LINCOLN UNIVERSITY
DI 144 – Vascular Scanning (Lab)
Summer 2013 Course Syllabus

DATES: 06/10/2013 – 07/26/2013

COURSE TITLE: Vascular Scanning (Lab)

COURSE CODE: DI 144

CREDIT: 3 units

TIME: Monday, Tuesday, Thursday, 12:30 pm – 4:15 pm;

Friday, 1:00 pm – 4:45 pm

LAB. INSTRUCTOR: Marina Kay, RDMS, RVT

CONTACT INFORMATION: email: kaymarina@yahoo.com

COURSE DESCRIPTION:
The focus of this course is Peripheral and Abdominal Doppler scanning. Laboratory sessions are provided to acquire intermediate scanning skills necessary to succeed in the clinical setting.

COURSE PREREQUISITE: DI 134

READING ASSIGNMENT:
- Introduction to Vascular Ultrasonography. William J. Zwiebel, John S. Pellerto. 5th Edition. ISBN-13: 978-0-7216-0631-6; ISBN-10: 0-7216-0631-8

SUGGESTED TEXTBOOKS:
- Peripheral Vascular Sonography: A Practical Guide. Joseph F. Polak. ISBN-10: 0781748712; ISBN-13: 978-0781748711
- Vascular Technology: An Illustrated Review, 4th Edition. Claudia Rumwell, Michalene McPharlin. ISBN-10: 0941022730; ISBN-13: 978-0941022736
- Introduction to Vascular Scanning: A Guide for the Complete Beginner (Introductions to Vascular Technology), 3rd Edition. Donald P. Ridgway. ISBN-10: 0941022706; ISBN-13: 978-0941022705
- Vascular Technology: An Illustrated Review, 4th Edition. Claudia Rumwell. ISBN-10: 0941022730; ISBN-13: 978-0941022736

GOALS AND OBJECTIVES FOR VASCULAR ULTRASOUND:
Upon satisfactory completion of this course, students will be able to:
- Utilize the principles of instrumentation to set up the ultrasound equipment for scanning
- Describe the anatomy, physiology and normal variations of peripheral arteries and veins
- Differentiate normal from abnormal blood flow patterns

- Apply the diagnostic criteria for carotid artery disease
- Optimize the use of color Doppler and pulsed wave Doppler
- Establish protocols for successful performance of carotid examinations
- Recognize pitfalls of the carotid ultrasound study
- Diagnose cerebrovascular pathologies
- Link Doppler image information to the manifestations of cerebrovascular disease
- Apply the systematic protocol for physiologic assessment of the lower or upper extremity arterial tree by physiologic testing, using segmental pressures, volume pulse recording, and Doppler waveform analysis.
- Know a routine protocol for performing lower extremity arterial duplex /color and physiologic examination
- Describe standard measurements and diagnostic criteria for duplex/color evaluation of the lower extremity
- Understand normal venous physiology by the evaluation of Doppler imaging
- Recognize the significance of venous pathophysiology by the use of ultrasound imaging
- Compensate for common pitfalls in the diagnosis of venous thrombosis
- Know the different diagnostic criteria for peripheral arterial disease

CLASSROOM PROTOCOL:

- All students are expected to display professionalism, in preparation for hospital work. That means: arriving on time, remaining quiet when others are speaking, and paying attention to whoever has the floor in the classroom.
- Students are expected to attend and be prepared for all regularly scheduled classes.
- If a student knows in advance that he or she will need to leave early, he or she should notify the instructor before the class period begins.
- Students are expected to treat faculty and fellow students with respect.
- Students engaging in disruptive behavior in class will be asked to leave and may be subject to other penalties if the behavior continues.
- No eating, sleeping or personal grooming is permitted ultrasound laboratory classes. ***Drinks are allowed only in closed containers.***
- The cell phones should be turned off.
- If you use a computer in class, please use it only to take notes, to access course materials from the course webpage, or to locate information relevant to the class discussion. Do not use your computer to surf the web, check emails, or send/receive text messages, as these activities are distracting to those around you (and decrease your chances of getting the most out of your time in class).
- Clean up after yourself (table, transducer, putting chairs away, moving equipment, trash etc.).
- Inform instructor or staff of needed supplies or broken equipment.
- Never leave your personal property unattended. Lincoln University is not responsible for lost or stolen items, though, Lincoln University does have a zero tolerance for theft, any student(s) caught stealing will be prosecuted.
- Please don't remove any objects from lab room (books, study materials).
- Outside patients (please inform your outside patients to only bring 1 person with them, due to lab size, and number of students present).
- No children allowed unless being scanned.

STUDENT RESPONSIBILITIES:

Students are expected to be prepared in advance before the class sessions.

Being prepared includes the following: no cell phones in class, attend all classes, be on time to class, participate in scanning lab, ask questions, memorize protocols, bring appropriate materials to class (e.g. notebook, writing utensils, handouts) having read texted materials (e.g. textbooks lectures & outlines), collect images for review, use class time effectively and efficiently.

- Please shut down the machine after scanning class
- Do not erase any information on machines (only instructors or lab assistants are allowed to do that)
- Please inform lab assistants of needed supplies (gloves, paper towels, gel)
- Wipe down transducer after every patient using the Transeptic spray
- Change table paper after every patient
- Please be very careful when moving around equipment (ultrasound machines, patient tables).
- Make sure the probe cords are lifted off the floor and placed on the hooks.

ULTRASOUND HANDS-ON LABORATORY EXAMINATION:

- During final ultrasound hands-on examination, students have to demonstrate understanding of information presented during lectures and hands-on laboratory trainings.
- Students have to perform Vascular protocols and demonstrate scanning technique and images in B-, Color-Modes, and M-mode;
- Students will schedule time and date 2-3 weeks ahead to Ultrasound hands-on laboratory examination.
- Students need to be at the Ultrasound Lab, ready to start scanning at the scheduled time. (It is recommended that you arrive about 15 minutes prior to your scheduled exam time.)
- Each student will be assigned a partner and time;
- Students have to perform and demonstrate finished ultrasound protocols according the requirements: proper using transducers, scanning modes (B-scan, Color- , Power-, and Spectral Doppler), Color mapping, accurate measurements of anatomical structures, and proper labeling of the images if needed.
- A student must pass the final exam with **AN AVERAGE OF 72-69% (grade "C")**.
- A student may be allowed to make up for the Laboratory examination if there is a valid excuse such as illness, family emergency or natural disaster.

GRADING:

Attendance	10%
Performance of scanning protocols	30%
Quizzes	20%
Final exam	40%
Total	100%

100-93	A
92-89	A-
88-85	B+
84-81	B
80-77	B-
76-73	C+

72-69	C
68-65	C-
64-61	D+
60-50	D
49≤	F

SCHEDULE: Summer 2013

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WEEKS		DATES	ULTRASOUND HANDS-ON SCANNINGS
1	M	**10-Jun**	Extracranial Cerebrovascular Duplex
	T	**11-Jun**	Extracranial Cerebrovascular Duplex
	Th	**13-Jun**	Extracranial Cerebrovascular Duplex
	F	**14-Jun**	Extracranial Cerebrovascular Duplex
2	M	**17-Jun**	Extracranial Cerebrovascular Duplex
	T	**18-Jun**	Upper Extremity Arterial Duplex Imaging
	Th	**20-Jun**	Upper Extremity Arterial Duplex Imaging
	F	**21-Jun**	Upper Extremity Arterial Duplex Imaging
3	M	**24-Jun**	Lower Extremity Arterial Duplex Imaging
	T	**25-Jun**	Lower Extremity Arterial Duplex Imaging
	Th	**25-Jun**	Lower Extremity Arterial Duplex Imaging
	F	**27-Jun**	Lower Extremity Arterial Duplex Imaging
4	M	**1-Jul**	Lower Extremity Arterial Duplex Imaging
	T	**2-Jul**	Arterial Segmental Pressure Evaluation and ABI
	Th	**4-Jul**	Holiday
	F	**5-Jul**	Arterial Segmental Pressure Evaluation
5	M	**8-Jul**	Arterial Segmental Pressure Evaluation
	T	**9-Jul**	Upper Extremity Venous Duplex Imaging
	Th	**11-Jul**	Upper Extremity Venous Duplex Imaging
	F	**12-Jul**	Upper Extremity Venous Duplex Imaging
6	M	**15-Jul**	Upper Extremity Venous Duplex Imaging
	T	**16-Jul**	Lower Extremity Venous Duplex Imaging
	Th	**18-Jul**	Lower Extremity Venous Duplex Imaging
	F	**19-Jul**	Lower Extremity Venous Duplex Imaging
7	M	**22-Jul**	Lower Extremity Venous Duplex Imaging
	T	**23-Jul**	Lower Extremity Venous Duplex Imaging
	Th	**25-Jul**	**Final Examination**
	F	**26-Jul**	**Final Examination**

The syllabus updated: 06/11/2013

Note: Instructor may change this syllabus and course schedule at any time according to the needs of the class.