

**NURS 320-501
BASIC EKG INTERPRETATION**

Revised Summer 2004; Updated Spring 2006; Revised 2008

2 Semester Hours Credit

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**12 Lessons
2 Proctored Exams**

Students who believe that they may need accommodations in this class are encouraged to contact the UNC Disability Support Services at 970-351-2289 as soon as possible to ensure that accommodations are implemented in a timely fashion.

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Course Study Guide

Lesson 1	Heart Anatomy & Physiology
Lesson 2	PQRST
Lesson 3	12 Lead EKG
Lesson 4	Continuous Monitoring
Lesson 5	Sinus Rhythms
Lesson 6	Atrial Arrhythmias
Lesson 7	Junctional Arrhythmias (includes Midterm Examination Instructions)
Lesson 8	A-V Heart Blocks
Lesson 9	Ventricular Arrhythmias
Lesson 10	Pacemakers
Lesson 11	Myocardial Infarctions
Lesson 12	Electrolyte Disturbances and Drug Effects (includes Final Examination Instructions)

ACADEMIC CONDUCT:

When you enroll in a UNC course through Independent Study, you become subject to certain expectations and policies concerning your academic conduct. Definitions and details are available in the UNC Student Handbook, which can be viewed on the web at www.unco.edu/dos/handbook/stuhndbk.pdf.

Selected paragraphs from the sections on **Academic Expectations Related to Student Conduct** and **Disciplinary Actions and Procedures** are printed here.

In order to encourage and foster academic excellence, the University expects students to conduct themselves in accordance with certain generally accepted norms of scholarship and professional behaviors. Because of this expectation, the University does not condone any form of academic misconduct. Academic misconduct includes but is not limited to plagiarism, cheating, fabrication, and knowingly or recklessly encouraging or making possible any act of plagiarism, cheating, or fabrication. Academic misconduct is an unacceptable activity in scholarship and is in conflict with academic and professional ethics and morals.

Consequently, students who are judged to have engaged in some form of academic misconduct may be subject to (1) a zero or an "F" on the work in question, (2) an "F" in the course, (3) other academic penalties as outlined in the professor's course requirements and expectations, (4) disciplinary action as specified in the Sanctions for Misconduct section below [please refer to the handbook], or (5) any combination thereof. Procedural due process, including the right to appeal, is to be followed in making a determination of whether academic misconduct has occurred.

Students who violate University Standards of Conduct are subject to disciplinary action. The administration of this action shall provide procedural fairness to an accused student or recognized student organization. The procedure will afford appropriate process which will be educational and developmental in nature. An adversarial relationship between the accused and the University will be avoided.

ABOUT YOUR INSTRUCTOR

Welcome to EKGs!

EKGs have always been a part of my nursing practice in ICU, kidney transplant units, dialysis, and cardiovascular units. As nursing continues to grow and specialization becomes more sophisticated, cardiac monitoring will advance nursing assessment into the future. I hope you will share my excitement and intrigue with the science of EKG interpretation.

I have been at the University of Northern Colorado School of Nursing since June, 1990. I have taught the on-campus EKG class and have taught junior and senior level clinical and theory courses in nursing including management and medical-surgical nursing. I have also taught at Front Range Community College in Fort Collins, Colorado and have practiced nursing in Indiana, Colorado, and Illinois.

My initial nursing baccalaureate education was completed at Indiana University in Indianapolis. I completed my M.S.N. in nursing education at the University of Northern Colorado. I am a certified Clinical Specialist in Adult Health, and have had certification as a Hemodialysis Nurse Practitioner, and Advanced Cardiac Life Support provider. I currently work at Medical Center of the Rockies in Loveland, CO as the Staff Development Coordinator.

Sincerely,
Linda K. Sullivan, RN, MSN, CNS, APRBC

INFORMATION SPECIFIC TO THIS COURSE

**PREFIX,
COURSE NUMBER,
TITLE:**

NURS 320-501: Basic EKG Interpretation

**SEMESTER
CREDIT HOURS:**

Two (2)

**COURSE
DESCRIPTION:**

An introduction to the basic concepts of EKG and arrhythmia recognition.

PREREQUISITES:

You should have had a basic anatomy and physiology course equivalent to BIO 341 *Human Anatomy* and BIO 350 *Human Physiology* at the University of Northern Colorado.

REQUIRED TEXTS:

Walraven, G. (2006). Basic Arrhythmias. Sixth Edition. Upper Saddle River, N. J. Prentice-Hall, Inc.

Huff, J. (2005). ECG Workout: Exercises in Arrhythmia Interpretation. Fifth Edition. Philadelphia: Lippincott.

**OTHER COURSE
MATERIALS:**

You will need a set of calipers, which can be purchased from the UNC Barnes & Noble College Bookstore along with your textbook.

A calculator will be helpful but is not required.

COURSE GOALS:

Upon completion of this course you will be able to accurately identify the major landmarks in an EKG strip. Students should not expect to be able to diagnose all EKG strips. Your diligent effort and frequent practice will help to fine tune this clinical skill for your nursing practice.

OBJECTIVES:

You will be able to:

- Interpret those arrhythmias categorized as basic including the sinus rhythm, atrial ectopics, junctional ectopics, and ventricular ectopics.
- Recognize appropriate interventions for each of the basic arrhythmias.
- Describe and evaluate the nursing methods for a client with continuous cardiac monitoring.
- Accurately measure and compute atrial and ventricular rates within ± 5 beats per minute.
- Accurately measure all intervals and waves within ± 0.04 seconds.
- Identify an underlying rhythm and then any ectopics in the rhythm strip.
- Accurately describe a regular rhythm even if the ectopics are irregular since the ectopics interrupt the regularity of the rhythm.

**ORGANIZATION
OF THE COURSE:**

This course is organized into 12 lessons that follow both texts. Other materials that will supplement the textbook information have been included in this syllabus/study guide. Practice strips are provided for developing your ability to read EKGs.

**COURSE
REQUIREMENTS:**

- You are required to complete a reading assignment, familiarize yourself with a set of key terms and complete a set of study questions for each of the 12 lessons. These assignments are not submitted for grading, but will help you review the reading material and prepare for your examinations.
- You are required to complete two proctored exams. The first exam covers lessons 1-7; the second exam covers lesson 8-12. The exams are supervised and timed. **You may bring your calipers, a calculator and the plastic conversion table from the Huff text to your exams.** You will be allowed two hours to complete each exam. Consult the exam request form at the

- Your proctor may include a head nurse, hospital supervisor, hospital librarian or similar professional.
- You are required to document your practice time on the log sheets provided in this syllabus/study guide. Submit these log sheets along with your test request form when you have completed lessons 7 and 12. You are expected to spend at least 10 hours practicing. Record the date and the time spent, describe the activity (Huff Chapter) and evaluate your progress.

**EVALUATION
AND GRADING:**

Each examination will count towards 40% of your final grade. Your log will count towards 20% of your final grade.

Letter grades will be assigned as follows:

A = 90-100
 B = 80-89
 C = 70-79
 D = 60-69
 F = 59 and below

BIBLIOGRAPHY:

Blowers, M.G. & Sims, R.S. (1988). How to Read an ECG. Fourth Edition. Oradell, N.J.: Medical Economics Books.

Carrick, T. (1994). Color Coding EKGs. Clearwater, FL: H & H Publishing Co.

Conover, M. (1998). Pocket Guide – Electrocardiography. Fourth Edition. St. Louis: Mosby.

Dubin, D. (1989). Rapid Interpretation of EKGs – A Programmed Course. Fourth Edition. Tampa, Florida: Cover Publishing Co.

Ehrat, K. (2002). The Art of EKG Interpretation. Fifth Edition. Dubuque, IA: Kendall Hunt Publishing Co.

Goldberger, A.L. & Goldberger, E. (1990). Clinical Electrocardiography: A Simplified Approach. Fourth Edition. St. Louis: Mosby.

Hazinski, M.F. Chameides, L. Elling, B. & Hamphill, R. (2005) 2005 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Core. *Circulation* 2005 112, 24.

Huff, J. (2005). ECG Workout: Exercises in Arrhythmia Interpretation. (Fifth Edition) Philadelphia, PA: J. B. Lippincott Co.

Jones, K.M. & Ochs, G.M. (1990). Interpretation of Electrocardiogram: A Review for Health Professionals. Second Edition. Norwalk, CA: Appleton & Lange.

Lounsbury, Patricia & Frye, Susan J. (1992). Cardiac Rhythm Disorders. Second Edition. St. Louis, MO: Mosby Year Book.

Norman, Ann E. (1992). 12 Lead ECG Interpretation. New York: McGraw-Hill, Inc.

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ACKNOWLEDGEMENTS:

Permission to reprint sample EKG strips and charts has been granted by the following publishers.

Blowers, Margaret G. and Sims, Roberta Smith. 1988. How to Read an ECG. Fourth Edition. Medical Economics Books. Oradell, NJ. Copyright © 1988 by Medical Economics Company Inc., Oradell, NJ 07649.

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Walraven, G. 1999. Basic Arrhythmias. Fifth Edition. Upper Saddle River, NJ: Prentice-Hall, Inc.