LINCOLN UNIVERSITY
DI 115
ECG and Arrhythmias Interpretation
Spring 2014 Course Syllabus

COURSE NUMBER: DI 115
COURSE TITLE: ECG and Arrhythmias Interpretation
COURSE CREDIT: 3 units = 2 units of lecture + 1 unit of lab
(60 total contact hours = 30 lecture hours + 30 lab hours)

BASIC INFORMATION:

Class Meeting Hours: Wednesday 12:30 – 3:15 PM (Lecture) and Friday 9:00 – 11:45 AM (Lab)

Room number: TBA

Instructor's name: Dr. Chris Nguyen (Lecture), Mr. Frank Porter (Lab)

Office Hours: Mon–Fri, 9:00 AM – 5:00 PM

Contact Telephone: (510) 628-8035

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frankporter@lincolnuca.edu (Mr. Porter)

TEXTBOOKS:

***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.

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**

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 lectures, classroom activities presentations and video material.

EVALUATION:

1. Homework and Quizzes — Written homework assignments will be given periodically: additionally, unannounced quizzes will be given during class time.
2. Final examination.

Grading Scale:

95-100	A
90-94	A-
87-89	B+
84-86	B
81-83	B-
78-80	C+
76-77	C
74-75	C-
72-73	D+
60-71	D
59≤	F

Evaluation		%
Lecture	Attendance	**10%**
	Tests/Quizzes	**10%**
	Presentation	**10%**
	Midterm	**20%**
	Final Exam	**20%**
Laboratory	Attendance	**10%**
	Performance of Scanning	**20%**
Total		100%

- To successfully complete this course, the student must pass the quizzes, homework and final exam portions with a 70% or better. Students should attend all the class meetings. However, considering possible urgent situations, students may be absent from maximum four class meetings with prior notice to the instructor. Three late arrivals would affect the grade.
- The term grade is based on attendance, class activity, project, midterm and/or sum of quizzes, and final examination. Individual projects will be assigned at the beginning of the semester.

- Homework and project are due by the last meeting before the final examination. No project will be accepted after the due date.
- If a student missed a class without a valid reason, no make-up for quizzes and presentations will be allowed. Students can retake only one unsatisfactory quiz per semester. No retake for missed or failed midterm examination. Student can retake failed final examination **only** one time. Dictionaries are allowed during the class time. **No electronic devices during the test time.**
- During the written exam, any student observed in a situation that could be considered suspicious (e.g., an open book within his/her field of vision, looking around or checking a cell phone or other wireless device, etc.) but no cheating is observed, will be warned. Once warned, any applicant found cheating on the written exam will be failed for the exam and prohibited from retaking the written exam without permission from the dean.
- Students cannot leave the room during the test/exam. As soon as a student leaves, his/her exam is considered finished.
- Lecture is not a substitute for textbooks. Students should read textbooks and use other sources to be prepared for the tests. Lecture is to guide the students to prepare for the course subjects.

SCHEDULE OF TOPICS:

Week 1 – Heart anatomy
Week 2 – Heart physiology. Conduction system
Week 3 – ECG
Week 4 – Electrical axis and axis deviation. Sinus mechanisms. Atrial rhythm.
Week 5 – Junctional rhythms. Ventricular rhythms. Cardiac enlargement.
Week 6 – Midterm examination
Week 7 – AV blocks. Pacemaker rhythms.
Week 8 – Myocardial ischemia and infarction
Week 9 – Drug effects, electrolyte abnormalities, and metabolic factors.
Week 10 – Pericardial, myocardial and pulmonary syndromes. Digitalis toxicity.
Week 11 – Cardiac arrest and sudden cardiac death
Week 12 – ECG artifacts. Limitations and uses of ECG.
Week 13 – Heart murmurs.
Week 14 – Bradycardias and tachycardias – review and differential diagnosis.
Week 15 – Presentation of homework
Week 16 – Review and Final

Syllabus was updated on January 31, 2014.
Note: Instructor may change this syllabus and course schedule at any time according to the judgment as to what is best for the class. Any changes will be declared ahead of time in class.