

Fundamentals of Vascular Physiology and Pathology

Course objectives: this course intends to introduce the fundamentals of Vascular Biology and their significance in the pathogenesis of vascular diseases. Emphases will be placed on the vascular cell biology, physiology, pathology, and the current understanding of the cellular and molecular mechanisms that drive vascular stenosis/restenosis, failure of the hemodialysis fistula, and the development of aortic aneurysms.

Class meeting

Class will meet two hours twice a week for 8 weeks.

Instructors

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Subjects to be covered

- Endothelial and smooth muscle cell biology
- Vascular development
- vascular modulation by metastatic cancer cells
- Endothelial progenitor cells
- Angiogenesis
- Vascular malformation
- Atherosclerosis
- Neointimal Hyperplasia
- Vascular remodeling
- Aortic aneurysm
- Outcomes Research study for vascular diseases

Textbooks

- **Required:**

- David Abraham et al. Advances in Vascular Medicine, 2010
- **Recommended:**
 - Jack L. Cronenwett et al. Vascular Surgery (7th Edition), 2010
 - Gerald P. Schatten. Developmental Vascular Biology, 2004

Grading Schema

- **Class participation:** Students are expected to attend and participate all class sessions. 20% of the final grade comes from this section. For those who could not attend the class for acceptable reasons, absences may be excused.
- **Journal club:** Students will be teamed up and assigned papers to read. Each student is required to present his/her comments on the scientific strength and weakness of the assigned papers to the class for further discussion. 30% of the final grade comes from this section. For those who missed the class for acceptable reasons, he/she is required to submit a written summary on the assigned paper to the course director for scoring.
- **Topic review:** Students are required to write a mini-review (Four double spaced pages). Around 10 topics will be provided to the class and students may choose one of the ten or any other topics covered by this course. Performance of students in this section determines 50% of their final grade.
- **Grades:** Students will earn letter grades scaled from A to EC. Grade will be determined on the achieved grade points with the scale defined in the current UF grading policies
(<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>)

- **Grading scheme**

A (outstanding)	93-100
A- (Superior)	90-92
B+ (Excellent)	87-89
B (Very good)	83-86
B- (Above average)	80-82
C+ (Average)	77-79
C (Slightly below average)	73-76
C- (Below average)	70-72
D+ (Well below average)	67-69
D (Poor)	63-66
D- (Very poor)	60-62
E (Failure)	<60

Attendance Policy

Class attendance is mandatory. Excused absences follow the criteria of the UF Graduate Catalog (e.g., illness, serious family emergency, military obligations,

religious holidays) should be communicated to the instructor prior to the missed class day when possible. The UF Graduate Catalog is available at <http://gradcatalog.ufl.edu/>. Students should read the assigned readings prior to the class meetings, and be prepared to discuss the material. Regardless of attendance, students are responsible for all material presented in class and meeting the scheduled due dates for class assignments.

Make-Up Policies: a student may ask the course director for permission to take a make-up exam when appropriate.

Policy on Make-Up Work

Students are allowed to make up work only as the result of illness or other unanticipated circumstances or religious exemptions. In the event of such emergency, documentation will be required in conformance with university policy. Work missed for any other reason will earn a grade of zero.

Accommodations for students with disabilities

To request classroom accommodation because of a disability, students must first register with the Dean of Students Office (<http://www.dso.ufl.edu/>). The Dean of Students Office will provide documentation to you, which you then give to the instructor when requesting accommodation. The College is committed to providing reasonable accommodations to assist students in their coursework.

Academic Honesty

Each student is bound by the academic honesty guidelines of the University and the student conduct code printed in the Student Guide and on the University website, available at <http://regulations.ufl.edu/chapter4/4017.pdf>). The Honor Code states: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity." Cheating or plagiarism in any form is unacceptable and inexcusable behavior.

Module 2 = Monday, February 9 – Friday, March 20 (# class sessions: 15 MWF, 10 TTh)

Module 3 = Monday, March 23 – Wednesday, April 24 (# class sessions: 14 MWF, 9 TTh)

Course Title: Fundamentals of Vascular Physiology and Pathology

Class Room: M559

Module 2

Lecture	Instructor	Class			Topic
		Date	Day	Time	
1	Chang Zoon Chun	February 9, 2015	Mon	8am-10am	Vasculogenesis and Development
2	Jianrong Lu	February 11, 2015	Wed	8am-10am	vascular modulation by metastatic cancer cells
3	Dietmar W. Siemann	February 16, 2015	Mon	8am-10am	Tumor Angiogenesis
4	S. Paul Oh	February 18, 2015	Wed	8am-10am	Vascular Malformation
5	Chun, Lu, Siemann, Oh	February 23, 2015	Mon	8am-10am	Paper Presentation/Discussion
6	Mark Segal	February 25, 2015	Wed	8am-10am	EPC
7	Qihong Li	March 9, 2015	Mon	8am-10am	Diabetic Retinopathy
8	S. Paul Oh	March 11, 2015	Wed	8am-10am	Pulmonary Hypertension
9	Segal, Li, Oh	March 16, 2015	Mon	8am-10am	Paper Presentation/Discussion

Module 3

Lecture	Instructor	Class			Topic
		Date	Day	Time	
10	Alex Lucas	March 23, 2015	Mon	8am-10am	Atherosclerosis
11	Zihua Jiang	March 25, 2015	Wed	8am-10am	Intimal Hyperplasia
12	Scott A. Berceci	March 30, 2015	Mon	8am-10am	Hemodynamics/Vascular Remodeling
13	Salvatore Scali	April 1, 2015	Wed	8am-10am	Fistula Maturation
14	Berceci, Scali, Lucas, Jiang	April 5, 2015	Mon	8am-10am	Paper Presentation/Discussion
15	Zihua Jiang	April 7, 2015	Wed	8am-10am	Aortic Aneurysm--Research
16	Adam Beck	April 13, 2015	Mon	8am-10am	Aortic Aneurysm--Clinical Management/Outcome/Challenges
17	Kerri O'Malley	April 15, 2013	Wed	8am-10am	Vascular Inflammation and Intimal Hyperplasia
18	Catherine Chang	April 20, 2015	Mon	8am-10am	Clinical Outcome Research
19	Beck, Chang, O'Malley, Jiang	April 22, 2015	Wed	8am-10am	Paper Presentation/Discussion