

PROPOSED PROGRAM SUMMARY

Institution: Northern Kentucky University
Program Name: Cardiovascular Perfusion
Degree Designation: MASTER OF SCIENCE (MS)
Degree Level: Master's

CIP Code: 51.0906
Credit Hours: 77
Institutional Board Approval Date: 11/28/2021
Implementation Date: 5/1/2021

Program Description

This program relates to an allied health science field that prepares students to use heart/lung machines and other technologies to maintain the health of patients during heart surgery and other medical procedures. Graduates of this program will work with and under the direction of anesthesiologists and surgeons.

A perfusionist is a very specialized health care professional with a primary focus on the operation of the heart/lung machine during cardiac surgery. The heart/lung machine replaces a patient's circulatory and respiratory function while providing a motionless and bloodless field for the surgeon to operate. Perfusionists are required in all pediatric and adult cardiac surgery programs. A perfusionist typically works inside the hospital setting in departments such as surgery, catheterization lab, intensive care units, and the emergency room.

This program is eligible for accreditation by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), and students successfully completing this program are eligible for certification by the American Board of Cardiovascular Perfusion.

The goals of this program are to:

- prepare competent entry-level perfusionists in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains.
- provide a base knowledge of perfusion theory, the skill to implement that knowledge and proficiency in its application in accordance with the needs of healthcare providers and employers.
- provide students with the knowledge, skills and experience to work cooperatively and safely with a healthcare team to perform perfusion techniques to ensure quality patient outcomes.
- prepare students to assess perfusion related patient and clinical situations accurately and act appropriately.

Utilizing existing coursework, the program will also offer a Degree Advancement Option (DAO) that allows working perfusionists, who have completed a CAAHEP-accredited undergraduate or certificate perfusion program, the opportunity to advance their education and professional goals while working in their home communities.

Connection to Other Programs

This program will complement the portfolio of allied health offerings in NKU's College of Health and Human Services and enhance simulation education in NKU's state-of-art Health Innovation Center. There are no other perfusion programs in the state of Kentucky. The nearest perfusion education programs are located at Vanderbilt in

Nashville, Rush University in Chicago, Cleveland Clinic, and University of Pennsylvania Medical Center in Pittsburgh.

Program Demand

Northern Kentucky University determined the need based on the local community demand. The local perfusion community, including Perfusion Consultants and Perfusion Partners, LLC through St. Elizabeth Health network; UCHealth; and Cincinnati Children's Hospital, reached out to NKU specifically expressing the demand for perfusionists and the need for more perfusion education in this region.

Based on this analysis, initial estimates of enrollment are:

Year 1 - 10
Year 2 - 20
Year 3 - 24
Year 4 - 26
Year 5 - 28

Employment Demand

The demand for cardiovascular perfusionists in the United States is greater than the current supply, and the annual attrition rate exceeds the graduation rate or additions of new Certified Clinical Perfusionists (CCP).

Students will graduate into an entry-level position as a Cardiovascular Perfusionist at a hospital in which cardiac surgery is performed.

Cardiovascular perfusion is a specialized field that is currently not reflected in national databases. The employment demand is based on a methodology that examines the current vacancy rate of 12.3%, turnover rate of 14.7%, and the anticipated retirement of CCPs in the next one to ten years. There are approximately 400 perfusion positions open across the country.

In the Northern Kentucky/Greater Cincinnati area, there are currently 50 CCP's with three current vacancies. In the next three years, there are more than six expected vacancies and more than 10 expected vacancies over the next five years. Further, there are 10 additional openings throughout the state of Kentucky, which represents a 14% state vacancy rate.

Budget

The program will be initially funded with investment funds from the university through budget requests, and there will be a return on investment over a five-year period.

A cohort enrollment size of 10 will be admitted yearly. Further, five Degree Advancement Option students will be admitted in the second year, with the intent to grow this type of enrollment by two students each year. This will result in a total enrollment of 28 students by the fifth year.

In the first year, a program director, one full-time faculty, and three adjunct faculty members will be hired. An additional adjunct faculty member will be hired in the second year and one full-time faculty member will be hired in the fourth year.

Projected Revenue over Next Five Years: \$2,531,900

Projected Expenses over Next Five Years: \$1,939,681