

# LINCOLN UNIVERSITY

## SPRING 2013 COURSE SYLLABUS

**Course Number:** DI 115 / UT 115  
**Course Title:** ECG and Arrhythmias Interpretation  
**Course Credit:** 3 units = 2 units of lecture + 1 unit of lab  
(30 hours of lecture + 30 hours of lab)  
**Lecture Hours:** Monday, 12:30 to 3:15 PM  
**Lab Hours:** Wednesday, 2:30 to 5:15 PM  
**Pre-requisite:** DI 30 / UT 30 or equivalent  
**Instructors:** Chris T. Nguyen, Ph.D. (\*) & Frank Porter

### **COURSE DESCRIPTION**

Students will learn the principles and procedures of 12-lead electrocardiography (ECG), arrhythmia interpretation and care, maintenance of equipment and exam area. (3 units)  
*Prerequisite: DI 30 / UT 30 or equivalent*

This course introduces Electrocardiography principles and instrumentation. Topics include Basic ECG waves, Normal ECG, Abnormal ECG, Arrhythmias, ECG interpretation. Related topics such as Patient preparation, Safety, Quality, Accuracy, and ECG Reporting are also covered.

### **COURSE OBJECTIVES AND STUDENT LEARNING OUTCOMES**

Upon satisfactory completion of this Course, the students will be able to:

- Understand ECG principles and instrumentation
- Understand the Basic ECG waves, ECG leads, Normal ECG and Abnormal ECG
- Understand, Read and Interpret the following items: Electrical Axis, Axis Deviation, Atrial and Ventricular Enlargement, Ventricular Conduction Disturbances, Myocardial Ischemia and Infarction, Electrolyte Abnormalities and Metabolic Factors, Pericardial, Myocardial and Pulmonary Syndromes, Wolf-Parkinson-White Pre-excitation Patterns, Sinus Rhythm, Tachycardias and Bradycardias, Supraventricular Arrhythmias, Atrioventricular Heart Block, Cardiac Arrest and Sudden Death, Pacemakers and Implantable Cardioverter-Defibrillators, etc...
- Take and interpret an ECG
- Understand and use of Differential Diagnosis
- Understand the uses and limitations of ECG

### **INSTRUCTIONAL METHODS**

Instructional methods will include Instructor lectures and educational material presentations. Classroom activities are collective – students may and should help each other. The Instructors will be available to help students with all tutorials, assignments, and Lab practices. Students are expected to attend 30 hours of Lectures and 30 hours of Lab.

## EVALUATION

1. Weekly Homework and Quiz: Written homework assignments will be given, and additionally unannounced Review Quizzes will be given during class time.
2. Lab. Practice
3. Mid-Term Exam and Final Exam.

### Grading Scale:

Class Attendance	10%
Homework	10%
Quizzes	10%
Lab. Practice	30%
Mid-Term Exam	10%
Final Exam	<u>30%</u>
	100%
90 - 100%	A
80 - 89%	B
70 - 79%	C
60 - 69%	D
Below 60%	F

To successfully complete this Course, the student must attend regularly the Lectures, pass the Quiz, Homework, Lab Practice, Mid-Term Exam and Final Exam portions with a total score of 70% or higher.

## RESOURCE MATERIALS

- **Clinical Electrocardiography** by Ary L. Goldberger, MD, Mosby Publishing, 8th edition (2012), ISBN-10: **0323087868**, ISBN-13: **978-0323087865**  
7th edition, ISBN-10: **0323040381**, ISBN-13: **978-0323040389**
- **12-Lead EKG Confidence** by Jacqueline M. Green, Anthony J. Chiaramida, MD, Springer Publishing, 2nd edition (2009), ISBN-10: **082610472X**, ISBN-13: **978-0826104724**
- **ECGs Made Easy** by Barbara Aehlert, Mosby Publishing, 4th edition (2009), ISBN-10: **032306924X**, ISBN-13: **978-0323069243**
- **EKG and Heart Murmurs** by Peter Q. Warinner, MD, Wysteria Publishing, ISBN-10: **1932412026**, ISBN-13: **978-1932412024**
- <http://www.cardiaceps.org/>

After successfully completed the Course, the students are strongly encouraged to take the Board Test to be certified. Results of the Board Test are gauged as students' learning results and achievement.

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**OFFICE HOURS:** Contact Dr. Chris T. Nguyen or Mr. Frank Porter for appointment

**(\*) INSTRUCTOR AFFILIATIONS**

- Member of AIUM (American Institute of Ultrasound in Medicine)
- ASE (American Society of Echocardiography)
- HMS-PGA (Harvard Medical School Postgraduate Association)
- SDMS (Society of Diagnostic Medical Sonography)
- ISEECG (International Society of Electrocardiography)
- Member of CFA (California Faculty Association)
- A Reviewer for “Journal Ultrasound in Medicine”. Nominated Distinguished Reviewer in 2011
- A Reviewer for “Journal Ultrasound in Medicine and Biology” since 2006

(Updated: January 10, 2013)