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

This program has been granted Candidacy Status. Candidacy status is recognized by the AC-PE and is not a Commission on Accreditation of Allied Health Education Programs (CAAHEP) accreditation status. It has been determined the program has a solid foundation and is making satisfactory progress toward preparation for accreditation requirements. However, Candidacy status does not guarantee that accreditation will eventually be granted by CAAHEP.

This program will seek full accreditation through the Commission on Accreditation of Allied Health Education Programs (CAAHEP) with the recommendation from Accreditation Committee-Perfusion Education (AC-PE) in the fall semester 2023 per the requirements from CAAHEP. Contact information regarding the candidacy status and full accreditation process is below.

AC-PE, A Committee on Accreditation of CAAHEP
10940 S. Parker Rd. Suite 455
Parker, Colorado 80134
Phone #: 303-495-8989
Email: office@ac-pe.org

- https://ac-pe.org/
- https://ac-pe.org/wordpress/programs-with-candidacy-status/
Application Deadline

The application cycle begins September 15th. To be considered for admission, the completed application and all admission requirements must be submitted by March 1st. The application review and interview process are conducted in March with final decisions made in April.

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, 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)
4. Clinical patient care experience or shadow a perfusionist.
   - Perfusion Shadowing Doc.docx 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

Students are required to use PreCheck/ Sentry MD to purchase and upload a background check, immunizations, drug screen, and health screening documents.

Immunizations and document tracking are conducted through PreCheck/ Sentry MD. Before the start of clinical rotations, students will be required to have the following proof of immunizations. Registration begins after the start of the first semester. 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 1st – March 31st)
• 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

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
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
- $100

Spring Semester
CVP 611 Extracorporeal Technology II
- $700
CVP 631 Perfusion Simulation II
- $100

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**