

VANDERBILT  UNIVERSITY
MEDICAL CENTER

Center for Programs in Allied Health
Perfusion Program



Program Handbook
2018-2019

Updated: June 22, 2018

INTRODUCTION TO PROGRAM HANDBOOK

The purpose of the Program Handbook is to serve as a reference and resource for the students in each of the programs in the VUMC Center for Programs in Allied Health (CPiAH). The Program Handbook is one of the important documents that provide operational guidance to students, to assist them in their successful progression through their programs. Other key documents with policy and procedure information important to students include:

- Catalog of the VUMC Center for Programs in Allied Health – Source of important policies and other information related to VUMC, the CPiAH and each program. The catalog is available on the VUMC CPiAH website.
- Program Handbook – Each CPiAH program provides students its own Program Handbook. The policies and procedures in the Program Handbook are aligned with VUMC, CPiAH and program policies that appear in the Catalog, as well as other locations. The purpose of the Program Handbook is to provide more specific details about each program, with a particular focus on operational information and procedures.
- VUMC CPiAH Website and Program Website – The Center for Programs in Allied Health has its own website, and that website houses a website for each program within the CPiAH. Students will find important information regarding both the institution and the programs on <https://ww2.mc.vanderbilt.edu/Alliedhealth/>.

IMPORTANT NOTICE TO STUDENTS:

All students enrolled in VUMC Center for Programs in Allied Health (CPiAH) programs are bound by all VUMC, CPiAH and Program policies. By enrolling in a CPiAH program, every student acknowledges his or her responsibility to abide by and adhere to all institutional and programmatic policies and procedures. Students therefore have the responsibility of being familiar with the policies and procedures described in the Program Handbook, in the Catalog of the Center for Programs in Allied Health, and on the CPiAH and respective program's websites.

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WELCOME

We are happy you chose the VUMC Perfusion Program, and it is our goal to deliver a perfusion educational 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 Center for Programs in Allied Health, the Perfusion Program, and the affiliated institutions. 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.

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, classrooms and other support services. For the most part, Vanderbilt University Medical Center Perfusion Program (VUMC-PP)

students conduct clinical services on the third floor of the Vanderbilt University Hospital (VUH) and in 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 rotate through each of the VUMC affiliated facilities, including Monroe Carell Children's Hospital Vanderbilt University. The exact amount of time spent in each of the VUMC rotations depends on each student's clinical educational goals. Research laboratory facilities in which perfusion education may be needed are generally located in Medical Center North.

ACADEMIC CALENDAR

	<i>Juniors (Class of 2020)</i>	<i>Seniors (Class of 2019)</i>
Program Start Date	August 10, 2018	August 4, 2017
Thanksgiving Break	November 21, 2018 @ NOON	November 21, 2018 @ NOON
Return from Thanksgiving Break*	November 26, 2018	November 26, 2018
Final Exam(s) for Fall Semester	December 17-20, 2018	December 21, 2018
Christmas Break Start	December 20, 2018 @ 1600	December 21, 2018 @ 1200
Return for Spring Semester*	January 3, 2019	January 3, 2019
Final Exam(s) for Spring Semester	May 1, 2019	May 7, 2019
Last Day of Clinic for Spring Semester	April 30, 2019	May 10, 2019
Spring Break	May 9-12, 2019	N/A
Summer Semester Begins*	May 13, 2019	N/A
Oral Exam	N/A	May 16, 2019
Review Course	N/A	May 13-15, 2019
Review Course Exam	N/A	May 21, 2019
Graduation	May 30, 2020**	May 23, 2019
* Students need to be ready to report to their clinical rotations early in the morning		
** Tentative		

Depending on the clinical call schedule, students in the program may be required to take call on the following holidays: Labor Day, Memorial Day, and 4th of July. Students taking call on these holidays will be awarded 8 additional hours of personal time off (please see the Attendance Policy for further explanation).

TRANSCRIPT GRADES

Transcript grades include the final grade received for course for the summation of assessments performed by the student based on the course assessment distribution. The assessment distribution for each course is described in the each course syllabus. When evaluating acceptable academic progress, course grades are considered based on the final transcript grade. The total number of points earned by the student is divided by the number of credits taken by the student to determine the student's grade point average.

ACADEMIC PROGRAM

The Perfusion Program is 22 consecutive months in length which includes five (5) semesters. The curriculum

utilizes the principles of the cognitive, affective, and psychomotor domain to develop competent entry level perfusionists. The course of study includes five (5) semesters and currently 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 Schedule

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

The Perfusion Program simulation lab is located in Medical Center North CC-2316. 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 program starting , allowing hands-on training to support the didactic classes.

Simulated experiences allows the perfusion student the unique andvaluable 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.

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 for CVPT I, CR-501, CR-502, CR-503, and CR-504 (details provided in those course syllabi).

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 must pass a comprehensive mock board as a requirement for CVPT IV to be allowed to graduate from the program. This exam is a multiple-choice, computer-based exam with content and questions similar to the Board Certification exam. The purpose of this comprehensive final exam is to ensure that students have the knowledge needed for certification and aid students in their preparation for the 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 attempts, if needed, 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.

Oral Examination

Oral examination will be given prior to the completion of the fifth semester of program and passing 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 attempt(s), if needed, with the program director. 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. 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 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 plan/clinical remediation and will not be 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 will be reviewed by 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 Lab Course Series.

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, Clinical Coordinator or Site Coordinator (a designee) 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, Clinical Coordinator or Site Coordinator (a designee) 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 and clinical coordinator in collaboration with the clinical competency committee and the student. Students will be offered outside rotations and the program will provide a housing stipend 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 in the program will need to prepare to do two outside rotations. Students will spend the first portion of CR501 (January to mid-May) at Vanderbilt University Medical Center, Centennial Medical Center, Memorial Medical Center and 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, Clinical Coordinator 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

Centennial Medical Center – Nashville, TN
LeBonheur Children’s Hospital– Memphis, TN
Monroe Carrel Children’s Hospital at Vanderbilt– Nashville, TN
CHI Memorial Medical Center – Chattanooga, TN
Erlanger Medical Center – Chattanooga, TN
Johnson City Medical Center – Johnson City, TN
Vanderbilt University Medical Center– Nashville, TN

CLINICAL EDUCATION OBJECTIVES

Modes of Delivery of 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 initiate 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 initiate 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.

In addition to clinical task end rotation evaluations, students will be subject to an end of rotation professionalism evaluation. The expectations to pass:

- Student communicates effectively, respectfully, and appropriately to the surgical team.
- Student demonstrates a professional attitude: prompt, punctual, reliable, and dependable. Student should assume appropriate work load, accept requests, and follows through with assignments.
- Student must be motivated to provide the "best patient care". Student must understand that the clinical instructor may take over a case at any time in which he/she feels that it is in the best interest of patient.

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- Student disposes of the circuit properly without increased exposure to blood.
Student leaves his/her work space clean and prepared for the next colleague.
- Student communicates any significant factors affecting the patient's hemodynamic status to his/her
 - clinical instructor.
- Student is required to respect, value, and protect the confidentiality related to patient care.
- Students must achieve a minimum of 80%. If a score of 80% is not achieved the student is required to pursue counseling at the discretion of the clinical site coordinator and the program director/ program clinical coordinator

CLINICAL EDUCATION AND ON-CALL ASSIGNMENTS, POLICIES AND PRACTICES

Clinical Assignments

Clinical assignments will be made each day by the Program Director, clinical coordinator or designee. Students must be available for assignment at 6:00 a.m. (or earlier as designated by the clinical site) in order to 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 likewise important for perfusion students to be readily available during the workday to participate in 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 nearby the operating room in order to receive timely assignments, and in order that the Program Director may obtain their presence on an immediate basis. 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 following day's clinical schedule will be sent out by pager and/or text message between 7 and 8 pm dependent on the clinical day.

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 in Transportation of a Patient

The Perfusion Program has sought approval for the students to participate in transportation of patients from outside facilities to VUMC if their supervising certified clinical perfusionist (CCP) desires their participation. We have been successful in getting Risk Management to add perfusion students to the VUMC Aircraft AD&D Policy as well as get Legal to approve an acknowledgement form. We have been given permission by the administration of Center for Program in Allied Health to allow students to participate in these types of clinical experiences with the completion of the travel acknowledgement form. Copies of the form can be found in the student room as well as electronically in the student resource BOX folder.

As a program, we support the decision of the clinical instructors to include or exclude students in these activities. Although, we feel these will be advantageous experiences for the students to participate in while under the supervision of CCP, we understand the complexity of the management during transportation and will support the exclusion of a student.

If a student is offered a patient transport experience the following steps should be followed:

- Student will notify the Program Clinical Coordinator or Program Director of their invitation to participate
- Student will complete the attached acknowledgement form and gain signature of their supervising CCP prior to departure
- Student will submit the completed form to the Perfusion Program Director for placement in the students permanent file

The student is required to take ownership for the communication as well as the completion of the required acknowledgement form.

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. The student will be penalized 8 hours of PTO when unexcused from the clinical arena. 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, either during scheduled program breaks or 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 Clinical Coordinator (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 program breaks or following the date of graduation. In addition, a student failing 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. 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.

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 and pediatric VAD's and ECMO in application to the equipment and management of these special patient considerations.

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 and always under the supervision of a certified clinical perfusionist, ECMO specialist and/or VAD coordinator. 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 participation 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.
6. All participation by a student will be under the direct supervision of a certified clinical perfusionist.

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

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, Clinical Coordinator, Site Coordinator or a 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 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.*

Chain of Command for Clinical Assignments

As with any group, and especially regarding a clinical practice group, it is imperative that the chain of command be followed in order to facilitate efficient and structured administrative management of Program and Department-related affairs. From time to time, concerns or disagreements might arise related to individuals in the chain of command. In these situations the student is required to maintain the utmost professionalism, engaging only in constructive behaviors and speech that reflect favorably on the student, the Program, the Center for Programs in Allied Health, VUMC and associated clinical areas/departments.

In the event of any questions regarding a clinical or other assignment by any student, the student is strongly encouraged to resolve the question with the clinical or didactic instructor assigned to their case or other duties or course. If a reasonable resolution can be reached without addressing the question with the next chain link and the clinical assignment can continue uninterrupted, then the student and clinical instructor are encouraged to continue working as assigned.

In the event that no such resolution can be reached within a reasonable time, the question should be posed to the Chief Perfusionist or the Clinical Site Coordinator, with notification to the Program Director and Clinical Coordinator (or a designee) for further evaluation.

If the Chief Perfusionist and/or Clinical Site Coordinator cannot resolve the matter in a reasonable time, the clinical instructor will conduct primary perfusion care for the case in question without significant student participation (charting and first-assisting is appropriate to continue on all cases, barring extreme circumstances).

The Program Director and Clinical Coordinator will then resolve the matter with the Chief Perfusionist and/or Program Medical Director, as appropriate to the case. Failure to follow this 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. Clinical Coordinator
4. Program Director
5. Medical Director
6. Program Advisory Committee (see disciplinary portion of Handbook).

ASSESSMENT OF STUDENT CLINICAL AND ACADEMIC PERFORMANCE

Evaluation of Student Clinical Performance During Clinical Rotations

Student competency is measured by means of a daily clinical evaluation form. The daily clinical evaluation form has been designed to address the cognitive, affective, and psychomotor learning domains of the program as well as the interpersonal domain. The form is reviewed by the student and the instructor immediately following each case. Students are responsible for completing the top portion of the evaluation form and providing it to the instructor at the beginning of the clinical experience.

At the beginning of the students' weekly didactic day, they are required to submit their daily evaluations from the previous week. Students on rotations outside of Nashville are required to electronically submit their evaluations to the program by the close of their weekly didactic day. Upon the student's return to

Nashville, he/she is required to submit the original forms no later than their weekly didactic day. If the evaluations show consistency in areas of a student's performance that need special attention, this will be addressed through increased instruction and practice. Extra simulation sessions – facilitated and supervised by the Program Director – may be required.

Students are also evaluated on a mid-term and/or end of rotation evaluation 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 expected to make clinical progression as outlined in each of the clinical course syllabus.

Methods of Evaluation of Clinical Course Performance

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 student's ability to pump a case is dependent on his/her clinical instructor's opinion based on their previous exposure and observations of the student's 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)

CLINICAL COMPETENCY COMMITTEE

The Clinical Competency Committee consists of the Program Director, Clinical Coordinator and clinical perfusion instructors of the Perfusion Program. The Program Director appoints a chairman of the Clinical Competency Committee and requests periodic meetings for the purpose of evaluating a students' clinical performance.

At the completion of the case requirements for each clinical level or at any time by the request of the Program Director, the student's clinical performance will be evaluated by the members of the Clinical Competency Committee. The student will advance to the next clinical level by passing the preceding clinical course.

If a perfusion student does not successfully complete Clinical Rotation I, II, or III, the student will be dismissed from the program, with appropriate warning and opportunity for remediation (full SAP Warning, Probation and Dismissal policies are described in the Catalog). Failure to successfully complete any course in the Clinical Rotation Series (I, II, III or IV), as required to satisfy the clinical competencies of the program and maintain satisfactory academic progress in the program, would result in the student not meeting the requirements for graduation in the program. A student dismissed for unsatisfactory academic progress may reapply to the program in the future.

Each student is evaluated by the committee prior to graduation to determine whether the student is clinically competent and meets the minimum requirements of the American Board of Cardiovascular Perfusion (ABCP). No student is given clinical clearance from the program until 2 weeks prior to graduation and a review has been completed on their independent of the number of clinical cases.

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. Any student admitted to the program must acknowledge his/her 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 will be required to provide verification of annual physical to participate in specific clinical affiliations.

ATTENDANCE AND PERSONAL LEAVE 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. Any unexcused absence for a didactic lecture or laboratory session will result with a 25-point penalty on any coursework required for submission on that date or any exam be given on that date. The 25-point penalty will supersede the syllabi 5 penalty per day when a student is missing course or lab requirements as a result of an unexcused absence.

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. At a minimum a student with an unexcused absence from a clinical assignment will receive a "0" for the daily case

evaluation and will be required to make-up the unexcused clinical absence during schedule program break or following graduation.

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 on designated program holidays 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.

Requests for Personal Time Off

Students must complete the Request for Personal Time-Off Form at least ***two (2) weeks*** prior to the requested time off (except for the two circumstances described below). The Request for Personal Time-Off Form is available on the program website or in the student room. The form must be fully completed and may require approval from the chief perfusionist of the rotation in which the student is participating at the time of the requested time off. The form must be submitted to the Program Director's office at least two (2) weeks prior to the requested time off. Personal time off will not be approved without a properly completed form.

There are two exceptions to the two-week prior notification rule: 1) an emergency/illness or 2) a job interview. In these instances, the following rules apply:

- Interview Absence: 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.
- Emergency/Illness Absence: Time off taken for an illness requires immediate communication with both the Program Director, Clinical Coordinator and the chief perfusionist of the rotation site. A student out due to an illness for more than two (2) days must provide a physician's written notification/medical excuse to the Program Director. Following such absence, a student is not allowed to return to class or clinical rotation until such paperwork is completed.
- In cases of both interviews and emergencies/illness:
 1. The student must speak with the program director and the chief perfusionist of the clinic rotation EACH day of their absence.
 2. Upon return, the request form must be completed and submitted to the program director for final approval.
- Students are not allowed to use their personal time off hours during the last three (3) weeks of the program. Exceptions will be allowed for the following reasons:
 1. Interviews
 2. Bereavement
 3. Jury Duty
 4. Illness with a written medical excuse
- Only one student per rotation is allowed to be off at a time. Exceptions will be allowed for the following reasons:
 1. Attendance at a professional conference
 2. Interviews
 3. Bereavement
 4. Jury Duty

5. Illness

- Time off taken for jury duty or bereavement does not require the two (2) week notice.
- Students who are absent without proper notification/approval and documentation (as described in this policy) engage in the following may be temporarily suspended and subsequently dismissed from the program.

Bereavement: The Personal Time-Off Request Form must be completed, but only approval by the program director is required. 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, step-parent, step-sibling, or stepchild.

Jury Duty: The Personal Time-Off Request Form must be completed, but only approval by the program director is required. Time spent on jury duty **does 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.

Note: 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 in Case of Illness or Emergency

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

- Calling 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 the perfusionist in the perfusion department who answered the call and email the instructor to follow up.
- Emailing the Program Director (at Nicole.m.michaud.1@vumc.org) 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 as result of an illness/injury that are greater than two days require a doctor's excuse before make-up work can be scheduled.

A student who may have a communicable condition/illness should not participate in any program activities, as doing so presents an infection risk to others, including students, faculty members and patients and their families. If a student experiences any of the following, he or she should not report for class or clinical duties:

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

The student must follow the Communication Policy as outlined.

Timesheet Documentation of Personal Time Off

Absences are documented on the weekly time sheet (student site of the program website), and must be promptly completed.

Holidays

If a student is scheduled for call on a day when a facility observes a holiday, the student will be required to report to the facility only upon being called in for an emergency procedure. Students taking call on holidays for which the other students in the program are off, will be awarded an additional 8 hours of personal time per day for taking call, and an additional 8 hours per day that the student is called in to participate in a clinical activity. Holidays that occur during scheduled program breaks are not considered part of the clinical rotation, and no students will be on call for those holidays.

Tardiness

A student is considered 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 is marked as absent. If the student is more than (30) minutes late for a clinical experience, the student is excused from the clinical rotation and is required to immediately report to the Program Director and/or Clinical Coordinator.* Students must notify the course instructor and program director using the same guidelines as provided for communication of emergency situations. Five (5) episodes of tardiness during the program will count as one absence and will be deducted from the student's personal time off.

*Exceptions may 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.

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, Use of Sick Leave and Unavailability for Clinical Experiences

An excessive number of tardies is defined as greater than five (5) of each throughout the program. Excessive tardiness is detrimental to patient care, and disruptive to the clinical site, the cardiac team, and the Program. It is considered by the program to be unprofessional conduct, as well as failure on a student's behalf to perform assigned duties. In such cases, the student will be subject to disciplinary action, up to and including dismissal for a rotation and/or from the program.

Make-Up Policy

Absences that take place when a student's personal time off is used up may, at the discretion of the program director, be made up. Students are required to obtain the permission of the Program Director to make-up any missed attendance. Any missed (didactic or clinical) time beyond the student's allotment of personal time off hours must be made up in the clinical setting, and only during scheduled breaks or after program completion/graduation. Make-up hours are calculated in increments of one (1) hour. The Program Director will counsel any student requiring make-up clinical hours.

Faculty presentations and assigned coursework are vital components in the learning process. In the event of an excused absence during a scheduled didactic course, the student will refer to the course syllabus for make-up options 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 is required to schedule the make-up work (at the convenience of the instructor, not the student). Each student is responsible for follow-up with the instructor within 24 hours of return to school to make arrangements to make-up any

missed work. All make-up work must be completed within 3 work days of the student's return from an excused absence. Failure to

schedule or communicate with the instructor about make-up work will result in an automatic zero (0), and may result in disciplinary action, up to and including temporary suspension and dismissal from the program. Exams will be made up only upon approval of the course instructor; instructors are not required to provide the opportunity to make up missed examinations. Students should refer to course syllabus for exam dates.

STUDENT WORK POLICY

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

STUDENT WITHDRAWAL FROM PROGRAM

A student considering voluntary withdrawal from the program should make an appointment with the Program Director to discuss his or her situation. In many cases a student may be provided with or referred to support resources that allow him or her to successfully remain in the program.

If a student, after having met with the Program Director, decides to voluntarily withdraw from the program, written notification must be provided, either in hard (paper) copy or by email:

- If written notification is mailed or hand-delivered it must be addressed to the Assistant Director for Enrollment and Financial Aid, Center for Programs in Allied Health, Vanderbilt University Medical Center, Center for Programs in Allied Health, 1301 Medical Center Drive, B-802 TVC, Nashville, Tennessee 37232-5510.
- If notification is emailed, it must be sent to the following address: CPiAHrequest@vumc.org.

Written notification (delivered by either method, above) must state the student's intent to withdraw. If the student is willing to share it, the reason for withdrawal should be included. The student may indicate a date of withdrawal that is different from the date of the letter, providing the student continues to participate as required until the date of withdrawal. Full institutional policies related to student withdrawal are contained in the VUMC Center for Programs in Allied Health Catalog.

STUDENT CONDUCT

All students are bound by several standards of conduct, as outlined in the CPiAH Catalog, including:

- VUMC Code of Conduct
- VUMC Center for Programs in Allied Health Honor Code
- American Board of Cardiovascular Perfusion (ABCP) Code of Ethics
- American Society of Extracorporeal Technology (AMSECT) Code of Ethics

In addition, the Perfusion Program provides its own statement related to student academic and professional conduct.

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 proctor the exam, only. 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. Student participation in any of these actions is subject to disciplinary action. P 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.

Professional Boundaries

Vanderbilt University Medical Center and the Perfusion Program are committed to maintaining an academic environment in which members work freely together, both in and out of the classroom. Program staff member(s) (clinical and/or didactic) and student(s) who engage in personal relationships should be aware of their professional responsibilities and are responsible to ensure that the relationship does not raise concern about favoritism, bias, ethics, and conflict of interest. Romantic or sexual relationships between students and program staff members and/or faculty (clinical and/or didactic) are strictly prohibited. In addition, romantic or sexual relationships between students and patients are strictly prohibited.

PATIENT PRIVACY & HIPAA

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 (<https://www.mc.vanderbilt.edu/infoprivacysecurity/>) to meet HIPAA Federal requirements for handling patient information. Information 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. 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.

PROGRAM EVALUATION

A vital part of the Perfusion Program is continuous review and evaluation of the curriculum and techniques used in teaching, in order to assess the effectiveness of the program in meeting its goals. Evaluations are used to identify those areas which need improvement. 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 Center for 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.

ACADEMIC 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 10-week clinical rotation. Students in the program are encouraged to meet with the Program Director as often as they feel necessary/helpful. The Program Director, Clinical Coordinator, and Clinical Instructors maintain an open door policy for students throughout the program.

DRESS CODE

Student dress in the clinical and didactic setting shall be in a manner that is tasteful, conservative and communicates a professional image. Student scores in professional conduct will reflect 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)
 - No visible clothing is allowed to be worn underneath scrub tops
 - If a student wears scrubs to the hospital, scrubs should be changed for new laundered scrubs.
- 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 or 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 must be worn.
- Long hair must be secured away from the face.
- **NO** perfume or cologne will 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, and to/from clinic:

Female

- VUMC or clinical affiliate identification badge must be 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 that 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 must be clean, neatly trimmed and appropriately styled for medical/business environment.
- NO perfume or cologne will 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 must be 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 will not be worn.
- Jean cut shorts, sweat pants, or athletic shorts are not permitted.
- Hair will be clean, neatly trimmed and appropriately styled for medical/business environment.
- Facial hair must be neat and well-trimmed.
- NO perfume or cologne will 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 suspension program activities until the code and guidelines are met, and additional disciplinary action may be taken. If a student is suspended from required program activities due to violation of the dress code, the time away from activities, plus one hour, will be deducted from the student's personal time off.

ADDITIONAL PROGRAM POLICIES

Student Workroom

Perfusion Program students have a Perfusion Program workroom located in Medical Center North D-2219. The space has textbooks, printer, computers, cabinet space, office supplies, refrigerator, and microwave. Students may sign out books from the student library for two weeks at time. (Students must fill out the book sign-out form.)

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.)

This space is located in a professional office space context. Therefore, while in the work room, students are required to act and speak a professional manner. This space is student-only space and should be kept clean. Students should turn lights off when leaving the room.

Each student will be provided a key for the student work room. If the student loses the key or damages anything in the work room, it will be the student's responsibility to pay for costs of replacement or repair. Depending on the nature of the damage to the student workroom, the student causing the damage may be subject to disciplinary action.

Maintenance of Program-Issued Equipment

All program equipment issued to students, including beepers (pagers), five (5) tubing clamps, parking cards, and

ID badges, are 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 in proper condition (notwithstanding normal wear and tear) will result in the student being liable for the cost of such equipment, and such fees will be assessed and paid prior to the time graduation privileges are granted to a student otherwise eligible for graduation.

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 about the clinical schedule must be done through the paging system (only with explicit approval from their clinical instructor may a student use text messaging to communicate). Two or more violations of this cell phone policy will result in disciplinary action.

BLS and ACLS Certification

Adult and Pediatric completion (Certification) of Basic Life Support (BLS) training of must be presented to the Program Director within one month of beginning the program. 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) while in the program. If a student is already ACLS certified, he or she need not repeat the training. All students are required to maintain this certification during the tenure of the program.

Travel

The student is responsible for transportation costs and liability for safety in travel to and from Vanderbilt, hospital affiliates located outside VUMC/Nashville, 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 Center for Programs in Allied Health central 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 student and the Program Director, or as directed by the administration of the Center for Programs in Allied Health. Didactic courses may be cancelled at the discretion of the course instructor and/or the administration of the Center for Programs in Allied Health. If a student missed a clinical assignment or didactic lecture due to severe weather without an excused absence from the Program Director and/or the administration of the Center for Programs in Allied Health, a Personal Time-Off Request Form must be submitted.

Annual Physical

Students may be required to provide verification of an annual physical for participation with some clinical affiliate sites, at the discretion of the site.

Student Services Policy

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 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 course-specific 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 or asked to perform patient care activities without direct clinical instructor supervision, the student must immediately cease activity, consult a clinical instructor or clinical site coordinator, and notify the Clinical Coordinator or Program Director.

Pagers

Each student is assigned a pager. If the student loses or damages his/her pager, it is the student's responsibility to immediately contact the Program Director and the Paging office. It will be the student's responsibility to cover the replacement fee for a lost/damaged pager (approximately \$75). The student must obtain a new pager immediately. Failure to acknowledge pager notifications for cases/emergencies is subject to disciplinary action, up to and including dismissal from 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 must complete the Request for Personal Time-Off Form for conferences and get approval from the chief perfusionist of the rotation in which the student is participating at the time of the conference, as well as and from the program director. The form must be received in the Program Director's Office at least 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. The program director will provide the student with this form upon receiving notification of a student's desire to attend a professional 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 Vanderbilt University Medical Center, the VUMC Center for Programs in Allied Health, and the VUMC Perfusion Program.