status within the time required by their Academic Plan will be terminated from the program. Students may also be dismissed from the program after a period of temporary suspension.

Programs ordinarily will pursue dismissal only after a student has been given a reasonable probationary period to address deficiencies. Most often, this reasonable period consists of one academic term. Dismissal may also be recommended at any time for a student who demonstrates either a singular egregious behavior or is involved in one or more serious incidents inconsistent with the expectations for students VUMC, or otherwise in violation of VUMC policy.

A decision to pursue dismissal requires participation of the program director and relevant program faculty and administrators. The Program Director will meet with the student to hear the student's explanation, including any mitigating circumstances in the situation. The Program Director will then meet with relevant program faculty and administrators to consider the situation, including its severity, and render a determination. The dismissal decision is described in a notice to the student written by the Program Director. This communication is presented to the student, in person whenever possible, by the Program Director, although this may not be possible in certain circumstances.

APPEAL OF DISMISSAL

A student who is terminated from a VUMC program has the right to appeal. Each appeal is decided on an individual basis. The process for appealing a dismissal decision is as follows:

- The student must submit a written appeal to the Director of Allied Health Programs. The appeal must be submitted at least one month prior to the start of the term in which the student wishes to be granted entrance into the program.
- Appeals must include a detailed explanation of the circumstances related to the dismissal. As relevant, such appeals should include official/professional documentation (i.e. medical records, court documents, or any other documentation which would support an appeal).
- The appeal will be reviewed by the Director of Allied Health Programs, and approved or denied based on the student's individual circumstances, past academic record, and potential to successfully complete the program.
- The Program Director will provide a written decision to the student within fourteen (14) business days. The decision on the dismissal appeal is final.
- If the student is allowed to re-enroll, the Program Director may place conditions that the student must meet in order to be reinstated. The Program Director may also reinstate the student on a probationary basis. Reinstatement is based on class and space availability.
- Students may be responsible for additional tuition and fees if they are required to re-take coursework as a condition of re-entering the program.
- Reinstated students must maintain VUMC student accounts in good standing may not default on any loan.

STUDENT GRIEVANCE CONCERNING GRADES

Students should seek redress of a problem with a grade as soon as possible after receiving the grade and in no case later than one (1) week after the grade is released. Students should confer directly with the course director about grade concerns. Every effort should be made to resolve the problem fairly and promptly at this level. If the student cannot resolve the problem through discussion with the course director, the student should formally request an appeal from the Program Director within one (1) week of talking with the course director. If the Program Director is the course director in question, the appeal should be made to the Director of Allied Health Programs. The decision of any appeal is final.

GRADE APPEAL

Should a student disagree with a grade, an appeal may be filed with the Program Director within five (5) business days after the grade issuance. All appeals must be in writing, signed and dated.

COURSE SYLLABI

Each Perfusion Program Course has its own syllabus outlining grading criteria and assigned semester credit hours, as well as the method of delivery of its content.

TRANSCRIPT

A transcript of courses designating credit hours and grades earned will be provided by Vanderbilt University Medical Center Programs in Allied Health. The transferability of credit to outside institutions is at the discretion of the admitting institution.

Transcripts may include grade point averages (GPAs) for students. To compute the GPA, the total number of points earned by the student is divided by the number of credits taken, which renders the student's grade point average.

PROGRAM ADVISORY COMMITTEE

The Program Advisory Committee consists of the Program Director and at least one (1) member of The Vanderbilt Heart and Vascular Institute, a Vanderbilt University Medical Center Administrator, and the Vanderbilt Allied Health Program Director as well as representatives of the communities of interest and three members with no relationship to Vanderbilt University Medical Center. The Program and Medical Directors will meet with the Committee in a non-voting, advisory capacity at minimum annually.

The Committee advises on matters such as student regulations, Program policies, curriculum design, student evaluations and admission policies. All student dismissal cases are reviewed by the Committee.

2017-18 PERFUSION PROGRAM ACADEMIC CALENDAR

	<i>Juniors (Class of 2019)</i>
Program Start Date	August 4, 2017
Thanksgiving Break	November 22, 2017 @ NOON
Return from Thanksgiving Break*	November 27, 2017
Final Exam(s) for Fall Semester	December 18-21, 2017
Christmas Break Start	December 21, 2017 @ 1700
Return for Spring Semester*	January 3, 2018
Final Exam(s) for Spring Semester	May 9, 2018
Last Day of Clinic for Spring Semester	May 8, 2018
Spring Break	May 10-13, 2018
Summer Semester Begins*	May 14, 2018
Oral Exam	May 14, 2019
Review Course	May 6, 7, 8, and 9, 2019
Review Course Exam	May 15, 2019
Graduation	May 18, 2019*

Please note that students in the program may be required to take call on the following holidays: Labor Day, Memorial Day, and 4th of July. This will requirement will be subject to the clinical call schedule. Students taking call on the above list holidays will be awarded 8 additional hours of Personal Time Off (please see the PTO policy for further explanation).

VUMC PERFUSION PROGRAM CURRICULUM

The Perfusion Program is 22 consecutive months in length, covering five ~~terms~~-semesters. The curriculum utilizes the principles of the cognitive, affective, and psychomotor domain to develop competent entry-level perfusionists. The course of study includes courses in anatomy and physiology, pathophysiology, pharmacology, perfusion technology, research/laboratory techniques, simulation training, and practical training (clinical rotations).

Students are introduced to the clinical arena, professional behavior and ethics during the program. A significant portion of the 22-month training period is spent gaining experience in clinical perfusion, beginning in earnest in the second semester of the program.

CURRICULUM SEQUENCE

FALL SEMESTER - FIRST YEAR (August through December)

A & P 501:	Anatomy and Physiology	4.5 credits
PHM 501:	Pharmacology	3 credits
Patho 501:	Pathophysiology	4 credits
CVPT 501:	Cardiovascular Perfusion Technology I	6.5 credits
RES 501:	Research Lab I	2 credits
Sim 501:	Simulation I*	3 credits

SPRING SEMESTER - FIRST YEAR (January through May)

CVPT 502:	Cardiovascular Perfusion Technology II	2 credits
RES 502:	Research Lab II	1 credit
CR 501:	Clinical Rotation I	15 credits
Sim 502:	Simulation II	1 credit

SUMMER SEMESTER - SECOND YEAR (May through August)

CR502:	Clinical Rotation II	12 credits
SEM501:	Seminars in Perfusion	1.5 credits

FALL SEMESTER - SECOND YEAR (August through December)

CVPT 503:	Cardiovascular Perfusion Technology III	2 credits
RES 503:	Research Lab III	1 credit
CR 503:	Clinical Rotation III	16 credits
Sim 503:	Simulation III	1 credit

SPRING SEMESTER - SECOND YEAR (January through May)

CVPT 503:	Cardiovascular Perfusion Technology IV	2.5 credits
RES 504:	Research Lab IV	1 credit
CR 504:	Clinical Rotations IV	16 credits
Sim 504:	Simulation IV	1 credit

COMPETENCIES AND TERMINAL OBJECTIVES

The schedule of tests, final exams and other assignments will be discussed at orientation, or during the first meeting of each didactic course. Exams are generally scheduled throughout the course and at the completion of each course; however, regular chapter/topic exams, quizzes, and other exams may be part of each instructor's curriculum.

Each course identifies objectives and competencies that must be demonstrated by the student. Each course utilizes testing to assess the student's retention of the material to match the course objectives through examinations, written, practical, and oral, and

presentations. Each course does have outside work assigned and is described in the syllabus of each course.

SIMULATION LABORATORY

Simulation Lab is located in Medical Center North CC-2314. The hours for simulation lab instruction will be given at the beginning of each semester. The program director will also have open simulation lab hours available throughout the semester. The wet lab experience will begin introducing students to various types of perfusion equipment. Laboratory experience will begin early in the year, allowing hands-on training to support the didactic classes.

Support of ongoing research projects allows the perfusion student the unique and valuable opportunity to begin functioning independently as a perfusionist. This experience is designed to increase student autonomy and will allow the student the opportunity to practice perfusion technique in a less stressful environment.

SIMULATION EXPERIENCE OBJECTIVES:

- The student will become acquainted with the perfusion console and its safe operation.
- The student will become proficient at setting up the cardiopulmonary bypass (CPB) circuit.
- The laboratory experience will enable the student to become more proficient in the management of perfusion, by regulating physiological variables.
- The student will become familiar with research design, evaluation and reporting.
- The laboratory will allow the student to study the prevention and management of catastrophic events pertinent to CPB.
- Exposure of the student to a variety of disposable equipment during the laboratory experience will help to acquaint him/her with a full range of cardiopulmonary equipment used clinically in other institutions.

JOURNAL CLUBS/MEDICAL CENTER WEEKLY CONFERENCES

Each student will be required to attend quarterly journal meetings of the program. In addition, each student will be required to attend weekly conferences per semester as required in the course syllabus for CVPT I and the CR-501, CR-502, CR-503, CR-504.

STUDENT PERFORMANCE CONFERENCES

Individual student performance conferences with the Program Director and the Clinical Coordinator will be held at the end of each semester during the course of study. If a student has concerns or issues in regards to academic or technical performance, he/she can schedule a meeting with the Program Director at any time. The Program Director shall, if at all possible based upon staffing and the surgical schedule, maintain regular weekly office hours in order for students to seek guidance and assistance during their tenure. Such schedule will be made periodically available to the students for their use.

COMPREHENSIVE MOCK BOARD EXAMINATION

Each student is must pass a comprehensive mock board as a requirement for CVPT IV and to be allowed to graduate from the program. This exam is a multiple-choice, computer-

based exam with content and question similar to the Board of Certification exam. The purpose of this comprehensive final exam is to ensure that students have the knowledge needed for certification and to prepare students certification exams. Students must earn at least a 75% to pass the exam and will have three attempts in which to do so. The first attempt for the comprehensive final exam will be scheduled by the program director and administered to the class as a whole. Any students who do not pass on the first attempt will individually schedule their second and third, if needed, attempt(s) with the program director. Once the student has received a score of 75% or greater, s/he will not need to complete any additional attempts.

Should the student not pass the comprehensive final after the third attempt, the Program Advisory Committee will meet to review the student's academic performance throughout the year. This review will either result in a failure to graduate or in an extension of training in the area(s) of concern. The decision made by the Advisory Committee may be appealed according to the Program's Appeals Policy.

STUDENT COMPREHENSIVE EXAMINATIONS AND RESEARCH PROJECT

ORAL EXAMINATION

Oral examination will be given prior to the completion of the fifth semester of program and pass of the examination is required to graduate from the program. The student is required to receive the designation of PASS and/or a 75% or greater on the oral examination process. Any students who do not pass on the first attempt will individually schedule their second and third, if needed, attempt(s) with the program director. Once the student has received a score of 75% or greater, s/he will not need to complete any additional attempts. The student shall be required to perform 7 more clinical cases and pass written exam before being allowed to sit for an additional oral examination.

Should the student not pass the oral exam after the third attempt, the Program Advisory Committee will meet to review the student's academic performance throughout the year. This review will either result in a failure to graduate or in an extension of training in the area(s) of concern. The decision made by the Advisory Committee may be appealed according to the Program's Appeals Policy.

PRACTICAL EXAMINATIONS

Practical examinations will be given prior to the completion of each semester in the simulation lab. The practical examinations are competency based and will be used to assess a student's clinical readiness. Passing is required for progression and completion of the program. Should the student not pass the practical exam, the student will be placed on academic probation and will be subject to an action and not allowed to participate in active clinical activities until achieving a 75% or greater on the practical exam. The student will be given two weeks to pass a second practical exam. Should the student not pass a second practical exam the student could result in dismissal from the program by a review of the advisory committee. This review will either result in dismissal from the program or in an extension of the probationary period with a detailed timeline for passing of a competency

based practical exam. The decision made by the Advisory Committee may be appealed according to the Program's Appeals Policy.

INDEPENDENT RESEARCH PAPER

Each student will be required to submit an independent research paper to graduate from the program. In all likelihood, student research projects will encompass topics that are related to on-going departmental research projects, and as a result thereof, topics for student research may be selected by the Medical and/or Program Directors. Student input is always considered. Student research projects may include critical analysis of publications related to specific topics. Student research projects may be presented to the perfusion community at a local, state or national venue. Further information will be provided in advance of the project selection and deadlines as part of the Research Course Series.

CLINICAL LEARNING EXPERIENCES

CLINICAL ROTATION SCHEDULE

The student will be introduced to the proper conduct of clinical perfusion, and as the students' knowledge and skills become more sophisticated, the student will gradually assume greater responsibility for the case.

Early clinical case rotation is limited to those cases which the Program Director determines will involve basic techniques, and the student will work under the direct supervision of those clinical instructors/perfusionists with the greatest experience in teaching in general, in supervising students, in demonstrating express clinical expertise based upon standards of practice, policies, and procedures then in effect within the Vanderbilt Heart and Vascular Institute and Perfusion Department. Gradually the students will be exposed (over time) to more involved technical operations, including the management of various types of equipment and perfusion devices which are necessary for clinical perfusion. Participation of less experienced staff perfusionists functioning as supervisors is overseen by the Program Director, and gradually, as the perfusion technology student becomes more experienced, participation by less experienced staff in teaching increases.

Early experience for the students consists of adult cases. The Program Director shall determine which student shall participate in which case during the daily operating schedule, and when necessary, which staff perfusionist will supervise a student during any case. This system results in a smooth transition for the student through the continuum of relatively easy to relatively difficult cases, and at the same time it optimizes competency with the relative clinical instructor/staff level of experience.

The participation of the perfusion student in infant and pediatric cases is limited to set-up and close observation throughout the early and middle clinical experience. Participation as primary perfusionist for the student during infant and pediatric cases is allowed during the late clinical experience, and then only under the supervision of the Chief Pediatric Perfusionist or the most experienced pediatric staff perfusionists. Before the student is allowed to act as primary perfusionist during infant and pediatric cases, he/she must have demonstrated consistently superior understanding and consistently superior performance

as primary perfusionist over a compelling number of adult cases. The pediatric perfusion team will determine when such a level of performance is attained.

Rotation schedules will be assigned by the program director in collaboration with the clinical competency committee and the student. Students will be offered outside rotations and the program will provide a scholarship for students participating in outside rotations up to a maximum of \$2000. While on an outside rotation students are responsible for their food, housing, and transportation to and from the rotation. Students will spend the first portion of CR501 (January to mid-May) at Vanderbilt University Medical Center and Centennial Medical Center and an in an observation role at Monroe Carrel Children's Hospital at Vanderbilt. Students will begin participating in other clinical rotation sites in mid-May. At this time all rotations will consist of 10 weeks of active participation starting in mid-May of the junior year. Some rotations will require a minimum of 1 week observation and orientation during to the 10 week active rotation. The program director and the clinical competency committee can and will alter the student rotation schedule if there is a need to do so to enhance or remediate the students competency of his/her clinical skills.

Students will be excused from clinical participation starting on the Thursday prior to starting a rotation outside of Nashville to accommodate for travel to the new clinical site. When returning to Nashville from a rotation outside of Nashville, a student will begin their Nashville rotation on the Tuesday following the completion of their outside rotation to accommodate for travel from the outside rotation back to Nashville.

CLINICAL ROTATION SITES

Barnes Jewish Medical Center – St. Louis, MO
Centennial Medical Center – Nashville, TN
Columbia Presbyterian – New York, NY
LeBonheur Children's Hospital– Memphis, TN
Monroe Carrel Children's Hospital at Vanderbilt– Nashville, TN
St. Luke's Medical Center – Kansas City, MO
University of Minnesota – Minneapolis, MN
University of Mississippi – Jackson, MS
Children's of Alabama – Birmingham, AL
Memorial Medical Center – Chattanooga, TN
Vanderbilt University Medical Center– Nashville, TN

PERFUSION PROGRAM ATTENDANCE POLICY

Clinical training within a post-graduate medical technical program most closely resembles a residency program or fellowship in advanced medical/surgical training. Students are expected to be present on a full-time basis through their time in the Perfusion Program. The students in the Perfusion Program will be exposed to the widest variety of clinical situations and cases, many of which occur during emergency situations, after hours, and on weekends. Therefore, in order to maximize student exposure to these clinical situations, students are required to sometimes spend long hours in the operating room, either participating in, observing, or available for and anticipating in the unusual or emergency

case.

Attendance for all didactic lectures will be taken during each meeting of the course. During the clinical rotation courses, students will be required to maintain a daily time sheet. These timesheets must be signed by a clinical instructor and submitted to the program director on a monthly basis. Documentation of any absences and/or tardiness is to be noted.

As a general rule (the exception being on-call assignments made during Clinical Rotations I, II, III, and IV), perfusion students are required to sign in to their clinical assignments in a timely manner, generally at 6:00 a.m. depending on the assigned daily responsibilities. Students will have didactic lectures, simulation sessions, medical conferences and clinical rotations. Tardiness is not tolerated, since the clinical team, including perfusion staff and students, nurses, anesthesiology and surgery, and (most importantly) the patient rely upon each member of the team to be ready to perform their particular care prior to the time the patient arrives in the operating room. Furthermore, each time a student is unavailable to participate clinically, they are depriving themselves of the opportunity to receive the maximum benefit of their training within the allotted time. It is therefore appropriate to require students to participate in clinical training beyond the date of their anticipated graduation, should any student fail to adhere to attendance or other policies.

Failure to attend a mandatory assigned event within the program will be addressed by the Program Director and the student will be given an assigned requirement to be completed on the topic presented with a specific deadline of submission for the assignment.

Failure to attend an assigned clinical case will be addressed by the Program Director and could result in additional clinical participation or clinical probation up to dismissal from the program.

Each student of the program is entitled to the equivalent of **eighty hours (80) of personal hours off** based on an eight (8) hour clinical/didactic day of absence from didactics or clinical assignments without having an effect on his/her attendance record. These personal hours are used for any absence of the following nature: sick day, doctor appointment, personal matters, job interview or inclement weather not severe enough for the Program Director to cancel class/clinical assignments. ***The personal hours are for the students to use, but the student is encouraged to use them wisely.*** Students may earn additional personal hours off to add to their bank through the following activities: taking call or participating clinical on day for which all other students in the program have been excused (during the holiday breaks). Students taking call for Memorial Day, Labor Day, and the 4th of July will earn additional hours of personal hours off. Students can earn an additional 16 hours per day dependent on their level of activity. Taking call will give a student an additional 8 hours and being called in to participate in a clinical case will earn the student an additional 8 hours.

Students must complete the request for personal time off from **two (2) weeks** prior to the requested time in accordance with the following. The only exception to this is an emergency or for a job interview. The Request for Personal Time Off form can be obtained

from the student site on the program website or in the student room. Requested time off form must be completed with approval from the chief perfusionist of the rotation the student is participating in at the time of the requested time off and the program director and received in the program directors off two (2) weeks prior to the requested time off. The program director will only approve the request upon submission of the request form.

- Requested time off for interviews will not require the two (2) weeks' notice.
- The chief perfusionist of the rotation site for which the student is/will be participating in at the time of the interview needs to be given communication of this absence by both the program director and the student.
- Time off taken for an illness will not require the two (2) week notice, but will require immediate communication with both the program director and the chief perfusionist of the rotation site.
- If the student is out due to an illness for more than two (2) days due to illness, written notification/medical excuse from a physician must be given to the program director.
- **The student must speak with the program director and the chief perfusionist of the clinic rotation EACH day of their absence.**
- The request form must be completed with final approval granted by the program director.
- Students will not be able to use their personal hours in the last three (3) weeks of the program. Exceptions will be allowed for the following reasons:
 - Interviews
 - Bereavement
 - Jury Duty
 - Illness with a written medical excuse
- **Only one student per rotation will allowed to be off at a time.** Exceptions will be allowed for the following reasons:
 - Attendance to a professional conference
 - Interviews
 - Bereavement
 - Jury Duty
 - Illness
- Time off taken for jury duty or bereavement will not require the two (2) week notice.

Bereavement

The request form must be completed and approval only needs to be granted by the program director.

- A student may take up to three (3) days of leave **without** loss of personal hours off for a death in the family.
 - Family is defined as a spouse, son, daughter, mother, father, mother-in-law, father-in-law, sister, brother, grandparent or grandchild. The policy also includes domestic partner, stepparent, step-sibling, or stepchild.

Jury Duty

The request form must be completed and approval only needs to be granted by the program director.

- Time spent on jury duty **will not** result in loss of personal hours off.
- If the jury obligation is less than three (3) hours in a day, the student must report to clinic/classroom for the rest of his/her daily responsibilities.

A student who appears in court on their own behalf must use their personal hours off. If a student has no personal hours off remaining, he/she will be required to participate in additional clinical days prior to completion of the program or during scheduled breaks.

COMMUNICATION FOR ILLNESS OR EMERGENCY

In the case of illness or emergency, in which a student must be absent without prior notice, the student must report the situation immediately by:

- Call the clinical coordinator at the clinical site or the instructor for the lecture. If the clinical coordinator is not available, the student will leave a message with perfusionist in the perfusion department who answered the call and email the instructor to follow up.
- Email the program director at Nicole.m.michaud.1@vanderbilt.edu with pertinent information, including how long the student anticipates the absence to be and how the information was communicated to the instructor (i.e., phone call or email).
- If the absence extends beyond one day, the student must keep the instructor and program director current on the duration of time away.
- Any absences greater than two day as result of an illness/injury will require a doctor's excuse before make-up work can be scheduled.

If a student is experiencing any of the following, they should follow the above communication policy.

- Fever > 101 F
- Diagnosis of a communicable illness (medical documentation should be submitted)
- Vomiting/Diarrhea

Medical or Other Absence:

In the event that a student is not able to attend a regularly scheduled training day, the student shall notify the Program Director (or designee) as soon as possible. Medical and other absences shall be documented on the weekly time sheet (student site of the program website), and absence forms, requests for leave, etc. shall be promptly completed.

Medical absences in the excess of two (2) days will require a doctor's excuse. Following such absence, a student shall not be allowed to return to class or clinical rotation until such paperwork is completed. Absences based on a student's inability or unwillingness to complete the required paperwork or exhaustion of the allotted personal time will require the student to make up day for day following the date of graduation of their class or could result in being withdrawn from the program.

Tardiness

A student is considered to be tardy if the student is more than fifteen (15) minutes late for any lecture, laboratory, or clinical rotation. If a student is more than thirty (30) minutes late for any lecture or laboratory, the student will be marked as absent. If the student is

more than (30) minutes late for a clinical experience, the student will be excused from the clinical rotation and must report to the Program Director and/or Clinical Coordinator. Exceptions will be made for extreme circumstances that are out of the student's control, such as an interstate closure due to a traffic accident. However, students are expected to understand the typical daily traffic flow along their route in order to plan the drive without incident. Students must notify the course instructor and program director using the same guidelines as outline for communication of emergency situations. Five (5) tardies during the program will count as one absence and will be deducted from the student's personal days.

If a student is tardy for a test or simulation session, the student will be allowed to take the assessment or participate in the simulation; however, no additional time will be granted to the tardy student. The student must complete it by the same time as the students who began at the designated time.

EXCESSIVE TARDINESS, CLINICAL EXPERIENCE DAY UNAVAILABILITY, and/or EXCESSIVE USE OF SICK LEAVE

An excessive number of absences or tardies is defined as greater than five (5) of each throughout the program. Based upon the professional commitment and discipline required of all members of the cardiac surgery team, and especially as regards Perfusion Care, excessive tardiness is detrimental to patient care, and disruptive to the rotational site, the cardiac team, and the Program, and is considered by the program to be unprofessional conduct, as well as failure on a student's behalf to perform assigned duties. In such a case, the student shall be subject to the disciplinary action plan up to dismissal for a rotation and/or the program.

Make-Up Policy

Attendance for didactic and clinical is required. Unexcused absences will result in reduction of personal hours a. The make-up of time in attendance is not required until all personal time is depleted. Make-up hours will be calculated in increments of one (1) hour. Any time missed (didactic or clinical) beyond the granted personal hours will be made up in the clinical setting and arranged during scheduled breaks or after program completion. All make-up hours will be scheduled appropriately as not to affect the clinical education of any other student's clinical needs. Students are not permitted to make-up any attendance without the permission of the Program Director. *The Program Director will counsel any student requiring make-up clinical hours.*

Didactic Coursework

Faculty presentations and assigned coursework are vital components in the learning process. In the event of an absence during a scheduled didactic course, the student should refer to the course syllabus for make-up options for work missed specific to that course. Any assignments missed during an absence must be completed upon the student's return. If a simulation or research session is missed, the student will be required to schedule the make-up work at the convenience of the instructor. Each student is responsible for follow-up with the instructor within 24 hours of return to school for arrangement to make-up any missed work. All make-up work must be completed within one week of the student's return. Failure to schedule or communicate with the instructor about make-up work will

result in an automatic zero (0).

EXAMS will only be allowed to be made up upon approval of the course instructor. Students should refer to course syllabus for exam dates.

MEDICAL CENTER

PERFUSION PROGRAM
REQUEST FOR PERSONAL TIME OFF FORM

Student Name: _____

Date Submitted: _____

Rotation Site: _____

Chief Perfusionist: _____

Type of Absence Requested:

Sick Meeting Bereavement

Personal Jury Duty Interview

Dates of Absence:

From: _____ To: _____

Number of Hours Requesting: _____

You must submit requests for absences, other than sick leave, bereavement, jury duty and interviews, three weeks prior to the first day you will be absent.

Student Signature *Date*

Approval

Approved

Rejected

Comments:

Chief Perfusionist Signature *Date*

Approved

Rejected

Comments:

Program Director Signature *Date*

CLINICAL SITE ASSIGNMENTS

Clinical site assignments will be made each day by the Program Director or designee. Students must be available for assignment at 6:00 a.m. (or earlier as designated by the clinical site) in order that they may be fully prepared to provide their portion of perfusion care prior to the time that the patient enters the operating room and be fully immersed in the learning opportunities available at each clinical site.

It is important for perfusion students to be readily available during the workday to participate and assist in on-going clinical work to which they may not be primarily assigned. Clinical opportunities may arise at any time and students should be open to participating in unscheduled cases even when not assigned call responsibilities. Students should remain in the operating room(s), the pump room, or very near the operating room in order to receive timely assignments, and so that the Program Director may ensure their immediate presence. While the Program may provide beepers to students, students should understand and accept that it is the student's responsibility to be available for clinical assignment.

Daily Clinical Assignments

The daily clinical schedule will be sent out by pager and/or text message between 5 and 6 pm. The clinical schedule timing is subject to clinical rotation for which the student is participating in. It is the student's responsibility to contact the scheduler for each rotation no later than 9 pm if he/she has not received their clinical assignment for the following day. All students issued pagers are required to keep their pagers on at all times from 4:00 pm Sunday until 7:00 pm Friday, when on clinical rotation at VUMC. In addition, "on call" students must keep their pagers on when "on-call" as outlined in the on-call policy.

Clinical Experience Daily Availability

A student who is not immediately available in the operating suite for assignment at any time during the day is considered absent from the workplace and Program. Unexcused absences from the workplace and Program are not tolerated. Any such unexcused absence will result in a zero grade for that day, and will be made up by the student, day for day, following the date of graduation. In addition, a student failing to report to clinical responsibilities will be subject to the disciplinary action protocol and could be subject to immediate probation or dismissal from the program.

Based upon the nature of the business of surgery, a perfusionist's workday is not a "9 – 5" business, and it is not unusual for the workday to be extended by emergencies, delays in the surgery schedule, and the like. Therefore, in order to maximize student exposure to the clinical experience, student dismissal at the end of the clinical experience day is at the discretion of the Program Director (or designee).

Clinical Experience Daily Dismissal

Generally, student dismissal shall occur at the end of the clinical experience day; that is, when cases other than on-call or unanticipated emergency cases are completed. Student dismissal shall not occur nor is it appropriate for students to seek dismissal, prior to 3:00 p.m. on any training day, unless the student is excused by the Program Director or his designee. Nonetheless, student dismissal shall not be later than 7:00 p.m. on Friday's of the clinical experience week, except for the on-call perfusion student.

Student dismissal at the end of the clinical experience day shall be at the end of their clinical assignment, and not until their patient has left the operating room, is stable in the intensive care unit, and the clinical area for which the student was assigned to is cleaned, stocked, and reset for the next procedure. ***Prior to leaving clinical assignment, the student MUST notify the clinical instructor or site coordinator and verify that no additional cases or duties need to be completed prior to the student leaving. In addition, the student must send a text message to the clinical coordinator or the program director indicating that they have been approved to leave clinic.***

Failure to obtain permission to be excused from the operating room at any time during the clinical experience day, including the conclusion of the workday, is not acceptable, and will result in the student receiving a zero for that clinical experience day, and the student shall make-up that workday, day for day, during scheduled breaks or following the date of graduation. In addition, a student to gain approval to be dismissed from clinical responsibilities will be subject to the disciplinary action protocol and could be subject to immediate probation or dismissal from the program.

As with any and all matters of behavior and assignment within the Program, the Attendance Policy is subject to disciplinary action as set out in the Student Handbook. It should be understood that as with all policy within the Program, the chain of command shall be followed at all times. Program policy is subject to change at the discretion of the Program officials, but written and verbal notification will be provide to the student body.

ON-CALL RESPONSIBILITIES

As part of educational experience in the Perfusion Program students will be required to be "ON-CALL" during Clinical Rotations I, II, III, and IV. The hours and frequency will vary depending upon the clinical assignments. Pagers will be assigned to all students. It is the "ON-CALL" student's responsibility to be available to the operating room within the designated time of the clinical rotation for which the student is participating in. The Program understands and respects that students need both time off from clinical and other training, as well as time for family, weekend employment, etc. Nonetheless, there are no training programs (or employment settings) wherein weekend call is disregarded – it is and will remain an important part of care giving, as well as training.

Call will be assigned on a monthly basis by the Program Director, or his designee. Students are required to be at the work site between thirty (30) and sixty (60) minutes or less

following being paged to come into the hospital depending on the clinical rotation. Refer to attendance policy regarding unexcused absences.

Upon notification of the Program Director from the clinical rotation site of a student's failure to comply with the "ON-CALL" responsibilities of the clinical rotation site, a student will be subject to the disciplinary action protocol with the possibility of dismissal from the clinical rotation site *and up to and including dismissal from the program*.

HOLIDAYS

If a student is scheduled for call on a day a facility observes a holiday, the student will be required to report to the facility only upon being called in for an emergency procedure. Student taking call on holidays in which the other students in the program are off, the student taking call will be awarded an additional 8 hours of personal time per day for taking call and an additional 8 hours if the student is called in to participate in a clinical activity. Holidays which occur on scheduled breaks from the program will not be considered as part of the clinical rotation and students will not be on call for those holidays.

PAGERS

Each student will be assigned a pager. If the student loses or damages his/her pager, it is their responsibility to immediately contact the Program Director and the Paging office. It will be the student's responsibility to cover the \$50 replace fee for a lost/damaged pager. The student must obtain a new pager immediately. Failure to acknowledge pager notifications for cases/emergencies is subject to the disciplinary action protocol.

STUDENT WORK ROOM KEY

Each student will be provided a key for the student work room located in Medical Center North D-2219. If the student loses the key or damages anything in the work room, it will be the student's responsibility to pay for any cost of replacement or repair incurred by the program. Depending on the nature of the damage to the student workroom, the student may be subject to disciplinary action.

POLICY FOR CLINICAL ASSIGNMENT OF VAD'S and ECMO

Purpose

The purpose of this Policy is to provide for a mechanism by which the students in the Perfusion Program participate in the monitoring, maintenance, and troubleshooting of various circulatory assist devices in use within the Medical Center while under the supervision of a certified clinical perfusionist.

Intent

It is the intent of the program to provide the students with actual and meaningful contact with various circulatory assist devices as part of their clinical and didactic training in the

field of perfusion care. Since the program cannot predict if and when any circulatory assist device may be clinically applied, it is imperative that the student clinical assignments be flexible to the extent that significant contact with the assist devices are made, notwithstanding normal or otherwise assigned clinical duties.

It is furthermore the intent of the Program that student duties regarding assist devices are closely monitored in terms of the level of responsibility to be assumed by the student, and furthermore monitored in terms of time commitment throughout the day and night.

NOTE: This policy shall apply to adult VAD's and ECMO in which a centrifugal pump, axial flow pump, positive displacement pump, pneumatic pump or pusher plate pump is used as the blood propulsion system.

Under certain circumstances, students will be assigned as part of the clinical rotation to participate in the monitoring, maintenance, and troubleshooting of any VAD/ECMO circulatory and pulmonary assist device.

During normal business hours, Monday through Friday, (7:00 a.m. through 7:00 p.m.) both first and second year students may be assigned to duties involving the monitoring, maintenance, and troubleshooting of VAD/ECMO devices. The level of responsibility assigned to any student shall be commensurate with their training in the skills necessary to monitor, maintain, and/or troubleshoot the device. Students must be flexible in accepting such assignments as they arise within the clinical setting.

During non-normal business hours (after 7:00 p.m.), Monday – Thursday, students shall be assigned to monitoring, maintenance, and troubleshooting according to the following:

1. Students shall not generally be assigned to VAD/ECMO duties beyond 7:00 p.m., of the Friday of any work week, except for the on-call perfusion student.
2. First or Second Year Students shall be assigned primary duties.
3. Assignment may be for one (1) night, in-house (within the medical center); however, no such assignment shall last for more than sixteen (16) hours at any one time.
4. No student who performs the aforementioned duties shall be required to participate in the next day's clinical schedule, following VAD/ECMO duties on the previous night.
5. Student duties shall include only those monitoring, maintenance, and troubleshooting tasks that lie within the practice of perfusion care as that term is generally understood within the Medical Center.

Monitoring of and application of this Policy shall be the responsibility of the Program Director, or designee.

POLICY ON EMPLOYMENT DURING PROGRAM ENROLLMENT

Due to the complex content and intense time commitment associated with the curriculum of the program, the student is encouraged to not work during the program. If a student needs to work, the student is required to disclose their work arrangements and get permission from the program director to work. Any employment and work hours required for the student to maintain an income should not interfere with his/her didactic or clinical assignments including but not limited to class meetings, clinical assignments, call or academic performance or a peers clinical schedule. If a students work hours interfere with academic, clinical or professional performance in the program, the student will be asked to curtail work activity. A student under no circumstances may receive or be compensated for clinical assignments in relationship to their perfusion training

PROFESSIONAL MEMBERSHIPS

PROFESSIONAL DUES

Students are expected to join the national perfusion associations: the American Society of Extracorporeal Technology (Am SECT) and the American Academy of Cardiovascular Perfusion (AACP). Membership in the AmSECT requires completions of a student application and a one-time fee of \$15.00. Membership in the AACP requires completion of a student application and an annual fee of \$25.00. Students are required to maintain their student memberships during the tenure of the program.

PROFESSIONAL CONFERENCES

Students are encouraged to submit papers and posters for presentation, participate in student functions, and attend profession conferences. Students will be allowed six (6) days to be used throughout the twenty-two (22) months of the program to attend professional conferences. Student are responsible to complete the Request for Personal Hours Off Form for conferences and get approval from the chief perfusionist of the rotation for which the student is participating at the time of the conference and the program director. The form must be received in the Program Director's Office two (2) weeks prior to the conference request. The time spent attending a professional conference **will not** be deducted from the student's personal hours unless the student's time spent at a professional conference exceeds the allotted six (6) days. Students will be required to agree to and sign the Conference Attendance Code of Conduct prior to gaining approval from the Program Director to attend a conference.

Conference Attendance Code of Conduct

1. Attend all the scientific sessions and be on time in the morning for the meetings.
2. Refuse any dinner or bar tab paid by vendors unless it is a conference sponsored event.
3. Dress professional when attending all meetings – business professional.
4. Treat all perfusion students from other programs with the utmost respect.
5. Know that violation of any of the above rules may result in probation and/or dismissal from the program.
6. Be a proud professional representative of the VUMC Perfusion Program in the Programs of Allied Health.

VANDERBILT  UNIVERSITY
MEDICAL CENTER

PERFUSION PROGRAM
CONFERENCE ATTENDANCE CODE OF CONDUCT

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I, _____, as a student in the Perfusion Program at Vanderbilt University Medical Center agree to abide by the conference attendance code of conduct when attending a professional conference as a student of the program. I understand any violation of the conference attendance code of conduct is subject to the disciplinary action plan of the program. (This form should be completed three (3) weeks prior to attending a conference.)

Student Signature: _____ Date: _____

NATIONAL EXAMINATION/STATE LICENSURE

After successful completion of the course of study, students from this Program will be eligible to take the national certification examination administered by the American Board of Cardiovascular Perfusion. The certification exam is a two exam process. The first exam is the Perfusion Basic Science Exam (PBSE) and requires the student to have graduated from an accredited perfusion program, completed 75 clinical cases, and be given clinical competency clearance by the program director. The second exam is the Clinical Application in Perfusion Exam (CAPE) in addition to the requirements for the PBSE the applicant must also have completed 40 independent clinical cases after graduation. It is entirely the student's responsibility to seek guidance from the American Board of Cardiovascular Perfusion regarding the certification process, and it is also entirely the student's responsibility to seek guidance from any and all licensing bodies that may impact their practice, either as students (prior to graduation), or as practicing perfusionists (following graduation).

Certification by the ABCP is a pre-requisite for licensure in all states that currently offer licensure to perfusion care providers. Students graduating from an accredited program will be eligible for a provisional license in those states requiring a license. The permanent license will be granted upon satisfying the certification process.

During training, it may be necessary for students to file paperwork with the State of Tennessee regarding licensure status. The Program Director will ensure student compliance with state law and other law and regulations.

Applications for the board exam are available well in advance of the application deadline.

EMPLOYMENT/PLACEMENT FOLLOWING GRADUATION

Cardiovascular Perfusion is a specialized allied health profession. The perfusionist is a highly trained member of the cardiac surgical team who is responsible for the operation of the heart lung machine. Throughout a medical institution a perfusionist may be required to support or replace the function of a patient's cardiovascular and/or pulmonary systems. The perfusionist is required to have extensive knowledge in human anatomy, physiology, pharmacology, pathology, and surgical techniques. Perfusionists can find employment in hospitals in moderate to large cities that have cardiac surgery programs. The demand for perfusionists will continue due to heart disease being the leading cause of mortality and morbidity in this country.

Please be advised that VUMC-Perfusion Program is NOT a placement agency regarding employment opportunities. Employment following graduation is the responsibility of the graduate, as it is with any professional endeavor. The student should, however, seek assistance from the Program Director regarding drafting of CV's and cover letters regarding potential employment, at a reasonable time prior to graduation.

It is the policy of the Program that any potential employment opportunities within the

Vanderbilt system for perfusion students nearing graduation are NOT open to students who have not substantially completed the Program (that is, successful completion of the final examination, as well as documented clinical competence checked off by the Clinical Competency Committee).

VUMC AND PROGRAM POLICIES AND COMPLIANCE

BLS and ACLS CERTIFICATION AND HIPAA

Certified completion of Basic Life Support (BLS) training for both adult and pediatric must be presented to the Program Director within one month of beginning the fall semester. Students will be required to maintain a current certification until graduation. Verification of HIPAA training must be provided to the Program Director within two weeks of beginning the program. Students in the program will be required to take Advanced Circulatory Life Support (ACLS) during their second semester in the program. If a student is already ACLS certified, he or she is required to maintain this certification during the tenure of the program.

OCCUPATIONAL HEALTH/EXPOSURE AND INFECTION CONTROL POLICY

During enrollment in the program, a student will be at risk for exposure to potentially hazardous material, chemicals and blood-borne pathogens or other work related injury. Occupational exposure occurs when there is a puncture, scratch, laceration, splash, prolonged skin contact or contact with broken skin involving blood, body fluids, or other potentially infectious materials. Students should consider all patients to have the potential risk and are required to wear the personal protective equipment including but not limited to eye protection. Among the hazards that a student may be exposed to are:

- Housekeeping and/or cleaning agents
- Flammable and/or explosive chemical and gases
- Electrical and/or mechanical equipment
- Fumes
- Radiation
- Blood-borne pathogens

Students will be instructed in the use of infection control and standard precautions, as well as safety in the workplace. If exposure or injury does occur during scheduled clinical education time, the student should follow the documented procedure for immediate treatment.

1. Report the exposure/injury to the supervising clinical instructor IMMEDIATELY.
2. Take appropriate first aid measures (clean wound with soap/water, flush mucous membranes with water/saline for 15 minutes). If life-threatening, see Emergency Department (ED) physician immediately.
3. Get name, medical record number and location of the exposure.
4. VUMC will provide reasonable first aid services for work/training related injuries or illnesses, such as blood or body fluid exposures.

5. VUMC will attempt to administer or arrange for baseline HIV, Hepatitis B and C testing or source patient and the student within the first 2 hours following exposure.
6. VUMC, at student's request will administer a full course of post exposure prophylaxis and perform the appropriate associated laboratory tests
7. Cost of any first aid services provided are the responsibility of the student. The cost of follow-up, referrals, x-rays and lab tests are not covered by VUMC or the program but are the responsibility of the student regardless whether or not these services are covered by the student's health insurance.
8. Notify the Program Director.
9. Complete the VERITAS and forward to Risk Management within 48 hours.
10. If non-threatening, seek treatment at the Occupational Health Clinic in the Medical Arts Building. If after hours, seek treatment in the ED.

It is the student's responsibility to report exposure/injury to the supervising clinical instructor. Any identified incident not found report may result in disciplinary action.

INFECTION CONTROL FOR PATIENTS

During their normal program activities students will encounter patients who are in an immunosuppressed condition, putting these patients at a particularly high risk of contracting infectious diseases, including a cold, influenza and other communicable diseases. To some patients such an infection could be life-threatening. Because of this, if a student suspects he or she has acquired (or if he or she has been diagnosed with) an infectious condition, the student is prohibited from the clinical setting. This is absolutely essential in order to protect patients from infection by ill students. Any infectious condition should be reported by the student to the Program Director as soon as possible. Any student found to be withholding this type of information will face disciplinary action for unethical behavior. A clinical instructor who suspects that a student may be infectious may ask the student to leave the clinical setting and will notify the Program Director. After absence due to infectious disease, the student must be evaluated by a physician, and written permission from his/her physician must be obtained before returning to the clinical setting. *Students will be required to use personal time to account for their absence from clinic.*

CONFIDENTIALITY

Perfusion Program students have access to a variety of confidential patient information during their training in the program as it is necessary to access this information to adequately prepare and participate in the management of patients on cardiopulmonary bypass. The Perfusion Program requires a commitment by each student associated with Vanderbilt University Medical Center (VUMC) and all program clinical affiliations, for which

the student and faculty of the program with access to confidential information including patient information, will appropriately safeguard and keep confidential.

VUMC has established policies and procedures to meet HIPAA federal requirements for handling patient information. Information obtained about any patient is strictly confidential and is legally protected from disclosure. It may only be shared with another employee or health care provider when that information is pertinent to patient care, required by law or specifically authorized by the patient. Information should never be shared with any unauthorized person. Such divulgence of confidential information may result in disciplinary action up to immediate dismissal. When on rotations with other clinical affiliations, students in the program are required to follow the confidentiality policies of those institutions and in some instances the student will be required to sign a confidentiality agreement per the affiliations request.

Limits of Confidentiality

Imminent Harm to Self or Others. Consistent with Federal Law and Vanderbilt University Medical Center policy, VUMC may release student information normally considered confidential to appropriate individuals (e.g., health care personnel, police, etc.) if such information is necessary to protect the health or safety of the student or other individuals.

HEALTH INSURANCE

Each student enrolled in the program must be covered by health insurance. The student may acquire student health insurance through his/her choice of independent carrier prior to matriculation of the program. The student must maintain his/her insurance through their tenure in the program and must provide documentation of proof of insurance during orientation to the program.

PROFESSIONAL LIABILITY INSURANCE

While a student in the Perfusion Program, Vanderbilt University Medical Center has the liability insurance policy.

STUDENT TECHNOLOGY REQUIREMENTS (ALL STUDENTS)

Students must have a computer (desktop or laptop) with the minimum system requirements, below. The Perfusion Program requires students to have laptops (with the same minimum requirements). Please see program-specific information in this catalog for each program's requirements.

Hardware:

- 1 Ghz Processor
- 13-inch or larger display, with minimum 1024×768 resolution
- Wireless-g, -n, or -ac capability

Note:

- Not supported: Chromebooks, Netbooks

Operating System:

- Windows 7, 8, 10
- Mac OS X 10.8, 10.9, 10.10, 10.11, 10.12

Note:

- Not supported: Linux, Virtual Machines

Browsers:

- Latest versions of Chrome and Firefox (recommended as default browsers)
- Windows: Internet Explorer 10 or higher
- Mac: Safari 6 or higher

Note:

- Cookies must be enabled
- JavaScript must be enabled

Latest versions of:

- Acrobat Reader
- Flash Player
- Silverlight Player

All students are required to adhere to VUMC computer use requirements as established in the VUNet ID user agreement and under VUMC Policy OP 10-10.30, "Social Media Policy and Guidelines," located in the back of this handbook.

E-MAIL

Students will be assigned an e-mail account. Instructors, Allied Health Programs Administration, and Program Director will send students important information via e-mail. Students should **check their e-mail daily**.

CHANGE OF CONTACT INFORMATION

Students are responsible for notifying the Program Director's office immediately of any change of mailing address, email address, and/or cell phone or telephone number.

TRAVEL

The student is responsible for transportation costs and liability for safety in travel to and from Vanderbilt, hospital affiliations outside the Vanderbilt Campus as well as travel to professional conferences. The student should complete an Authorization to Travel form in advance of the travel date and submit to the Program Director. These forms are available in the Program Director's office. The Authorization to Travel form should be completed when traveling outside metro Davidson County for a clinical rotation and/or a professional conference.

SEVERE WEATHER POLICY

As a healthcare professional, clinical perfusionists are always expected to arrive for duty, as the patient is the number one priority. However, there will be days in which the

weather is severe and dangerous for travel. In the event that weather conditions are severe enough that the benefit of the student in clinical attendance does not outweigh the risk, the student may be excused from clinical attendance by joint decision between the Program Director. Didactic course will be cancelled at the discretion of the course instructor. If a student does not attend a clinical assignment or didactic lecture that has not been cancelled, an absence form must be submitted.

VUMC EMERGENCY PREPAREDNESS POLICY

The VUMC Emergency Preparedness Guide may be found in the Program Director's office and throughout the hospital. While assigned at the Medical Center, the student is expected to respond appropriately to any emergency in a timely and appropriate manner. The Medical Center Safety Guidelines may be accessed at www.safety.vanderbilt.edu under the hospital link. The following is a brief description of emergency codes that student may hear announced at the medical center.

STAT - medical emergency defined by location.

RED alert- Fire condition

If the fire is in the immediate area – respond with R.A.C.E/P.A.S.S.

If the fire is not in the immediate area – close doors and hallways and keep patients and visitors within the area.

Code Black – bomb threat

Code Silver – active shooter

Missing Person-

Code Pink – Missing infant (<1 years old) identified by location and description

Code Purple – Missing child (1-12 years old) identified by location and description.

Code Walker – Missing teen/adult identified by location and description.

Yellow Alert – Potential emergency condition; prepare to activate emergency response.

Orange Alert – Emergency condition present; activate emergency response.

Yellow and Orange alerts may be announced for the following emergency conditions:

Mass Casualty	Oxygen
Phone	Steam
Electricity	Medical Air
Tornado	Vacuum
Water	Beeper

Any emergency announcements will also be made to cancel the emergency response.

Students enrolled in the program will be expected to follow the emergency response plans.

CELL PHONES

Cell phones are **NOT** allowed in the classroom or clinical setting. Personal cell phones/iPads/handheld devices **MUST be turned off completely** and stored in the student's back pack/purse during all scheduled classes, lab time, and while in the clinical setting. In the clinical setting, communication between students and/or the program

director with regards to the clinical schedule must be done through the paging system.

Two violations of the cell phone policy will result in disciplinary action.

DRESS CODE POLICY

Student dress in the clinical and didactic setting shall be in a manner that is tasteful, conservative and communicates a professional image. Student's scores in professional conduct will reflect the adherence to the dress code. Two or more violations of the dress code will result in disciplinary action. Gum chewing is not considered professional and is not allowed during community events or during rotation hours.

Student dress must consist of the following:

In clinical environment

- Light blue scrubs (VUMC issued)
 - Any visible clothing worn underneath a scrub tops is not permitted
- Solid white lab coat
 - Students are expected to wear their lab coats outside the operating room when wearing scrubs
- Perfusion students have direct patient contact and/or contact with blood or body fluids.
 - ***Students are REQUIRED to adhere to the Personal Protective Equipment (PPE) policies of a medical professional.***
 - ***GLOVES MUST ALWAYS BE WORN during the management and operation of any piece of extracorporeal equipment.***
 - ***PROTECTIVE EYEWEAR MUST ALWAYS BE WORN during the management and operation of any piece of extracorporeal equipment.***
 - ***In addition surgical gowns are similar clothing can be worn to provide a protective barrier***
- Shoes must be appropriate for medical/business environment. Open toed shoes, sandals; flip flops are not to be worn in the clinic. Clean athletic shoes may be worn. Students can place disposable shoe covers over their shoes.
- VUMC or clinical affiliation identification badge worn.
- Long hair should be secured away from the face.
- **NO** perfume or cologne should be worn.
- Nails must remain an active length and any color worn should be a neutral or pastel color (**Artificial nails are not permitted in patient care areas at any time**).
- Jewelry must be limited.
- Tattoos and body piercings with the exception of ear lobes (including tongue and nose piercings) must not be visible at any time.
- Facial hair must be neat and well-trimmed.

****Scrubs cannot be worn to and from the hospital. Students are required to change into new scrubs daily.***

In didactic environment/ to and From Clinic

Female

- VUMC or clinical affiliation identification badge worn
- Shoes must be appropriate for medical/business environment. Flip flops are not to be worn.
- Blouses or shirts should be worn tucked in, if designed to be. See through blouses, t-shirts with slogans, sweatshirts, camisoles, spaghetti straps and halters are inappropriate. Strapless tops or dresses and midriff tops are not acceptable. Tops must fully cover the waistline. There should be no gaps between the tip of trousers or skirts and the bottom of the blouse or shirt. Deep V-neck or scoop neck tops including camisoles which reveal cleavage are inappropriate for the work environment.
- Sundresses may be worn with a jacket. Full, split skirts or skorts are acceptable if of an appropriate length. Mini-skirts, tight fitting knit skirts, mini dresses, maxi dresses, shorts, jumpsuits, and sweat suit/athletic suits/shorts are inappropriate.
- Dress slacks, dress jeans (no cuts or holes), dress shorts of reasonable length, and Capri pants may be worn. Leggings are appropriate if they are under a full size shirt.
- Hair should be clean, neatly trimmed and appropriately styled for medical/business environment.
- NO perfume or cologne should be worn.
- Nails must remain an active length and any color worn should be a neutral or pastel color (Artificial nails are not permitted in patient care areas at any time).
- Jewelry must be limited, simple and suitable for professional attire.
- Body piercings other than ear lobes (including tongue and nose piercing) must *not be visible at any time.*

Male

- VUMC or clinical affiliation identification badge worn.
- Dress slacks and dress jeans (no cuts or holes) and dress shorts of reasonable length may be worn.
- Colored or white shirt with collar and tucked in.
- Clean athletic shoes or shoes appropriate for the business/medical environment.
- Socks must be worn.
- Sweatshirts or t- shirts with slogans should not be worn.
- Jean cut shorts, sweat pants, or athletic shorts are not permitted.
- Hair should be clean, neatly trimmed and appropriately styled for medical/business environment.
- Facial hair must be neat and well-trimmed.

- NO perfume or cologne should be worn.
- Nails must remain an active length and any color worn should be a neutral or pastel color (**Artificial nails are not permitted in patient care areas at any time**).
- Jewelry must be limited, simple and suitable for professional attire.
- Body piercings other than ear lobes (including tongue and nose piercing) must not be visible at any time.

Any failure to adhere to the Dress Code and Clinical Appearance Guidelines may result in dismissal from the clinical assignment or didactic or program required event until the code and guidelines are met. Possible disciplinary action may follow. The student's attendance will be docked as personal hours off from the clinical assignment or didactic or program required event needed to compliance gain compliance with the dress code, plus one hour.

SMOKING/TOBACCO POLICY

Student smoking is strongly discouraged. Smoking and the use of tobacco are prohibited in all VUMC facilities and on the grounds of the Medical Center Campus bounded by 21st Avenue, Blakemore Avenue, 24th Avenue, Garland Avenue, Stephenson Center Lane extending beyond and behind the Medical Center North, MRB IV, and the School of Nursing to 21st Avenue effective since September 1, 2008. Any failure to adhere this policy may result in disciplinary action. Each student is responsible to verify and adhere to the smoking policy of the clinical affiliations.

Chewing of Tobacco is **not permitted** in the classroom, in the medical area (patient or clinic areas), during community events, or while in attendance of a conference.

ALCOHOL/DRUG USE OR UNDER THE INFLUENCE POLICY

In compliance with the Federal Drug-Free Schools and Campuses regulations, Vanderbilt University Medical Center enforces the following policy.

Unauthorized use or possession of alcohol, controlled substances or the use or possession of illegal drugs is prohibited on Vanderbilt University Medical Center (VUMC) premises or during VUMC-sponsored activities. In addition, this policy prohibits the unlawful manufacture, dispensing, or distribution of illicit drugs and alcohol by staff on VUMC premises, while conducting VUMC business off the premises, or as part of any VUMC-sponsored activities, including any activity with a federal grant. (VUMC Policy Number OP 30-10.04, April 2013)

Students in the Perfusion Program will be asked to participate in an initial drug screen. Failure to participate in or pass the drug screen for the program will result in automatic dismissal from the program. The drug policy is intended to comply with all state laws governing drug and alcohol screening and is designed to protect the students' right to

privacy. The following behaviors are unprofessional and will subject the student to severe disciplinary action, **up to and including dismissal from the program.**

- Possession or use of alcohol or illegal drugs while on campus or clinical affiliate premises.
- Being under the influence of alcohol or illegal drugs while on campus or clinical affiliate premises, specifically while performing duties in patient care areas, surgical operating rooms or attending program related functions.
- Conviction of a crime related to possession, use or distribution of illegal drugs while enrolled in the program.

Services for persons needing counseling are available at Occupational Health and the Vanderbilt University Hospital emergency room. Students should contact the VUMC Employee Assistance Program for referral to counseling and treatment services available to them. Additionally, many local community counseling and treatment services are available to provide appropriate rehabilitation programs. If you are interested in, or in need of, any of these services, contact Employee Assistance Program for details.

WEAPONS POLICY

The Perfusion Program prohibits student possession of firearms or other dangerous weapons while on Vanderbilt University Medical Center Campus or at clinical affiliations. Any student found to be in violation of this policy will be subject to disciplinary action. If a student receives information or observes another individual, staff member or patient/family, possessing a firearm or dangerous weapon on one of the previously mentioned campuses he/she should report this immediately to a Clinical Instructor or another staff member in authority.

SOCIAL MEDIA POLICY

Students are required to follow the policies of the Medical Center with regards to social media. Students should refrain from sharing information about their clinical experiences on social media. Patient information is confidential and should never be shared. **Any breach in forms of confidentiality will result in disciplinary action.**

CAMPUS SECURITY

Of primary concern to the Department of Police and Security is the protection of students, faculty and staff members and the assets of the Medical Center. Security services are provided in response to this concern. Shuttle bus service between parking facilities and Vanderbilt University Medical Center is available and operates according to the schedule published on the VUMC Parking and Transportation Services website. The shuttle buses are accessible to persons with disabilities.

The Police and Security Department provides escort services for students and staff members, regardless of sex. Telephone the security dispatcher at extension 1-8888.

Walking escort is provided for those apprehensive about walking from point to point on campus during periods of darkness. Students in groups of three or four would not normally require an escort, This service is also provided for those who arrive at or leave work during the early morning or late night periods of darkness, Because the demand for escorts heightens at night, a waiting period should be expected at that time.

STUDENT RECORDS POLICY

All student and applicant files are retained in the Program's Directors office secured under lock for a minimum of five (5) years post-graduation with transcripts being maintained permanently. Student files include application documentation, admission documentation, program records including clinical and didactic competency requirements, evaluations, counseling documentation and student grades. A student may review his/her own personal file by making an appointment with the Program Director. Personal files may not be removed from the Program Director's office without appropriate pre-approved arrangements. Student records will not be shared with any individual who is not on the program staff without written consent from the student. The forms for release of information can be obtained from the Program Director's office.

In addition to the student's transcript the program retains the following information for 5 years, admission materials (application, official college transcript(s) and/or official foreign transcripts evaluations, references, interview evaluations, and communications).

Administrative information retained are satisfactory academic progress letters, summaries of counseling sessions, tuition statements, academic progress based on each semester in the program, acknowledgement of student handbook, excused absence forms, code of conduct at professional conferences, file release form, and other information needed for clinical affiliation agreements. All clinical evaluations are retained by the program.

Transcripts: Permanent transcripts of student performance are maintained by the Office of Allied Health Programs. Students are provided with official transcripts at graduation for certification purpose plus one additional copy for personal use. Additional copies may be requested in writing, directed to the Office of the Allied Health Programs. Transcript requests should be directed to the Office of Allied Health Programs, Vanderbilt University Medical Center, Programs in Allied Health, B-802 TVC, 1301 Medical Center Drive, Nashville, TN 37232-5510. You may also contact the office at (615) 322-5259 or fax (615) 343-8810. The transcript fee is \$5.00 and checks are to be made payable to VUMC.

MEDICAL CENTER
Perfusion Program

Release of Confidential Student Information

In accordance with the Federal Trade Commission Standards for Safeguarding Information (16 C.F.R. Part 314) required by section 501(b) of Graham-Leach-Bliley Act and The Family Educational Rights and Privacy ACT (FERPA) of 1974, the Vanderbilt University Medical Center Programs in Allied Health may release non-directory information or records concerning a student's clinical evaluations or academic performance **only upon the written consent from the student to do.** Therefore, if you wish for the Vanderbilt University Medical Center Perfusion Program to discuss or release requested information concerning your academic and/or clinical status in the program, you must complete, sign, and return the Release of Confidential Student Information form to the Perfusion Program Director's office.

Student's Authorization of Release of Student Clinical Evaluations and/or Academic Performance

By signing below, I consent that _____ (faculty name) may disclose confidential information from my educational record for the purpose of providing a reference/recommendation. I, _____ (please print), authorize the Vanderbilt University Medical Center Perfusion Program in the Programs of Allied Health unless otherwise specified below, to discuss and/or release any information concerning my academic and/or clinical performance including grades, GPA, rankings, disciplinary actions, etc. from the Program Directors Office may be disclosed in order to provide this reference/recommendation. I understand that this approval is valid only for this specific instance, and that this approval overrides any existing FERPA directory information hold I have set up on my educational record.

Recipient Name: _____

Recipient Contact Information: _____

Exceptions/Exclusions: _____

OR

_____ I do not want information released to anyone other than myself. (Please note that if you check this, your parents or spouse CANNOT get information on your academic and/or clinical performance if they contact us.)

Student's Signature

Date

PLEASE RETURN TO:

**Vanderbilt University Medical Center – Perfusion Program
1301 Medical Center Drive
B-802 TVC
Nashville, TN 37232-5510**

STUDENT'S RIGHT TO CANCEL / CANCELLATION REFUND POLICY

1. You, the student, have the right to cancel your program of instruction, without any penalty or obligations, through the third (3rd) business day after signing the enrollment agreement ("Cancellation Period"). Subsequent to this three-day cancellation period, but prior to the start of orientation/classes, you may request cancellation and will receive a refund of all monies paid, less a non-refundable processing fee of \$100. After the end of the cancellation period, you also have the right to withdraw from school at any time (please see Withdrawal Policy, below).
2. Cancellation is considered to have occurred when the student provides a written notice of cancellation at the following address: Vanderbilt University Medical Center, Office of Programs in Allied Health, 1301 Medical Center Drive, TVC B-802, Nashville, Tennessee 37232-5510.
3. The cancellation may be provided by mail or by hand delivery.
4. The written notice of cancellation, if sent by U.S. Mail, is effective when the notice is postmarked, or as of the date of mailing, if proof of registered delivery is provided. If the written notice of cancellation is hand-delivered, it is effective when it is received by the Office of Programs in Allied Health.
5. If the Enrollment Agreement is cancelled the school will refund the student monies paid, less deductions for any books, equipment or supplies provided to the student by VUMC and not returned in new condition, within five (5) business days after the notice of cancellation takes effect.
6. Students who cancel according to the terms described above will be refunded within three (3) business days after notification of cancellation occurs.

STUDENT WITHDRAWAL FROM PROGRAM

If a student wishes to voluntarily withdraw from the program, he/she should make an appointment with the Program Director to discuss the possibility of withdrawal. The student may be offered additional advising from faculty and the Program Director regarding the decision of whether or not to withdraw.

Should the student decide to proceed with withdrawal, the student will provide written notification to the Program Director. Email is **not** acceptable. The student may indicate an official withdrawal date later than the date of the letter, provided the student continues to participate in program academic activities up to the date of identified withdrawal date. The withdrawal letter will be retained as part of the student's file in the Program Director's office.

Students absent for more than three (3) consecutive days without approval of his/her Program Director, will be dismissed from the program, and the last documented day of attendance will be used as his/her official withdrawal date. The student is required to immediately return to the Program Director all items (ID badge, pager, scrubs, etc.) that are property of Vanderbilt University Medical Center. See **Refund Policy** below as it relates

to any possible return of tuition to the student as a result of his/her withdrawal.

STUDENT WITHDRAWAL REFUND POLICY

You, the student, may withdraw from the school at any time after the cancellation period (described above) and will receive a pro rata refund of tuition and fees if you have completed sixty (60) percent or less of the scheduled program hours in the current payment period (the percent completed is based on the last day of documented attendance). The refund will be less a processing fee not to exceed \$100, and less any deduction for books, equipment, or supplies provided by the program and not returned in new condition, within five (5) business days of withdrawal. If the student has completed more than 60% of the current payment period, the tuition is considered earned and the student will receive no refund.

For the purpose of determining a refund under this section, a student may be deemed to have withdrawn from a program of instruction when any of the following occurs:

- The student notifies the institution in writing of his or her desire to withdraw. Withdrawal notification must be provided in writing to the following address: Vanderbilt University Medical Center, Office of Programs in Allied Health, 1301 Medical Center Drive, TVC B-802, Nashville, Tennessee 37232-5510. The cancellation may be provided by mail or by hand delivery. The written notice of withdrawal, if sent by U.S. Mail, is effective when the notice is postmarked, or as of the date of mailing, if proof of registered delivery is provided. If the written notice of cancellation is hand-delivered, it is effective when it is received by the Office of Programs in Allied Health. Program-specific withdrawal procedures may also be required.
- The student fails to participate as required in educational activities for at least three (3) consecutive business days.
- The student fails to return from a leave of absence.
- The institution terminates the student's enrollment for failure to maintain satisfactory academic progress; failure to abide by the rules and regulations of the institution; absences in excess of the maximum set forth by the program; and/or failure to meet financial obligations to VUMC.

Definitions:

- Last date of attendance is the last day a student had academically related activity, which may include projects, clinical experience, or examinations.
- Date of withdrawal determination is the date that an institution determined that a student was no longer in school.
- Payment period is considered half of one academic year.

If students are owed a refund, all monies due will be refunded within 45 calendar days after the date of VUMC's determination that the student has withdrawn.

STUDENT RESOURCES

STUDENT WORKROOM

The perfusion students have their own perfusion work room located in Medical Center North D-2219. This space is located in professional office space. While in the work room, students are required to act and speak in both a professional manner. The space has textbooks, printer, computers, cabinet space, office supplies, refrigerator, and microwave. Student can sign out books from the student library for two weeks at time. The student must fill out the book sign out form. This space is student space only and should be kept clean. The student workroom is located on the 2nd floor of Medical Center North room D-2219. Please turn lights off when leaving the room. This space is where students should spend their time between cases at Vanderbilt University Medical Center (VUMC). The pump room at the VUMC is the clinical instructor's space and students should respect their need for privacy.

LIBRARY FACILITIES

Each student has access to numerous professional text resources and journals through the Eskind Biomedical Library. The office for the program contains several texts that may be checked out for student use. Students also have access to the Eskind Biomedical Library and other campus libraries. A library orientation shall be scheduled by the Program Director as part of the early orientation for students.

AUTOMATED BANK TELLERS

Automated tellers are available throughout the medical center including in Medical Center North inside the round wing entrance.

DINING FACILITIES

There are several facilities in the medical center where meals may be purchased.

Cafeterias:	Vanderbilt University Medical Center Vanderbilt Children's Hospital Veterans Administration Hospital
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Snack Bars:	Medical Center North Medical Center East Vanderbilt University Medical Center Veteran's Administration Hospital
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POST OFFICE

There are two branch post offices on campus, one in Medical Center North at B-0106 Medical Center North (Station 17) and one on the lower level of Rand Hall (Station B). Each of these offers all regular services of a branch post office. Stamps are available at the Human Resources Office at the entrance of Medical Center North.

STUDENT ORIENTATION

The following items will be discussed and provided during the initial orientation. During

this time payment of fees will be made and program forms completed.

1. NAME BADGES: These must be worn during program hours as a means of identification, including in the operating room. Hospital privileges such as library use and cashing checks are available to you if you wear the Vanderbilt name tag.

2. TUITION: The tuition is \$39,145 for the program in its entirety. Payments will be made to the program at matriculation (August) during orientation, in January, and the following July and January respectively. Checks should be made payable to **VUMC**, and note on the check that it is for tuition for Perfusion Program. If it becomes necessary for a student to withdraw from the Program the tuition paid will be refunded according to the Withdrawal Policy. If a student has not paid his/her tuition in full by the end of the first month of each semester during which payment is required, the student's account will be reviewed by the Program Director and an Allied Health administrator for further action, if necessary.

3. TEXTBOOK FEE: A required textbook list will be provided at or near the time of orientation. All of the textbooks can be purchased through the Vanderbilt bookstore or other sources. The estimated cost is estimated at \$1400, and optional books may be helpful, but are not required.

4. IMMUNIZATION: Prior to enrollment students are notified of the following requirements that must be completed prior to the clinical (applied) experience.

- Written evidence of either two (2) negative TB skin tests within the past 12 months , the more recent being in the last 3 months of a chest x-ray with no evidence of active TB (within 6 months) in the event of a positive TB skin test.
- Annual influenza shot.
- Documentation of immunity (by vaccination or titer) to:
 - Measles (rubella)
 - Varicella (chicken pox)
 - Hepatitis B (must have at least started the vaccination series)
 - Rubella (German measles) and mumps
 - Tetanus/diphtheria booster within last 10 years

5. INSURANCE: Insurance is required of all students and evidence of health insurance must be provided at orientation.

6. LIABILITY INSURANCE: All students will have professional liability coverage provided by Vanderbilt University Medical Center during the time they are at Vanderbilt, but shall be limited only to the care participated in by students at the direction of the Program Director or designee.

7. STUDENT INFORMATION FORM: This form will be included in your orientation packet. Complete the form and submit to the Program Director. It is important that your correct address, social security number, permanent address (for transcript purposes) and individual to notify in case of emergency be kept on record. During the year please notify the Program Director of any change of address, telephone number or other pertinent information which appears on this form.

8. APPLICATION FOR PARKING STICKER: A parking decal may be obtained from Central Parking Garage hours of registration at VUMC garage are 7:30 AM to 5:30 PM, Monday through Friday. Payment may be made by cash or check. A state vehicle registration slip or the vehicle must be presented at the time of registration. Reduced annual parking rates are available for allied health students.

9. MANDATORY TRAINING REQUIREMENTS:

- A. SAFETY TRAINING – INFECTION CONTROL, FIRE, OSHA, OCCUPATIONAL HEALTH SCREENING
- B. STANDARDS OF CONDUCT – AIDET
- C. HIPAA – Health Insurance Portability and Accountability ACT
- D. BLS (provided through VUMC resuscitation program)

10. MAINTENANCE OF PROGRAM-ISSUED EQUIPMENT: All equipment in the form of beepers, tubing clamps, parking cards, ID badges, etc. shall be the property of the Program, and the student to whom such items are issued are responsible for their care and use. Failure to turn in Program-Issued Equipment shall result in the student being liable for the cost of such equipment, and such fees shall be assessed and paid prior to the time graduation privileges are granted to a student otherwise eligible for graduation.

11. Drug and Background Screen: The initial drug and background screen will be covered by the program.

12. EMERGENCY NUMBERS

- Medical Emergency – 1-1111
- Occupational Health – 6-0955
- Environmental Health and Safety – 2-2057
- Plant Services – 3-4443
- Risk and Insurance Management – 6-0660
- Environmental Services – 3-1000
- Administrator On-Call – (VU Operator)
- VUPD/Security – 2-2745
- Fire – activate the nearest fire alarm

13. ANNUAL PHYSICAL: Student may be required to provide verification of annual physical for participation with some clinical affiliation as outlined in the clinical affiliation agreement.

REVIEW OF PROGRAM REGULATIONS

1. Students must be in the assigned area at all scheduled periods unless excused by the Program Director or instructor.
2. All Medical Center regulations are considered regulations of the Program as well.
3. Students are expected to be present on a full time basis throughout the training period. The specific hours for each activity will vary. Students are required to arrive in the laboratory and to class **on time**. Occasionally, the student may be asked to arrive early or stay late in order to complete assignments. This is an appropriate request for students

entering a profession that requires professional dedication and commitment of time

4. In case of sickness or emergency, where a student must be absent without prior notice, the student must report the situation immediately. Any time missed may need to be made up at the discretion of the instructor or Program Director. This time will be deducted from the student's personal hours off.

Procedure for Reporting Emergency Absence:

- Contact the Program Director or designee and Chief Perfusionist of the rotation by phone and give name, assigned area and where you may be reached.
- Any absence and tardiness form must be completed and turned in to the Program Director upon day of return.

5. Any absence other than for sickness, interviews, bereavement, and jury duty must be approved in writing two (2) weeks in advance. The Program Director must approve the absence and a leave request form must be filed.

6. Students will arrange to conduct all personal matters at non-duty times.

7. Jobs are discouraged as to full-time students because of the full time nature of the Program. If it is necessary for a student to hold a job for financial reasons, it must be emphasized that priority shall be given to the Program. Students may not leave class or the clinical area early to fulfill a job obligation. If a job interferes with academic, clinical, or behavioral performance in the program, the student may be asked to curtail work activity.

It should be noted that since students are assigned on-call responsibilities during the work week, no student is permitted to be gainfully employed in any manner during the work week, up to 7:00 p.m. on Friday of each work week. Weekend on-call responsibilities will be posted in advance so as to allow students with potential conflicts to make adequate arrangements.

8. It is important that any accident, no matter how small, be reported immediately. The Program Director shall be informed of these incidents in order to direct you to the proper department for treatment.

9. Make-up tests are given only in the event of sickness or emergency. If a test is missed for any reason other than sickness or emergency, an automatic zero will be given. All make-up tests must be scheduled within one week of the original test. Failure to take a test within the prescribed period of time will result in an automatic zero.

10. Library books checked out of the student work room must either be renewed or returned within two weeks.

11. Regulations concerning the use of facilities at Light Hall: Light Hall was originally built to exclusively serve the needs of Vanderbilt Medical School. The Program is privileged to have access to these facilities. The vending machine area is available for use but none of the recreational items (pool table, television, tables, etc.) are so available.

12. Safety of the patient, as well as safety of the perfusion caregiver, will always be a priority of the Program. Therefore, strict adherence to safety-related responsibilities is required, without exception. Safety glasses and other safety-related personal protection gear is an absolute requirement for students operating heart-lung consoles. Students who fail to utilize safety-related personal protection equipment will be dismissed from any case wherein such behavior is observed, and the student shall be considered to be absent from the workplace for purposes of attendance.

VUMC PERFUSION PROGRAM COURSES

Anatomy and Physiology (A and P 501)

This course provides the entry-level perfusion student with a detailed overview of specific areas of human anatomy and physiology: cardiac, vascular, renal, and respiratory. Emphasis is placed on the application of these areas as it applies to cardiovascular and perfusion technology. The student will be provided with a basis for understanding the complex interaction of the patient with the mechanisms of extracorporeal circulation or applications of techniques utilizing modes of perfusion in the treatment of different disease states. Course work will include both class time and observations within the surgical suite, cardiac cath, as well as on the patient cardiovascular intensive care units. Offered in the Fall Semester.

Cardiovascular Perfusion Technology I (CVPT 501)

This course introduces the entry-level perfusion student to fundamental development perfusion techniques through theoretical and practical applications. Students will examine the relationship between blood flow within and outside the body and the cardiovascular devices utilized to facilitate extracorporeal circulation. The student will be presented with the history, basic components, equipment, physiological monitoring and measurement, priming components and physiology as related to extracorporeal perfusion. Students will rotate through different areas of the Vanderbilt University Hospital to gain an understanding of the therapies and diagnostic testing a cardiac patient is exposed to during the treatment of their disease state. Offered in Fall Semester.

Cardiovascular Perfusion Technology II (CVPT 502)

This course will build upon the fundamental principles taught in CVPT I. The course will expand upon a few of the fundamental principles and introduce new areas where perfusion techniques are utilized. Students will demonstrate the understanding of perfusion policies and procedures and the ability to complete a perfusion plan based on specific patients. The student will be introduced to transplantation techniques for the heart, heart-lung, lung, and liver, cerebral perfusion techniques, embryology of the cardiac and vascular system, cardiac assist devices and extracorporeal membrane oxygenation. Offered in the Spring Semester.

Prerequisites: Sim 501, Path 501, CVPT 501, PHM 501, RES 501

Cardiovascular Perfusion Technology III (CVPT 503)

This course will continue to build upon the fundamental principles taught in CVPT I and II. This course will expand upon the fundamental principles while incorporating new areas of perfusion technology. The student will be introduced to special patient management, laboratory measurements, blood management therapies and special applications of perfusion techniques. Offered in Fall Semester.

Prerequisites: Sim 502, CVPT 502, RES 502, CR502

Cardiovascular Perfusion Technology IV (CVPT 504)

This course will focus on the professional development of entry level perfusion student. The student will be introduced the development of professional portfolio (CV and cover letter), interviewing for a job, medical ethics, emergency preparedness as it relates to

being a medical professional, quality measures, management techniques, and an extensive review of pharmacology and pathophysiology. Offered in the Spring Semester.

Prerequisites: Sim 503, CVPT 503, RES 503, CR503

Clinical Rotation I (CR 501)

This course is the first clinical rotation the student will have during their course of study. The student will be introduced to the policies and procedures of the perfusion departments of Vanderbilt University Medical Center and Monroe Carell Children's Hospital at Vanderbilt University and Centennial Medical Center. The course provides the student with an introduction to the preparation and management of cardiopulmonary bypass and extracorporeal circulation procedures under the direct supervision of a clinical instructor. The student will apply their knowledge of anatomy, physiology, pathophysiology, and pharmacology into the assessment of the patient in order to develop a management plan for the patient undergoing cardiac surgery. The student will begin to assist in the operation and management of the cardiopulmonary bypass circuit and will progress through the semester to establish the ability to function in the primary role under the direct supervision of a clinical instructor. The student will be rotating "on call" responsibilities during the week and weekend with their colleagues. Offered in the Fall Semester. Prerequisites: AP501, Sim 501, Path 501, CVPT 501, PHM 501, RES 501

Clinical Rotation II (CR 502)

This course is the second clinical rotation the student will have during their course of study. The student will be introduced to the policies and procedures of the perfusion departments of outside of the clinical affiliations in Nashville. The student will be introduced to policies and procedures of outside rotations. This course will continue to build upon the clinical foundation of the student with regards to the preparation and management of cardiopulmonary bypass and extracorporeal circulation procedures under the direct supervision of a clinical instructor. The student will apply their knowledge of anatomy, physiology, pathophysiology, and pharmacology into the assessment of the patient in order to develop a management plan for the patient undergoing cardiac surgery. The student will participate under the direct supervision of the clinical instructor in the operation and management of the cardiopulmonary bypass circuit to establish the ability to function in the primary role. The student will be rotating "on call" responsibilities during the week and weekend with their colleagues. Offered in the Summer Semester.

Prerequisites: SIM 502, CVPT 502, RES 502, CR501

Clinical Rotation III (CR 503)

This course is the third clinical rotation the student will have during their course of study. The student will continue to review the diagnostic work-up procedures and apply their knowledge to develop a management plan for the patient undergoing cardiac surgery. The course provides a clinical experience in which the student can consistently perform the primary role in the management of cardiopulmonary bypass and extracorporeal circulation procedures under the direct supervision of a clinical instructor. The student will continue to be evaluated in their development of operative surgical management of cardiopulmonary bypass and other extracorporeal perfusion related management skills. This course will provide the additional experience needed to move the student from level of experienced to competent in the management of cardiopulmonary bypass. The student

will be rotating “on call” responsibilities during the week and weekend with their colleagues. Offered in the Spring Semester.

Prerequisites: SIM 502, CVPT 502, RES 502, CR502

Clinical Rotation IV (CR 504)

This course is the fourth clinical rotation the student will have during their course of study. The student will show at a minimum competency in all areas of preparation and management of procedures in perfusion techniques are employed. This course provides the clinical experience in which the student can exhibit advanced management of cardiopulmonary bypass and extracorporeal circulation procedures. Although the student is always under the direct supervision, it is the expectation of this course that the student perform at a level as though unsupervised. Upon completion of this course the student will have completed their required clinical experiences. The student will be rotating “on call” responsibilities during the week and weekend with their colleagues. Offered in the Fall Semester. Prerequisites: SIM 503, CVPT 503, RES 503, CR503

Pathophysiology (PATHO 501)

This course is designed to provide the entry level perfusion student with a course linking anatomy, physiology, pathophysiology and the application of perfusion practice. The course will provide the detailed foundation and skills that are necessary to understand the interplay between the science of extracorporeal technology and the pathophysiologic considerations that play a role in the initiation, maintenance, and termination of extracorporeal circulatory support. Students will understand the basic diagnostic principles involved in determining the nature and extent of the disease process necessitating surgical intervention. Both acquired and congenital heart disease processes will be examined, as well as other pathologies that may present in conjunction with the use of extracorporeal equipment. The course is divided into three pathophysiology sections: blood and coagulation, acquired heart disease, and congenital heart disease. Offered in the Fall Semester.

Pharmacology (PHM 501)

This course provides the entry-level perfusion student with an emphasis of the overview of cardiovascular pharmacology, to act as a basis for the understanding of the interactions of pharmacologic agents with the cardiac patient. The fundamental principles of pharmacology necessary for an understanding of the mechanisms of action of drugs and knowledge of their rational and effective and monitoring are presented. The student is introduced to the management coagulation cascade and platelet aggregation as it relates to the cardiac patient. Offered in the Fall Semester.

Research Lab I (RES 501)

This course introduces the entry-level perfusion student to circuit components and basic laboratory experiments to reinforce the understanding of circuit components and their specifications. The student will be introduced to writing lab reports and presenting their results. This course will involve both lecture and laboratory time. Offered in the Fall Semester.

Research Lab II (RES 502)

This course provides the student with the fundamental knowledge required to develop and publish scientific articles within the field of perfusion. The students will be introduced to evidence based medicine, literature reviews, randomized and observational studies, the techniques to blind studies, specific aims and how to critique the literature. Student will develop a research hypothesis as through the completion of a literature review. Offered in the Spring Semester. Prerequisites: Sim 501, Path 501, CVPT 501, PHM 501, RES 501

Research Lab III (RES 503)

This course provides the student with ability continue to work to identify research topic, well reviewing current literature in the field of perfusion. Students will be exposed to the different platforms for presentation of scientific material.

Offered in the Fall Semester. Prerequisites: Sim 502, CVPT 502, RES 502

Research Lab IV (RES 504)

This course will focus on the completion of the required manuscript for satisfaction of the program. The student will be required to meet manuscript deadlines to demonstrate progression towards completion of their manuscript. Offered in the Spring Semester.

Prerequisites: Sim 503, CVPT 503, RES 503

Simulation I (SIM 501)

This course prepares the perfusion student for clinical experience as it relates to the identification of circuit components, circuit set-up, and priming of the cardiopulmonary bypass circuit. The instructor is able to focus on the student's development of the psychomotor skills and the application of circuit components. Each student is able to develop their knowledge in circuit design and operation in an environment that promotes confidence in their abilities. Offered in the Fall Semester.

Simulation II (SIM 502)

This course builds upon the skills acquired in SIM 501 and prepares the perfusion student for clinical experience as it relates to the preparation of the circuit for a specific patient, pre-pump procedures (sterile procedure, retrograde autologous priming, and anticoagulation management), initiation of cardiopulmonary bypass, management of cardiopulmonary bypass (anticoagulation, volume management, myocardial preservation, acid base management, and hemodynamic management), venous return and arterial line low occurrence events, and termination of cardiopulmonary bypass. The instructor is able to focus on the student's development of the psychomotor skills, clinical management skills, and the application of conceptual knowledge. Each student is able to develop their knowledge and clinical skills in an environment that promotes confidence in their abilities. Students will be exposed to pediatric simulation with the focus on circuit design, set-up, and priming. Students will have two simulation practicals, one focusing on the pediatric component and the second focusing on adult CPB case management, and two written exams. Offered in the Spring Semester.

Prerequisites: Sim 501, Path 501, CVPT 501, PHM 501, RES 501

Simulation III (SIM 503)

This course builds upon the skills acquired in Sim 502. The student is required to continue

to demonstrate competency in the skills acquired in Sim 502 with the additional exposure to both common events and uncommon events as they relate to cardiopulmonary bypass management. The student is introduced to catastrophic management protocols. The instructor is able to focus on the student's development of the psychomotor skills, clinical management skills, and the application of conceptual knowledge. Each student is able to develop their knowledge and clinical skills in environment that promotes confidence in their abilities. Student will be exposed to cardiopulmonary bypass management utilizing a centrifugal pump.

Offered in the Fall Semester. Prerequisites: Sim 502, CVPT 502, RES 502

Simulation IV (SIM 504)

This course builds upon the skills acquired in Sim 503. The student is required to continue to demonstrate competency in the skills acquired in Sim 503 with the additional exposure to both common events and uncommon events as they relate to cardiopulmonary bypass management with the utilization of a centrifugal arterial pump. The student is introduced to catastrophic management protocols. The instructor is able to focus on the student's development of the psychomotor skills, clinical management skills, and the application of conceptual knowledge. Each student is able to develop their knowledge and clinical skills in environment that promotes confidence in their abilities. Offered in the Spring Semester.

Prerequisites: Sim 503, CVPT 503, RES 503

Seminar in Perfusion (SEM 503)

Students will be exposed to discussions on current practices and techniques utilized in cardiopulmonary bypass. Students will prepare seminar presentations on specific topics in relationship to extracorporeal perfusion. Students will discuss and present cases and problems arising during their clinical experiences in the form of case presentations.

Offered in the Summer Semester Prerequisites: SIM 502, CR 501, RES 502, CVPT 502

VUMC PERFUSION PROGRAM BOOK LIST

Please note the cost per book is an estimate based on a google search. The program does not guarantee the cost per each book.

A Practical Approach to Cardiac Anesthesia, 4th edition \$95.00

- [Paperback]
- Frederick A. Hensley (Editor), Donald E. Martin (Editor), Glenn P. Gravlee
- ISBN-13: 9780781795333
- Publisher: Lippincott Williams & Wilkins
- Publication date: 8/1/2007
- Series: Practical Approach Series

Not at EBL or electronic book.

NEEDED FALL SEMESTER JUNIOR YEAR

Mechanical Circulatory Support: Principles and Applications \$102.00

[Hardcover]

David Joyce (Author), Lyle Joyce (Author), Matthias Locke (Author)

ISBN-13: 9780071753449

Publisher: McGraw-Hill Education

Publication date: 9/1/2011

Edition number: 1

Not at EBL or electronic book.

NEEDED SPRING SEMESTER JUNIOR YEAR

Hardwiring Excellence: Purpose, Worthwhile Work, Making a Difference \$28.00

[Paperback]

- Quint Studer (Author)
- ISBN-13: 9780974998602
- Publisher: Fire Starter Publishing
- Publication date: 3/1/2004; Edition number: 1

Not at EBL or electronic book.

NEEDED FALL SEMESTER JUNIOR YEAR

King of Hearts: The True Story of the Maverick Who Pioneered Open Heart Surgery \$19.00

[Paperback]

- G. Wayne Miller (Author)
- ISBN-13: 9780609807248
- Publisher: Crown Publishing Group
- Publication date: 2/1/2000

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NEEDED FALL SEMESTER JUNIOR YEAR

Cardiovascular Physiology Concepts, 2nd Edition \$48.00

- [Paperback]
- Richard E Klabunde
- ISBN-13: 9781451113846
- Publisher: Lippincott Williams & Wilkins
- Publication date: 9/6/2011

Not at EBL or electronic book.

NEEDED FALL SEMESTER JUNIOR YEAR

Cardiopulmonary Bypass: Principles and Techniques of Extracorporeal Circulation \$82.48

- [Softcover]
- R.A. Guyton (Editor), D.C. Finlayson (Editor), R.L. Rigatti (Editor), Christina T. Mora (Editor)
- ISBN-13: 9781461275572
- Publisher: Springer-Verlag New York, LLC
- Publication date: October 2011; Edition description: New Edition

Not at EBL or electronic book.

NEEDED FALL SEMESTER JUNIOR YEAR

Cardiopulmonary Bypass: Principles and Practice, 3rd Edition \$229.00

- [Hardcover]
- Glenn P. Gravlee (Editor), Richard F. Davis (Editor), Alfred H. Stammers (Editor), Ross M. Ungerleider (Editor)
- ISBN-13: 9780781768153
- Publisher: Lippincott Williams & Wilkins
- Publication date: 9/1/2007
- Edition description: Third

We have the 2000 edition only.

NEEDED FALL SEMESTER JUNIOR YEAR

OR

Cardiopulmonary Bypass: Principles and Practice, 4th Edition \$256.99

- [Hardcover]
- Glenn P. Gravlee MD, Richard F. Davis MD, John Hammon MD, Barry Kussman MBCh FFA (SA)
- ISBN-13: 978-1451193619
- Publisher: Wolters Kluwer
- Publication date: 2016
- Edition description: Fourth

NEEDED FALL SEMESTER JUNIOR YEAR

Cardiopulmonary Bypass (Cambridge Clinical Guides) \$70.00

- [Paperback]
- Sunit Ghosh (Author), Florian Falter (Author), David J. Cook (Author)
- ISBN-13: 9780521721998

- Publisher: Cambridge University Press
- Publication date: 9/17/2009

Not at EBL or electronic book. NEEDED FALL SEMESTER JUNIOR YEAR

Pediatric Heart Surgery, A Ready Reference for Professionals, 5th Edition \$74.95

- L. Eliot May, PA-C
- To order: <http://www.maxishare.com/>

Not at EBL or electronic book. NEEDED SPRING SEMESTER JUNIOR YEAR

Manual of Clinical Perfusion, 2nd Edition (Updated) \$40.00

- [Paperback]
- Bryan V. Lich, CCP and D. Mark Brown, CCP
- Publisher: Perfusion.com
- Publication Date: 2004
- To order: www.perfusion.com

Not at EBL or electronic book. NEEDED FALL SEMESTER JUNIOR YEAR

Dailey's Notes on Blood, 4th Edition \$24.00

- [Paperback]
- John F. Dailey
- ISBN-13: 9780963181961
- Publisher: Quick Publishing, LLC
- Publication date: 2/28/2002

Not at EBL or electronic book. NEEDED FALL and SPRING SEMESTER JUNIOR YEAR

Cardiac Surgery: Perioperative Patient Care \$27.00

- [Hardback]
- Siefert, Patrica
- ISBN-10: 0323014267
- ISBN-13: 978-0323014267
- Publisher: Mosby
- Publication Date: April 2002

Available in electronic format from the Digital Library

NEEDED FALL SEMESTER JUNIOR YEAR

Hemodynamic Monitoring: Invasive and Noninvasive Clinical Application, 3rd Ed. 87.95

- [Paperback]
- Gloria Oblouk Darovic, RN, CCRN (Author)
- ISBN-13: 9780721692937
- Publisher: Elsevier Health Sciences
- Publication date: 4/3/2002
- Edition description: REV
- WG106 D224h 2002

NEEDED FALL SEMESTER JUNIOR YEAR

Pathophysiology of the Heart Disease, 5th Edition \$40.79

- [Paperback]
- Leonard S. Lilly, MD
- ISBN-13: 9781605477237
- Publisher: Wolters Kluwer
- Publication Date: 2010

NEEDED FALL SEMESTER JUNIOR YEAR

Fundamentals of Anatomy and Physiology, 9th Edition \$214.20

- [Hardback]
- Frederic H. Martini, Judi L. Nath, Edwin F. Bartholomew
- ISBN-13: 978-0321709332
- Publisher: Benjamin Cummings
- Publication Date: January 29, 2011

Not at EBL or electronic book.

NEEDED FALL SEMESTER JUNIOR YEAR

Hurst's the Heart, 13th Edition (Two Volume Set) \$198.19

- [Hardback]
- Valentin Fuster, Richard Walsh, Robert Harrington
- ISBN-13: 978-0071636469
- Publisher: McGraw-Hill Professional
- Publication Date: December 27, 2010

Available in electronic format from the Digital Library

NEEDED FALL SEMESTER JUNIOR YEAR

Anatomy and Physiology, 7th Edition) \$35.20

- [Hardback]
- Patton, K. and Thibodeau, G I
- ISBN-978-0323-05532-1
- Publisher: Mosby Elsevier
- Publication Date: 2009

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SOCIAL MEDIA POLICY AND GUIDELINES - OP 10-10.30

Outcome Goal:

To provide guidelines outlining how Vanderbilt University Medical Center (VUMC) supports institutional communication goals.

Policy:

VUMC offers support of institutional communication goals, as well as provides social computing guidelines for VUMC faculty and staff engaging in online discourse and identifying themselves with VUMC.

This policy is not intended for internet activities that do not associate or identify a faculty or staff member with VUMC, do not use Vanderbilt email addresses, do not discuss VUMC and are purely about personal matters.

Definitions:

Content owners, for the purpose of this policy, are those assigned the responsibility of maintaining, monitoring, and moderating a VUMC social media platform. Official communications refer to those done in VUMC's name, (e.g. a Vanderbilt Diabetes Facebook page).

- A. Content Owner – Assigned by department as the individual responsible for monitoring and maintaining web content.
- B. Moderator – Assigned by Content Owner and/or department as the individual for moderating comments and postings by internal and external users, including deleting comments and posting that do not meet the criteria set forth in this policy.
- C. Social Media Platforms – Technology tools and online spaces for integrating and sharing user-generated content in order to engage constituencies in conversations and allow them to participate in content and community creation. Examples are Facebook, Twitter, LinkedIn and YouTube.

Specific Information:

- D. Official Institutional Web 2.0 Communications:
 - 1. Because of the emerging nature of social media platforms these guidelines do not attempt to name every current and emerging platform. Rather, they apply to those cited and any other online platform available and emerging including social networking sites and sites with user-generated content. Examples include but are not limited to the following::
 - a. You Tube
 - b. Facebook
 - c. iTunes
 - d. LinkedIn

- e. Twitter
 - f. Blogs
 - g. Social media content that is hosted internally and protected by VUNet ID/Password
2. Institutional representation via online social media platforms can only be initiated and authorized through the efforts of the VUMC Marketing, News & Public Affairs (NPA), Vanderbilt University School of Medicine (VUSM), and/or Vanderbilt University School of Nursing (VUSN) Communications departments. There can be no official VUMC sites or pages on You Tube, Facebook, Twitter, etc. unless they are developed or authorized by the VUMC Marketing, NPA, VUSM and/or VUSN Communications departments. Any sites or pages existing without prior authorization as required above will be subject to review when discovered and may be amended or removed.
 3. VUMC official sites on social media platforms can have pages or content areas that are assigned to departments, divisions or programs at VUMC. These policies apply to such pages, as well as content maintained by VUMC Marketing, NPA, VUSM and/or VUSN.
 4. Content Owners, as named by their departments or department's leadership, are responsible for posting and using content and maintaining compliance with VUMC Credo behavior, HIPAA (Health Insurance Portability and Accountability Act) and policies related to Conflict of Interest, Privacy, Security, Safety and Human Resources, and FERPA (Federal Education Records Protection Act).
 5. Content Owners are responsible for monitoring and maintaining web content as follows:
 - a. Content is current and accurate.
 - b. Content Owners engage in communications that are acceptable in the VUMC workplace and respect copyrights and disclosures. Proprietary financial, intellectual property, patient care or similar sensitive or private content may not be revealed.
 - c. Content Owners are responsible for gaining the expressed consent of all involved parties for the right to distribution or publication of recordings, photos, images, video, text, slideshow presentations, artwork and advertisements whether those rights are purchased or obtained without compensation.
 - d. Content Owners are responsible for constantly monitoring postings and comments to social media sites, and for deleting postings that do not adhere to our policies.
 6. Content Owners and/or Moderators sign a Content Owner/Moderator Terms and Agreement Form. This form is renewable annually and will be monitored by the VUMC

Marketing, News & Public Affairs (NPA), Vanderbilt University School of Medicine (VUSM) and/or Vanderbilt University School of Nursing (VUSN) Communication departments (see Appendix A).

7. My Health at Vanderbilt is a secure communications portal that is the authorized channel to support email and dialogue with patients and their clinical care providers.

E. Guidelines for Online Professional or Personal Activity:

Online social media allow VUMC faculty or staff to engage in professional and personal conversations. These guidelines apply to faculty and staff **who identify themselves with VUMC and/or use their Vanderbilt email address** in social media venues such as professional society blogs, LinkedIn, Facebook, etc. for deliberate professional engagement or casual conversation.

1. Follow the same VUMC Credo behavior, HIPAA, Conflict of Interest Policy, Privacy and general civil behavior guidelines cited above including respecting copyrights and disclosures, and not revealing proprietary financial, intellectual property, patient care or similar sensitive or private content.
2. If faculty/staff identify themselves as a member of the VUMC faculty or staff in any online forum and/or use their Vanderbilt email address, faculty/staff make it clear that they are not speaking for VUMC, and what they say is representative of their individual personal views and opinions and not necessarily the views and opinions of VUMC.
3. Faculty and staff are thoughtful about how they present themselves as a VUMC faculty or staff member in online networks. By virtue of self-identifying as part of VUMC in such a network, faculty/staff connect themselves to, and reflect upon, VUMC colleagues, managers and even VUMC patients and donors.
4. Remember that all content contributed on all platforms becomes immediately searchable and can be immediately shared. This content immediately leaves the contributing individual faculty/staff members' control forever.
5. If someone or some group offers to pay faculty/staff for participating in an online forum in their VUMC role, offers advertising for pay and/or for endorsement, this could constitute conflict of interest and VUMC policies and guidelines apply.
6. If someone from the media or press contacts faculty or staff about posts made in online forums that relate to VUMC in any way, faculty/staff alert their manager/leadership and contact News & Public Affairs before responding.
7. Job postings follow Vanderbilt's Human Resources (HR) established processes. Social Media may not be used in place of HR processes.
8. Marketing, News & Public Affairs, VUSM and VUSN provides

some official VUMC and/or VUSM and VUSN information that can be appended to social media sites. (See Appendix B).

**Appendix A - Vanderbilt University Medical Center
Social Media Content Owner/Moderator Terms and Agreement**

1. Each Content Owner/Moderator is familiar with, and agrees to comply with Vanderbilt University Medical Center’s Social Media Policies and the guidelines listed in the Vanderbilt University Medical Center Content Owner/Moderator Terms and Agreement Form.
2. To prevent stagnant conversation, social media content is refreshed at least weekly.
3. To utilize social media efficiently, all social media platforms should have a specific purpose and topics should be relevant to the mission of VUMC.
4. All comments are moderated. Comments that are obscene, defamatory, profane, libelous, threatening, harassing, abusive, hateful or embarrassing to another person or any other person or entity are not approved. Owner/Moderator agrees to take all reasonably possible steps to prevent and eliminate non-approved comments and understand that it may be necessary to discontinue the use of the social media if such comments cannot be eliminated or prevented.
5. The following disclaimer is posted on all internal sites:
 - a. *Please remember that all laws and Vanderbilt University Medical Center policies apply, including but not limited to Privacy, HIPAA, Security and Safety, and VERITAS. We suggest that you take time to review these polices. Please consult your manager if you have questions about the appropriateness of your comment.*
6. The following Tips section is posted on all internal blog sites:
 - a. **A few tips:**
 - i. *Be brief.*
 - ii. *Feel free to disagree in a respectful manner.*
 - iii. *Please sign your comments (remember, in many cases your VUNet ID will show up automatically.*
7. The social media participation guidelines in appendix B are posted or linked to on all external VUMC sites.
8. Any threats to harm a person or one’s self are immediately addressed by notifying the Vanderbilt Chief of Police (contact information below).
 - a. If a comment violates any law or Vanderbilt University Medical Center policy, it is forwarded to the appropriate contact from the following list:

Issue/Topic	Reviewer	E-Mail	Title
Privacy/HIPAA	Privacy Office	Gaye.smith@vanderbilt.edu	Privacy Office
Security	August Washington	august.washington@vanderbilt.edu	Chief of Police
			Executive Dir Risk &

Risk Management	Sandy Bledsoe	sandy.bledsoe@vanderbilt.edu	Insurance Mgmt
Ethics	Dr. Robert Ossoff	robert.ossoff@vanderbilt.edu	Compliance Officer
Employee Issue	Veronica Burns	veronica.w.burns@vanderbilt.edu	Senior Director, Human Resources
Legal	Julia Morris	julia.c.morris@vanderbilt.edu	Deputy General Counsel
	Kevin Davis	kevin.davis@vanderbilt.edu	University Counsel
Information Security	Monroe Wesley	monroe.wesley@Vanderbilt.Edu	Director, Regional Informatics Security

**Appendix B - Vanderbilt University Medical Center
Social Media Participation Guidelines**

Thank you for participating with Vanderbilt University Medical Center in social networking communities such as Twitter, YouTube and Facebook. We ask that you treat others with respect, even if disagreements occur. Please do not post material that could be considered an infringement on the rights of others. Vanderbilt reserves the right to delete postings, or block users, that it deems to be slanderous, obscene, soliciting, or threatening.

Remember that these are public forums and whatever information you share will be viewed by others. Consider this carefully before posting detailed personal medical information. Vanderbilt has no control over the policies and practices of these third party sites. Once you leave www.VanderbiltHealth.com, www.mc.Vanderbilt.edu, or any of its related sites you are subject to the policies of those sites.

The information provided by Vanderbilt University Medical Center on these platforms is intended for educational purposes only. It is not intended as an endorsement, or a substitute for professional medical advice, diagnosis, or treatment.

If you are an employee of Vanderbilt University Medical Center, please remember that all laws and Vanderbilt policies apply, including but not limited to Privacy, HIPAA, Security and Safety. We suggest that you take time to review these policies. Please consult your manager if you have questions about the appropriateness of your comment.

By participating with Vanderbilt University Medical Center in social networking communities, you agree to indemnify Vanderbilt University Medical Center against any damages, losses, liabilities, judgments, costs or expenses arising out of a claim by a third party relating to any posts you have made.

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MEDICAL CENTER

ACKNOWLEDGMENT STATEMENT

After thoroughly reviewing this manual and the policies of the program during orientation, each student will be asked to sign the following statement and give it to the program director for placement in his/her student file.

Vanderbilt University Medical Center shall have the right to discuss any incident or occurrence that may arise out of, or as a result of the agreement with the students from the Perfusion Program and said students shall cooperate fully with Vanderbilt University and any clinical affiliation in its investigation of said incident or occurrence.

I, _____, have read, reviewed and thoroughly understand the policies, regulations, code of ethics and honor code as outlined in the student handbook. I agree to abide by them during the time I am a student in the Perfusion Program at Vanderbilt University Medical Center. I also certify that I have received a copy of this student handbook to keep in my possession and reference as needed.

Student Signature: _____ Date: _____

Student Printed Name: _____

Program Director Signature: _____ Date: _____