

# AACN and The Institute for Extracorporeal Life Support Present: The ECMO Course

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## Course Syllabus

### Course Content

- Four modules with 20 chapters
- Lesson module exams cover physiology, ECMO fundamentals, ECMO physiology and ECMO management
- Intended for critical care nurses who want to develop their understanding of the fundamental principles of ECMO therapy support techniques.

*Accreditation:*

*Registered Nurses: The American Association of Critical-Care Nurses is accredited as a provider of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation. Provider approved by the California Board of Registered Nursing, Provider number CEP 1036, for 8.00 contact hours.*

*Respiratory Therapists, Perfusionists and Physicians: Antidote Education Co. is jointly providing this course. See [www.ecmocourse.com](http://www.ecmocourse.com) for accreditation details.*

## Module 1: Physiology

### Chapters 1-5 with lesson module exams for comprehension checks

- Describe the parameters for oxygen delivery
- Compare the effect of manipulation of various components of oxygen delivery
- Recognize shock and describe the limitations of clinical and laboratory findings
- Understand the limits of critical care interventions to optimize oxygen delivery, and recognize the toxicity of these interventions

## Module 2: ECMO Fundamentals

### Chapters 6-9 with lesson module exams for comprehension checks

- Name the specific components and their function
- Identify ways to monitor the ECMO circuit: pressures, alarms, sensors
- Apply a systematic approach to selecting patients for ECMO
- Compare the various configurations for ECMO cannulation, and identify the reasons for different strategies

## Module 3: ECMO Physiology

### Chapters 10-15 with lesson module exams for comprehension checks

- Describe characteristics that limit blood flow to the ECMO circuit
- Appraise the limits of the ECMO membrane
- Assess the reasons for hypoxia on VV ECMO, and apply a method for diagnosing and treating
- Identify patient characteristics that are ideal for VA ECMO
- Understand the physiology of retrograde flow and its consequences related to VA ECMO

## Module 4: ECMO Management

### Chapters 16-21 with lesson module exams for comprehension checks

- Apply physiological concepts to develop an approach toward titration of flow
- Develop a method to manage the ventilator for patients on ECMO that spares the toxicity of conventional therapy
- Describe pharmacokinetic principles common to patients on ECMO and apply the principles to how drugs are administered
- Understand the principles related to coagulation, and apply them to how anticoagulation is used for a patient on ECMO

## Additional Reading/Course Complement

- Course textbook: “The ECMO Book”
  - Take a journey with Jeffrey DellaVolpe, MD, in this four-part textbook that will augment your online experience and help you dive deeper into the fundamental concepts of the online ECMO course.