Cleveland Clinic
School of Health Professions
Cardiovascular Perfusion Program

Course Descriptions

PER101 – Perfusion Theory I ***Clock Hours: 48***

This is an introductory course starting with cardiovascular anatomy, principles of hemodilution, myocardial protection and pharmacology. Topics include the perfusion circuit and ancillary equipment as it pertains to the patient's pathology.

Co-requisites: PER102, PER103, PER100L

PER102 - Perfusion Theory II ***Clock Hours: 33***

This course is concurrent with the topics in Perfusion Theory I. Emphasis is given to blood components and coagulation, autotransfusion, and laboratory analysis.

Co-requisites: PER101, PER103, PER100L

PER103 - Perfusion Circuit ***Clock Hours: 32***

This course is designed to acquaint the student with the various components that make up the perfusion circuit. Emphasis is placed on the history, performance and limitations of each component in the perfusion circuit.

Co-requisites: PER101, PER102, PER100L

PER100L - Clinical Instruction I ***Clock Hours: 579***

This is an introductory course acquainting the student with the heart-lung machine. Emphasis is placed on the student to learn how to assemble the disposables of the perfusion circuit and to be able to prepare the heart-lung machine in a timely manner.

Co-requisites: PER101, PER102, PER103

PER101L - Clinical Implementation I ***Clock Hours: 32***

This course integrates perfusion theory and the components of the perfusion circuit. Emphasis is placed on patient strategies for successful outcomes with routine cardiac procedures.

Co-requisites: PER105, PER106, PER104, PER200L

PER104 - Perfusion Theory III ***Clock Hours: 33***

This course is a continuation of the topics introduced in Perfusion Theory I and II. Emphasis is given to pediatrics and unique patient pathologies and surgical techniques.

Co-requisites: PER105, PER106, PER101L, PER200L

PER105 - Research Seminar I ***Clock Hours: 16***

This is an introductory course acquainting the student with research methods in perfusion. The student will complete a case report and presentation.

Co-requisites: PER106, PER104, PER101L, PER200L

PER106 - Perfusion Special Topics ***Clock Hours: 16***

This course is a compilation of perfusion topics of special interest to complete the students' perfusion education.

Co-requisites: PER105, PER104, PER 101L, PER 200L

PER200L - Clinical Instruction II ***Clock Hours: 586***

This course is a continuation of the Clinical Instruction for Perfusion students. Emphasis is placed on the management of an open-heart surgery case from start to finish.

Co-requisites: PER105, PER106, PER104, PER101L

PER201L - Clinical Implementation II ***Clock Hours: 28***

This course is a continuation of Clinical Implementation I with a focus on practical application of perfusion theory and the components of the perfusion circuit. Emphasis is placed on patient strategies for successful outcomes with complex cardiac procedures.

Co-requisites: PER108, PER107, PER200L

PER107 - Mechanical Circulatory Support ***Clock Hours: 16***

This course is designed to introduce students to the scientific concepts involved with all types of mechanical circulatory support devices, including extracorporeal membrane oxygenation (ECMO) and ventricular assist devices (VADs).

PER108 - Research Seminar II ***Clock Hours: 16***

This is a continuation of Research Seminar I. Students will complete case reports and select a topic for their Quality Improvement project.

Co-requisites: PER107, PER201L, PER300L,

PER300L - Clinical Instruction III ***Clock Hours: 669***

This course is a clinical continuation for perfusion students. Perfusion students are expected to run a routine case and may now start to document their successful cases toward their graduation requirements.

Co-requisites: PER108, PER107, PER300L

PER109 - Research Seminar III ***Clock Hours: 16***

This is the final course of the Research Seminar series where the student writes their manuscript and presents the findings of their research.

Co-requisites: PER400L

PER400L - Clinical Instruction IV ***Clock Hours: 774***

This course is a clinical continuation for perfusion students. Students are expected to manage all case types and finish their case requirements for graduation.

Co-requisites: PER109