



## Master of Science in Cardiovascular Perfusion (MSCP)

### Purpose

The Master of Science in Cardiovascular Perfusion Program is an allied health science program that educates and prepares students in the knowledge and skills necessary to conduct cardiopulmonary bypass and associated cardiovascular procedures including cardiac life support. Perfusionists work under the supervision of the cardiac surgeon and in accordance with the cardiac anesthesiologist. Students who graduate from this program will be eligible to sit for the two-part national certification examination through the American Board of Cardiovascular Perfusion (ABCP). Successful completion of the ABCP examinations awards the certification and title of Certified Clinical Perfusionist (CCP).

### Mission

Our mission is to prepare students to become a proficient entry level cardiovascular perfusionist through the dissemination of evidence-based knowledge, scholarly activities, and diverse clinical experiences. Additionally, it is the mission of this program to elicit independent systematic thought processes through new scientific discovery and historical knowledge. Graduates from this program will be able to effectively integrate perfusion theory to clinical practice.

### Program Goals

The MSCP program has identified goals that are as followed:

- Prepare competent entry level perfusionists in the **cognitive** (knowledge), **psychomotor** (skills), and **affective** (behavioral) learning domains
- Prepare students in critical thinking skills and problem-solving skills
- Prepare students for the American Board of Cardiovascular Perfusion licensing exams
- Provide students with perfusion theory and clinical applications skills for safe and effective patient care
- Prepare students to communicate effectively and to work cooperatively and safely with a healthcare team to ensure safe and quality patient care



## Student Learning Outcomes

The student learning outcomes listed below are expressed with the intention to meet or exceed the program goals.

- Students will apply perfusion theory and principles to patient care
- Students will apply perfusion techniques and skills to clinical practice
- Students will exhibit professional and ethical behavior in the clinical setting
- Students will identify critical errors and device failures
- Students will execute corrective procedures during critical errors or disaster events
- Students will successfully complete the American Board of Cardiovascular Perfusion licensing exams (PBSE and CAPE)
- Students will execute the safe application and management of cardiopulmonary bypass and cardiac assist procedures.
- Students will formulate patient care plans and best practices for patient care during cardiopulmonary bypass
- Students will communicate and effectively engage in a team approach during cardiac and perfusion related procedures

## Accreditation

Northern Kentucky University's cardiovascular perfusion program is accredited by the Committee of Accreditation of Allied Health and Education Programs (CAAHEP) through the Accreditation Committee-Perfusion Education (AC-PE).

AC-PE, A Committee on Accreditation of CAAHEP

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- [ac-pe.org](http://ac-pe.org)
- [caahep.org](http://caahep.org)

## Application Deadline

The application cycle begins September 15<sup>th</sup>. To be considered for admission, the completed application and all admission requirements must be submitted by February 1<sup>st</sup> the subsequent



year. The application review and interview process are conducted in February and March with final decisions made in March.

## Admission Requirements

1. Application for graduate admission and \$40 non-refundable application fee.
2. Completed a bachelor's or master's degree at a regionally accredited institution with a minimum cumulative GPA of 3.0 on a 4.0 scale. Please submit all official transcripts from undergraduate and graduate schools attended.
3. Successful completion of the following prerequisites, or equivalent courses, (minimum of 38 prerequisite credit hours), with a GPA of at least a 3.0 on a 4.0 scale in each course. Prerequisites should be completed within ten years of application.
  - General Biology with labs (**8 credits**) (e.g. NKU- BIO 150/L and BIO 151/L)
  - Microbiology with lab (**4 credits**) (e.g. NKU- BIO 202/L)
  - College Math (**3 credits**) (e.g. NKU- MAT 129 or STA 205)
  - Physics with lab (**4 credits**) (e.g. NKU- PHY 211/L)
  - General Chemistry with labs (**8 credits**) (e.g. NKU- CHE 120/L and CHE 121/L)
  - Anatomy & Physiology with labs (**8 credits**) (e.g. NKU- BIO 208/L and BIO 209/L)
  - Biochemistry (**3 credits**) (e.g. NKU- CHE 115/L)
  - *Note: total credit hours for prerequisites is 38 cr. hours within 10 years of applying*
4. Shadow a perfusionist is required. Clinical patient care experience recommended.
  - Perfusion Shadowing form found on NKU Perfusion webpage
5. Three professional letters of recommendation.
6. Letter of intent discussing why you wish to pursue a career as a cardiovascular perfusionist.
7. CV or resume
8. **INTERVIEW:** Once all requirements are met within the application deadline, qualified applicants may be invited for an interview with the director and clinical coordinator prior to final decision of admission.

## Additional Program Requirements

Upon admittance to the program, immunizations and document tracking are conducted through PreCheck. Before the start of the first semester, students are required to have the following proof of immunizations and health screening. Register for immunization tracking at <https://candidate.precheck.com/StudentCheck>

- Measles, Mumps, Rubella MMR- Two doses or positive surface antibody titers.



- Tuberculosis (TB)(PPd)- TB documentation or PPd test within 12 months and a negative result or TB blood draw test within 12 months with negative result.
- Influenza Vaccine – required seasonally (October 1<sup>st</sup> – March 31<sup>st</sup>)
- Tetanus, Diphtheria, Pertussis (T-DaP)- Vaccine within 10 years or TD/T-DaP booster within 10 years
- Varicella (chickenpox)- Two dose vaccine or positive surface antibody titer
- Hepatitis B - Two, three, or four doses or positive surface antibody titer
- COVID-19 – Vaccine Documentation
- Health Insurance
- Medical Examination

## **Background Check and Drug Screening**

Students are required to use PreCheck/StudentCheck to purchase a criminal background check. In addition, most clinical sites require a drug screen. Documented proof of the background check and drug screen must be uploaded to PreCheck/ StudentCheck before the start of clinicals. **These requirements are typically time sensitive and should not be completed before instructed to do so.** These requirements begin at the end of the student’s second semester.

## **Program Retention and Graduation Requirements**

1. Maintain an overall 3.0 GPA
2. Completion of all coursework with a B average or better
3. Successful completion and display of competent clinical skills and knowledge of at least 75 adult clinical cases and 5 ECMO/VAD procedures
4. Successful completion and display of competent clinicals skill and knowledge or observation of at least 10 pediatric clinical cases
5. All course work and clinicals are non-repeatable

## **Tuition**

\$876/Credit hour (cr.)

## **Student Fees for Each of the Following Courses**

### **Fall Semester**

CVP 610 Extracorporeal Technology I

- \$700



CVP 630 Perfusion Simulation I

- \$300

### **Spring Semester**

CVP 611 Extracorporeal Technology II

- \$700

CVP 631 Perfusion Simulation II

- \$300

### **Summer Semester**

Clinical Rotation fee for Cleveland Clinic of Florida only

- \$50

## **Curriculum**

The MS Cardiovascular Perfusion Program is a five-semester program consisting of two semesters of in-class instructional learning and three semesters of clinical hands on training at various clinical affiliation sites. Each clinical rotation is 15 weeks in duration coinciding with NKU Summer, Fall, and Spring semesters.

### **First Year**

Fall Semester (22 Credits)

- CVP 600 Anatomy and Physiology in Perfusion (4cr)
- CVP 602 Fundamentals in Perfusion Management I (2cr)
- CVP 610 Extracorporeal Technology I (3cr)
- CVP 620 Physiological Monitoring (5cr)
- CVP 621 Pathophysiology in Perfusion (3cr)
- CVP 630 Perfusion Simulation I (5cr)

Spring Semester (22 Credits)

- CVP 601 Anatomy and Physiology in Perfusion II (3cr)
- CVP 603 Fundamentals in Perfusion Management II (2cr)
- CVP 611 Extracorporeal Technology II (3cr)
- CVP 622 Surgical Technique (2cr)
- CVP 623 Perfusion Pharmacological Intervention (4cr)
- CVP 624 Pediatric Perfusion (3cr)
- CVP 631 Perfusion Simulation II (5cr)

### **Second Year**

Summer Semester (10 Credits)

- CVP 680 Research Methods in Perfusion (2cr)



- CVP 640 Special Considerations in Perfusion (2cr)
- CVP 676 Clinical Practicum I (6cr)

Fall Semester (8 Credits)

- CVP 686 Clinical Practicum II (6cr)
- CVP 691 Perfusion Capstone I (2cr)

Spring Semester (8 Credits)

- CVP 696 Clinical Practicum III (6cr)
- CVP 693 Perfusion Capstone II (2cr)

**TOTAL CREDIT HOURS: 70**