

The Heart Center

Module Title:

Advanced Cardiovascular Physiology

Module Director:

Aaron J. Trask, Ph.D., F.A.H.A.

Phone: 614.355.5760

Email: aaron.trask@nationwidechildrens.org

Module Description

This course is an advanced overview of basic cardiac and vascular development, physiology, and pathophysiology.

Textbooks:

Physiology of the Heart, Arnold M. Katz, Fifth Edition, 2011 (ISBN: 1-60831-171-6)

Larsen's Human Embryology, Fourth Edition, 2009 (ISBN: 978-0-443-06811-9) – Relevant chapters will be copied and provided.

Current Topics in Developmental Biology, Benoit G. Bruneau, Vol. 10, 2012 (ISBN: 978-0-12-387786-4) – Relevant chapter will be copied and provided.

Offered: Winter 2018

Time given: Fridays from 12:00 PM – 1:00 PM
(Lunch will be provided.)

Winter 2018	Topic	Lecturer:	Location:
CV Development			
Jan 5	Vascular Development, Larsen's Ch 13	Brenda J. Lilly, Ph.D.	<i>NCH-WB1050</i>
Jan 12	Cardiac Development/Congenital Heart Defects, Larsen's Ch 12	Vidu Garg, M.D.	<i>NCH-WA1525</i> <i>*11:30 Start</i>
Jan 19	Cardiac Valve Development, Curr Topics Devel Biol, Ch 7	Joy Lincoln, Ph.D.	<i>NCH-WA1525</i>
Jan 26	Cardiovascular Genetics	Kim McBride, M.D.	<i>NCH-WA1525</i>
Cardiac Physiology/Pathophysiology			
Feb 2	Cardiac Structure, Biochem, Energetics, Mechanics; Ch 1-6	TBD	<i>NCH-WB1050</i>
Feb 9	Origin of Heartbeat, Electrical Activity, Ion Channels, Action Potentials; Ch 13-15	Tom Hund, Ph.D.	<i>NCH-WA1525</i>
Feb 16	Excitation-Contraction Coupling; Ch 7	Noah Weisleder, Ph.D.	<i>NCH-WA1525</i>
Feb 23	Arrhythmias; Ch 16	Hassan Musa, Ph.D.	<i>NCH-WA1525</i>
March 2	Cardiac Pump Function; Ch 11-12	Aaron J. Trask, Ph.D.	<i>NCH-WB1050</i>
March 9	Heart Failure, Ischemia; Ch 17-18	Deip Nandi, M.D.	<i>NCH-WA1525</i>
March 16	Signal Transduction/Pharmacology; Ch 8-10	Przemyslaw Radwanski, Pharm.D., Ph.D.	<i>NCH-WA1525</i>
Special Topics			
March 23	Fetal Origins of Adult Disease	Lynette K. Rogers, Ph.D.	<i>NCH-WA1525</i>
March 30	No Lecture		
April 6	Cardiovascular Biomechanics in Pediatric Cardiology	Prasad Dasi, Ph.D.	<i>NCH-WB1050</i>
April 13	Cardiac Metabolism	Kristin Stanford, Ph.D.	<i>NCH-WB1050</i>