



**Course Prefix/Number/Title:** AH 257 ECG/EKG Interpretation

**Number of Credits:** 2

**Course Description:**

This course is designed for students who want to learn the basic ECG skills of measuring, recognizing, and interpreting simple cardiac rhythms. Topics include correct lead placement, troubleshooting poor tracings, recognition and measurement of various EKG waves, and holter monitor placement.

**Pre-/Co-requisites:** AH 257

**Course Objectives:** To teach basic skills needed to complete EKG Medical Assistant Program

**Instructor:** Susan E. Indvik MSN, RN

**Office:** Online

**Office Hours:** Online

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**Lab Schedule:** Online course

Textbook(s): Shirley A. Jones, *ECG Mastery*, (2020) ISBN: 979-0-8036-7693-0

**Course Requirements:**

- The student is expected to read the assigned chapters, as well as any lecture notes and slides posted by the instructor.
- The student is expected to practice reading all EKG rhythm strips and differentiate between a normal rhythm and an irregular rhythm on a strip (NOT diagnosing)
- Students are expected to know how to properly hook up an EKG machine, placement of EKG pads, and Holter Monitor placement.

**Tentative Course Outline:**

- Anatomy of the heart (including chambers, valves, and layers of the heart)
- Coronary Arteries
- Blood flow through the heart (systole/diastole)
- Electrical conduction system of the heart (including nodes, branches, bundles, fibers and rates) (automaticity)

- Explanation of a rhythm strip (small/large boxes (vertical/horizontal), voltage, paper speed, identification of waves P,Q,R,S,T and normal durations of P-R and Q-T intervals, QRS duration and what they represent)
- Identification of waves on EKG and what electrical activity in the heart they represent
- Types of leads (standard/augmented/chest)
- Calculation of heart rate from EKG (6 second method, R-R/P-P)
- Identification of cardiac rhythms
- Identification of artifact and what it may be caused by (somatic, electrical, wandering baseline)
- Identification of signs of ischemia, infarction, and injury represented on an EKG
- Identification of ectopy/cardiac arrhythmias, and appropriate response
- Identification of pacemaker spikes on EKG
- Lead placement for EKG (anatomical landmarks)/Holter monitor/Stress test/Telemetry (considerations for pediatric patients, dextrocardia, amputations and how to do posterior lead placement)
- Interventions needed if patient has excess hair, sweating, etc
- Maintenance of EKG machine, verification of speed and sensitivity
- Prepare patient (will be done by facility's guidelines, explanation of what to expect, answer patients' questions, gather important patient info such as allergies, medical, surgical, medication list, disease history)
- Explain what telemetry is used for in the hospital (noninvasive, painless) – continuous ambulatory monitoring
- Practice performing/printing/uploading EKGs (ensure patient privacy)
- Rhythms identification
- Able to obtain patients vital signs
- Holter Monitoring (intermittent ambulatory monitoring) (period of time it is used, how patient should prepare prior to having monitor placed, what must be done while wearing the monitor to record events(diary), verify the patients understanding)
- Practice performing EKGs

### **Grading Scale**

A (94% - 100%)

B (85% - 93%)

C (75% - 84%)

D (65% - 74%)

F (0% - 64%)

### **General Education Competency(ies) and Learning Outcome(s) OR CTE Competency/Department Learning Outcome(s):**

Employ industry-specific skills in preparation for workplace readiness.

### **Relationship to Campus Focus: Nature, Technology, and Beyond**

This course specifically relates to the Technology aspect of the campus' focus, students will demonstrate knowledge and application of technology in the medical assistant field, use

electronic resources for course related assignments and information, and relates to the ever-changing technology in the health care arena.

### **Classroom Policies:**

- All students have 8 weeks to complete the course.
- Each student is responsible to keep track of his/her progress through the course.
- Completion of assignments is mandatory. All assignments must be submitted by the listed due date or a grade of zero will be given for the uncompleted assignment(s).
- Exams are to be *closed book, closed notes, and closed neighbor*.
- Passwords for exam access or proctors may be required.
- The instructor reserves the right to post additional assignments if deemed necessary for learning.

### **Student Email Policy:**

Dakota College at Bottineau is increasingly dependent upon email as an official form of communication. A student's campus-assigned email address will be the only one recognized by the Campus for official mailings. The liability for missing or not acting upon important information conveyed via campus email rests with the student.

### **Academic Integrity:**

According to the DCB Student Handbook, students are responsible for submitting their own work. Students who cooperate on oral or written examinations or work without authorization share the responsibility for violation of academic principles, and the students are subject to disciplinary action even when one of the students is not enrolled in the course where the violation occurred. The Code detailed in the Academic Honesty/Dishonesty section of the Student Handbook will serve as the guideline for cases where cheating, plagiarism or other academic improprieties have occurred.

### **Disabilities or Special Needs:**

Students with disabilities or special needs (academic or otherwise) are encouraged to contact the instructor and Disability Support Services.

### **Title IX:**

Dakota College at Bottineau (DCB) faculty are committed to helping create a safe learning environment for all students and for the College as a whole. Please be aware that all DCB employees (other than those designated as confidential resources such as advocates, counselors, clergy and healthcare providers) are required to report information about such discrimination and harassment to the College Title IX Coordinator. This means that if a student tells a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the College's Title IX Coordinator. Students wishing to speak to a confidential employee who does not have this reporting responsibility can find a list of resources on the DCB Title IX webpage.