ECE 201
CIRCUIT ANALYSIS
Semester I, 2004-2005

COURSE OUTLINE

Topic	Periods	Text Sections
I. COURSE INTRODUCTION	1	---
A. Course Overview		
B. ECE Curriculum Overview		
C. Course Format and Procedures		
II. INTRODUCTION TO CIRCUIT ANALYSIS	4	1-1,2,3,4,5,6
A. Motivation and Context		2-1,2,3,4,5
B. System of Units and Basic Quantities		
C. Component Definitions		
D. Connection Laws		
E. Circuit Analysis		
III. NETWORK REDUCTION TECHNIQUES	6	3-1,2,3,4
A. Series and Parallel Resistance		4-9,13
B. Voltage and Current Division		
C. Source Transformations		
D. Linearity and Superposition		
IV. FORMULATION AND SOLUTION OF CIRCUIT EQUATIONS	6	4-1,2,3,4,5,6,7,8
A. Overview and Terminology		Appendix A
B. Node-Voltage Equations		
C. Mesh-Current Equations		
D. Solution of Simultaneous Linear Equations		
V. CIRCUIT MODELS	6	4-10,11,12
A. One-Port Models: Thevenin's and Norton's Theorems		18-1,2,3,4
B. Two-Port Models: Two-Port Parameters		
C. Model Applications		
VI. SIGNAL MODELS	6	12-2,3
A. Unit Step Function		Appendix B
B. Unit Impulse Function		
C. Piecewise Continuous Functions		
D. Complex-Valued Functions		
VII. ANALYSIS OF DYNAMIC CIRCUITS	8	6-1,2
A. Inductors and Capacitors		7-1,2,3,4,5,6
B. Solution of LTI Ordinary Differential Equations		8-1,2,3,4
C. Analysis of First and Second Order Circuits		
VIII. CONCLUSION	1	---

COURSE INFORMATION

INSTRUCTORS

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COURSE TEXT

C. W. Nilsson and S. A. Riedel, Electric Circuits, Seventh Edition, Upper Saddle River, NJ: Pearson Prentice Hall, 2005.

COURSE SCHEDULE

2:00pm – 2:50pm, Mondays, Wednesdays, and Fridays
Room 224, Kaufman Hall

COURSE WEB SITE

ODU Blackboard Course Page

PROBLEM ASSIGNMENTS

Problem assignments will be made weekly. Assignments will be collected approximately one week following assignment. Selected problems will be graded and returned one week after collection. Some problem assignments may require the use of a computer.

EXAMINATIONS

Three 50-minute examinations will be given during the semester, and one three-hour comprehensive final examination will be given at the conclusion of the course.

COURSE GRADE

A final grade will be determined by performance on examinations and problem assignments according to the following percentages:

Problem Assignments	15%
First Hour Examination	20%
Second Hour Examination	20%
Third Hour Examination	20%
Final Examination	25%

IMPORTANT DATES

First Class Period	Monday, August 30, 2004
First Hour Examination	Wednesday, September 22, 2004
Second Hour Examination	Wednesday, October 20, 2004
Deadline to Withdraw	Tuesday, October 26, 2004
Third Hour Examination	Wednesday, November 17, 2004
Last Class Period	Friday, December 10, 2004
Final Examination	Saturday, December 18, 2004 (12:30pm – 3:30pm)

HONOR CODE

Students are encouraged to discuss problem assignments with each other; however, submitted problem assignment solutions are to be your own original work. Examinations will be closed-book, closed-notes exams. You are not to receive or give assistance on examinations.