EEE132 2009/2010- CLASS SCHEDULE
(22/02/10 – 10/04/10, 7 WEEKS)

Classes on Tuesdays (2pm-4pm, DK6) and Fridays (3pm-4pm, DK6).

WEEK 1	**22/02/10 – 26/02/10**
CLASS 1&2	23/02/10
PUBLIC HOLIDAY (MAULIDUR RASUL)	26/02/10
WEEK 2	**01/03/10 – 05/03/10**
CLASS 3&4	02/03/10
CLASS 5	05/03/10
WEEK 3	**08/03/10 – 12/03/10**
CLASS 6&7	09/03/10
CLASS 8	12/03/10
WEEK 4	**15/03/10 – 19/03/10**
CLASS 9&10	16/03/10
LEAVE	19/03/10

WEEK 5	**22/03/10 – 26/03/10**
DISCUSSION (BJT)	23/03/10
TEST	26/03/10
WEEK 6	**29/03/10 – 02/04/10**
CLASS 11&12	30/03/10
CLASS 13&14	02/04/10
WEEK 7	**05/04/10 – 09/04/10**
CLASS 15&16	06/04/10
DISCUSSION (FET) -2 hours	09/04/10
WEEK 8	**11/04/10 – 18/04/10**
STUDY WEEK	
EXAMINATION	**19/04/10 – 08/05/10**

CLASS CONTENTS

Classes 1 - 10

BJT

- currents in BJT
- dc biasing

Classes 11 - 16

FET

- JFET
- JFET dc biasing
- DE MOSFET
- DE MOSFET dc biasing
- E MOSFET
- E MOSFET dc biasing

COURSE OUTCOMES

PART 1

CO1 – Understanding the semiconductor physics of the intrinsic, p and n materials

CO2 - Understanding the characteristics of the p-n junction

CO3 - Understanding the characteristics of the diode and the diode's application in electronic circuits

CO4 - Understanding the characteristics of some special function diodes and the diode's application in electronic circuits

PART 2

CO5 - Understanding the BJT

CO6 - Understanding the JFET

CO7 - Understanding the DE-MOSFET

CO8 - Understanding the E-MOSFET

TEACHING CONTENTS TO ENSURE COs ARE ACHIEVED

CO5 - Understanding the BJT

Introduction to BJTs and FETs – application and advantages of one over the other, differences between BJTs and FETs and between JFETs and MOSFETs
BJT types, symbols and operation
BJT currents and parameters
BJT configurations
BJT modes of operation
BJT input and output I-V characteristics
BJT dc biasing – load line and Q-point and biasing circuits
Stability of biasing circuit, BJT as a switch, introduction to the small-signal model (transconductance, input conductance, depletion and diffusion capacitance, Early effect).

CO6 - Understanding the JFET

Symbols, types, cross-section, operation, transfer and drain characteristics, important parameters
JFET current equation
JFET dc biasing : Fixed biasing, Self biasing, Mid-point biasing, Voltage division biasing, load line and Q-point, Q-point stability

CO7 - Understanding the DE-MOSFET

Symbols, cross-section, operation (enhancement, depletion), transfer and drain characteristics, current equation

DC biasing : zero bias

CO8 - Understanding the E-MOSFET

Symbols, cross-section, operation, transfer and drain characteristics, current equation, channel length modulation effect

DC biasing : voltage divider, drain feedback