



# LINCOLN UNIVERSITY

## DI 284 B – Practicum / Externship II in Vascular Ultrasound Spring 2016 Course Syllabus

**Course Number:** DI 284 B

**Course Title:** Practicum / Externship II in Vascular Ultrasound

**Course Credit:** 3 units = 135 practicum hours

### COURSE DESCRIPTION

Students will get clinical experience in Diagnostic Imaging covering a wide variety of technical procedures. (3 units) *Prerequisites: DI 284 A, permission of the externship coordinator and the program director. Grade: CR or NC only*

### PREREQUISITES

DI 284 A, and permission of the externship coordinator and the program director

### LEARNING OBJECTIVES

Upon satisfactory completion of this course, the student will be able to:

- Conduct themselves in a courteous manner while in a medical office, a hospital, or other clinical environment.
- Handle stressful situations relating to technical and ultrasound-procedural standards and patient care conditions.
- Communicate verbally in an effective manner in order to direct patients when conducting ultrasound examinations.
- Read and interpret patients' charts and requisition for imaging examinations.
- Identify and describe ultrasound terminology in an effective manner.
- Perform ultrasound examinations at competent levels by the end of the clinical training.
- Demonstrate knowledge of current scanning techniques in the field of medical sonography and ultrasound technique manipulation.
- Manipulate the technical controls on the equipment used in the ultrasound department to produce an optimum image for diagnostic purposes.
- Produce images of anatomic structures outlined by the clinical objectives provided by the Sonographer or Physician during the externship.

- Record and process the displayed images for diagnostic medical ultrasound examinations.
- Demonstrate the ability to apply knowledge of cross-sectional anatomy relative to diagnostic ultrasound.
- Identify normal and pathological conditions on sonograms.
- Describe the principles and applications of Doppler ultrasound.
- Demonstrate effective teamwork in the clinical setting.
- Solve basic imaging challenges as they pertain to the conduct of clinical examinations.

### **INSTRUCTIONAL METHODS:**

The course will be conducted in the form of practicum / externship at an off-campus Diagnostic Imaging facility. The instructor will be available to help students with all tutorials and other assignments.

The procedures include the following:

- Participation in scanning with an ultrasound supervisor for 1 to 8 hours a day
- Introduction to clinical requirements of a Sonographer, policies and procedures of the facility
- Pre-scanning or back scanning, whenever possible, under the supervision of the instructor; Introduction to Scan Book — entering appropriate data into Scan Book
- Explaining the clinical experience in a group discussion on Ultrasound Protocols

### **REQUIREMENTS:**

#### **EXTERNSHIP INSTRUCTIONS FOR DIAGNOSTIC IMAGING STUDENTS**

- Please be on time and wear scrubs.
- Cell phone use is not permitted during the externship hours.
- Do not interfere with your instructor's work.
- Complete 135 hours if you registered for one externship, or 270 hours if you signed up for two.

Please bring the following with you to the externship site:

1. Resume
2. Student ID card
3. Proof of the liability insurance
4. Practical course attendance sheet

Upon the externship completion, please submit the following to Admissions Officer:

1. The “Agreement for Internship/Externship” form, **filled out and signed by the student, work supervisor, and the University advisor** as instructed in the form
2. Updated resume
3. Student Performance Evaluation sheet filled out by the University advisor
4. Recommendation letter from the University advisor
5. Externship course attendance sheets which indicate the total externship hours completed, **signed by the University advisor**
6. Externship clinical log with the number of procedures observed and performed
7. Essay #1: describing externship experience, techniques learned, and overall experience
8. Essay #2: describing career objectives and future goals

Lack of an externship package or an incomplete externship package in the student file one week after the end of an externship term will result in an incomplete grade (“I”) in the student’s records. To change the grade, the student has to submit a *Petition for Change of Grade* form and go through the change of grade process described in the university academic catalog.

Each of the externship courses DI 284 A and DI 284 B has to be completed in the maximum of one year. If the full required package mentioned above is not submitted to the University’s Admissions and Records Office within one year of the course registration, a grade “NC” (no credit) will be recorded, and the student will have to re-register for the same externship course with 3 units.

### **EXTERNSHIP CONTRACT:**

It is the policy of the university to place students who have completed classroom and laboratory training in externship learning environment. The externship sites will be selected based on systematic, documented evaluation. The experience will include a contract for practical learning, demonstration of identified competency, periodic on-site visits by the university staff, and mutual evaluation by all participants in the externship (students, the externship site, and the university).

#### General conditions

- To commit to the externship process and follow its requirements;
- To conduct the externship in a manner consistent with effective and productive workplace activities;
- To treat the externship site staff with personal and professional respect;
- To respond to directions efficiently;

- To ask questions of the externship site staff in order to clarify issues which may arise;
- To enhance the student's knowledge and skills acquired during the Diagnostic Imaging program at the university.

**GRADING:**

Practicum/Externship of work experience will be evaluated by the instructor. A grade of **CR or NC only** will be given.

<b>Criteria of Grading</b>	<b>%</b>
Attendance	10%
Personal appearance	10%
Quality of work	10%
Motivation and attitude	10%
Interpersonal skills	10%
Communicational skills	10%
Writing preliminary report	20%
Performing ultrasound protocols	20%
<b>Total</b>	<b>100%</b>

## COURSE OUTLINE:

### VASCULAR ULTRASOUND

- **Carotid arteries protocol:** CCA, ECAA, ICA (prox., med., dist), bulb, vertebral a., innominate a., subclavian a.;
- **Upper Extremities arteries protocol:** innominate a., subclavian artery (prox., med., dist), axillar a., brachial a.; ulnar & radial aa. Bifurcation of the ulnar & radial aa.;
- **Lower Extremities Arteries Protocol:** aorta, common iliac artery, external & internal Iliac arteries; femoral artery; superficial femoral artery; deep femoral artery; popliteal artery; anterior tibial artery; tibioperoneal trunk, posterior tibial artery; dorsalis pedis;
- **Upper Extremities Veins protocol:** innominate veins; subclavian vein; axillar vein, brachial vein; right radial & ulnar v., basilic & cephalic veins;
- **Lower Extremities Veins protocol:** common femoral v.; profunda femoris & femoral veins; saphenofemoral junction; femoral vein, popliteal v.;
- **Calf veins protocol:** bifurcation of the Popliteal vein, Anterior Tibial vein & Tibioperoneal trunk; Bifurcation of the Tibioperoneal trunk to Posterior Tibial v. & Perineal v.; greater saphenous & lesser saphenous veins;
- **Mesenteric arteries Duplex Protocol:** celiac trunk, superior mesenteric a., inferior mesenteric a., splenic a. (prox. & dist.), aorta (prox., mid., dist.) & Bifurcation;
- **Portal System Duplex Protocol:** portal v., hepatic veins, hepatic a. splenic v. aorta, IVC;
- **Ankle-Brachial test.**

#### **Note:**

The instructor may change this syllabus and the course schedule at any time according to a judgment as to what is best for the course. Any changes will be declared ahead of time during the course.

Revised: January 15, 2016