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Howard University                                                                                     Spring 2008

## Hybrid Class of EECE202 Network Analysis I & EECE208 Intro to Electrical Eng Lab

### A . Information for students

### 1. What is a "hybrid" course?
Combination of Lecture class and Lab class into a single course

### 2. Why "hybrid" course?
Bridging the gap between concept/theory and real world application
Instant verification of the concept by experimentation
Active engagement in student-to-student and student-to-instructor

### 3. What is the goal of the "hybrid" course?
Learning enhancement by "learning by practice"
Learn more and keep longer
Discovery of knowledge

### 4. How do we implement the "hybrid" course?
Lecture
Mobile Studio: HP tablet PC + Instrumentation Card
Breadboard (your own)

### 5. How is the weekly schedule of the "hybrid" class?
A total of 6 hours will be used for the "hybrid" class.
No distinction between 202 and 208 hours.
    M (12:10 - 3 PM): 3 hrs
    T (12:40 - 2 PM): 1 1/2 hrs
    R (12:40 - 2 PM): 1 1/2 hrs
* Occasionally, T or R will be used as a recitation or problem solving session.
** A few early classes will be dedicated to get familiar with traditional lab equipment

### 6. How do I get grade from the "hybrid" class?
The single "hybrid" class still has two classes; therefore, the grade earned from the hybrid class becomes the same grade for both EECE202 and EECE208[1].

### 7. What happens if I register only one of the courses?
Two courses are co-requisite; you must register both courses. .

### 8. Who is the teacher of the hybrid course?
It is done by team-teaching
Dr. Charles Kim  (202-806-4821, ckim@howard.edu)
Dr. Mohamed Chouikha (202-806-6585, mchouikha@howard.edu)

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[1] This policy is still pending with possible minor change

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## B. Hybrid Course Information

### 0. Are you in the correct class?
       This course's pre-requisite is Physics I (and Lab)
       This course's co-requisite is Differential Equations.

### 1. Objective of the hybrid course
       Understanding of the basic circuit theory and its application

### 2. Content of the hybrid course
       DC sources - independent and dependent
       Resistors (R) and equivalent resistance
       Circuit simplification - series and parallel, Thevenin/Norton equivalent circuit
       Circuit analysis methods - voltage divider, current divider, node voltage, mesh current
       Inductors (L) and Capacitors (C)
       Transient behavior of R-L-C circuits
       Operational Amplifiers
       Circuit Simulation tool - PSpice

### 3. Assignments, Exams, and Project
       Several homework assignments
       A few exams
       Project

### 4. Course Web-Site
       Syllabus, class notes, tutorials, etc.[2]
       Textbook:
           "Electric Circuits"
           by James Nilsson and Susan Riedel
           Prentice-Hall (or Addison-Wesley for 4th and 5th Editions)
           Edition $x^3$. ( $\forall x : x \geq 5$)

### 5. Classroom (new)
       LKD 3121

### 6. Suggestions for success in the class
       Do not miss class
       Come early
       Do not leave class with question unasked
       Engineering course also has an art component--- > Solve end-of-chapter problems
       Use all your channels and mediums to answer your questions - visit, email, phone, etc
       Read the textbook, at least occasionally
       Submit your assignments on time

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[2] Until revision and update, you can browse around http://www.hirstbrook.com/classnotes.html
[3] My recent check showed me that even 4th edition is almost identical.   So the equation goes like x>= 4.