



COURSE OUTLINE : NS 255
D Credit – Degree Applicable
COURSE ID 004318
Cyclical Review: July 2020

COURSE DISCIPLINE : NS
COURSE NUMBER : 255
COURSE TITLE (FULL) : Basic Electrocardiography
COURSE TITLE (SHORT) : Basic Electrocardiography

CATALOG DESCRIPTION

NS 255 is designed to provide an overview and introduce the novice healthcare provider to the basics of electrocardiography (EKG). Course content reviews principles of cardiac anatomy, physiology, and electrophysiology which are foundational to course content. Content includes cardiac hemodynamics, proper lead placement to obtain EKG waveforms, waveform identification, rate calculation, normal rhythm, and arrhythmia recognition and treatment.

CATALOG NOTES

Note: This course is intended for nursing students, nurses, EMT students, EMTs, or individuals working in health care settings who have sufficient background knowledge to master the content and the concepts. This course is graded Pass/No Pass only.

Total Lecture Units: 2.00

Total Laboratory Units: 0.00

Total Course Units: 2.00

Total Lecture Hours: 36.00

Total Laboratory Hours: 0.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 36.00

Total Out-of-Class Hours: 72.00

Prerequisite: None.



ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1				N/A	No

EXIT STANDARDS

- 1 Obtain cardiac tracings using 3 and 12 lead placements;
- 2 identify basic sinus, atrial, junctional, and ventricular arrhythmias;
- 3 identify AV and fascicular blocks;
- 4 qualify for a monitor technician examination at any healthcare facility.

STUDENT LEARNING OUTCOMES

- 1 identify the cardiac structure, the conduction system and normal blood flow using a heart diagram.
- 2 describe the physiology of the heart to include, Starling’s Law, $CO=HR \times SV$, electrophysiology and the effects of the autonomic nervous system
- 3 demonstrate competency in rhythm recognition

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Cardiac Anatomy and Physiology • Physiology of heart muscle • Electrical conduction and conduction system • Mechanical function • Influence of the central nervous system • Influence of electrolytes • Introduction to pathophysiology of this system • Mechanisms that cause arrhythmias	4	0	4
2	Introduction to obtaining an EKG • Leads and lead placement • Waveforms • Intervals • Complexes • Segments • Terminology	5	0	5
3	Systematically Analyzing Rhythm Strips • Rate • Regularity • Sinus rhythms • Rhythms arising from other sites	5	0	5



4	Ectopic Beats versus Escape Beats <ul style="list-style-type: none"> • Foci • Terminology & patterns (unifocal versus multifocal, bigeminy, trigeminy, “runs & couplet”) • Possible etiologies • Clinical manifestations • Evidenced based care options 	2	0	2
5	Atrial Rhythms <ul style="list-style-type: none"> • Atrial flutter • Atrial fibrillation • Potential etiologies • Clinical manifestations • Evidenced based care options 	7	0	7
6	Recognizing Atrial-Ventricular (AV) Blocks and Fascicular blocks <ul style="list-style-type: none"> • First degree • Second degree • Third degree • Bundle branch blocks • Clinical manifestations • Evidenced based care options 	3	0	3
7	Junctional Rhythms <ul style="list-style-type: none"> • Escape • Premature 	1	0	1
8	Ventricular Dysrhythmias <ul style="list-style-type: none"> • Premature • Escape • Ventricular tachycardia • Ventricular fibrillation • Clinical manifestations • Evidenced based care options 	6	0	6
9	Asystole, Pulseless Electrical Activity, Agonal Rhythms	1	0	1
10	Introduction to analysis of a 12 Lead EKG	2	0	2
				36

OUT OF CLASS ASSIGNMENTS

- 1 Practice diagnosing EKG strips in the assigned workbook.

METHODS OF EVALUATION

- 1 quizzes;
- 2 student EKG skill techniques;
- 3 final examination



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METHODS OF INSTRUCTION

- Lecture
- Laboratory
- Studio
- Discussion
- Multimedia
- Tutorial
- Independent Study
- Collaboratory Learning
- Demonstration
- Field Activities (Trips)
- Guest Speakers
- Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
ECGs Made Easy	Required	St. Louis: Elsevier Mosby	6	Print	Aehlert, Barbara	978032340 1302	2018