



INC221 Electronic Devices and Circuit Design

Credits: 3(2-3-6)

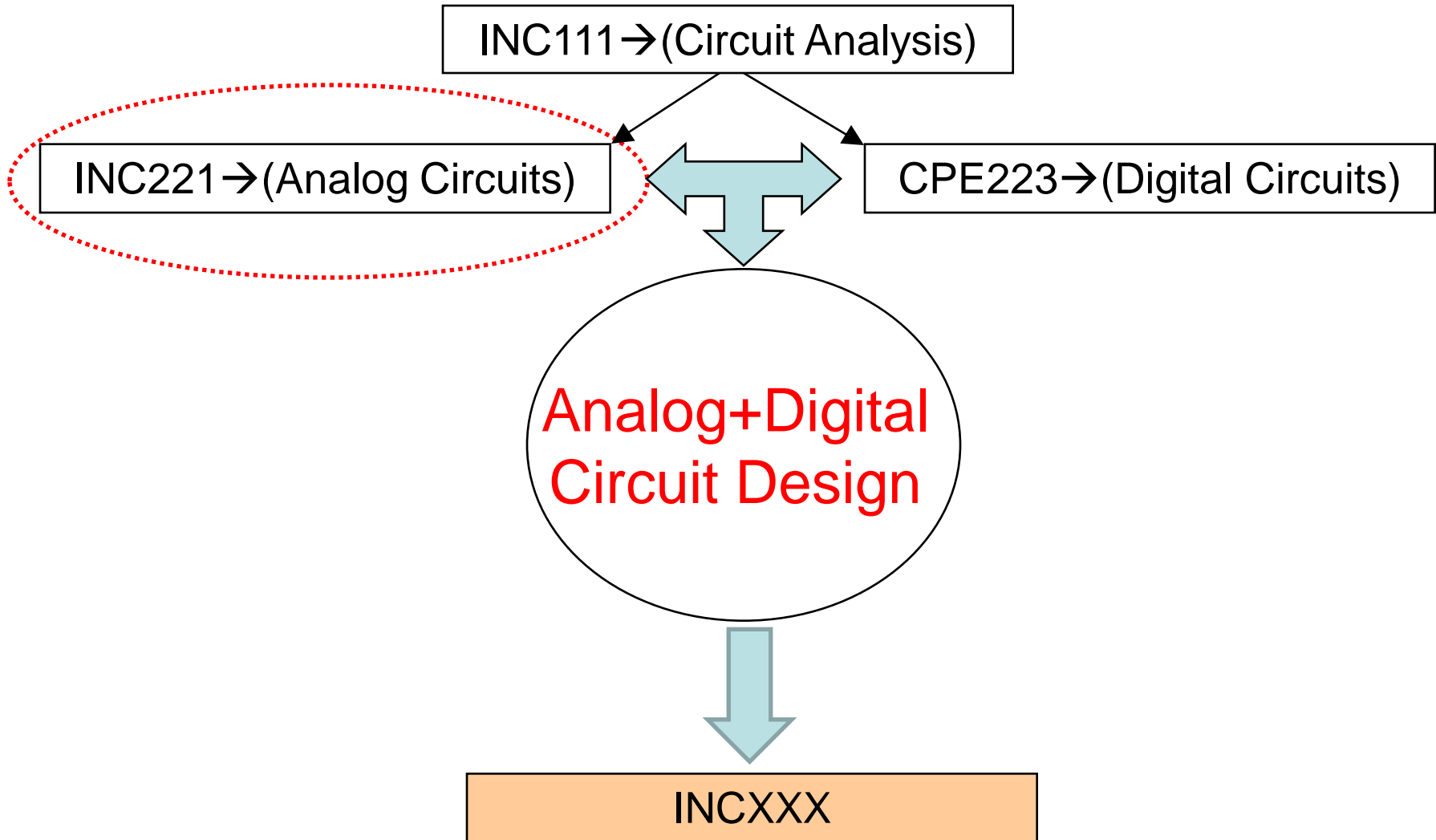
Curriculum: B.Eng. in Automation Engineering

Prerequisite: INC111 Basic Engineering Circuit Analysis

Lecturer: Wanchak Lenwari, Ph.D

Course webpage: <http://inc.kmutt.ac.th/inc221/>

Course Overview



Course Objectives



- To study and understand basic electronics.
- To study principles and applications of electronic devices.
- To analyse the basic electronic circuits.
- To design and implement the circuit based on the knowledge in circuit analysis and electronic devices.
- To practice the engineering skill from a given task i.e. electronic circuit design.

Contents



- Basic semiconductor physics and p-n junction theory
- Diode and zener diode
- Wave shaping circuits, simple DC power supply and DC voltage multiplier circuit
- Bipolar Junction Transistor(BJT) and Field Effect Transistor(FET)
- Biasing techniques for BJT and FET
- Operational Amplifier(OP-AMP)
- Analysis and Design of selected electronic circuits i.e. power supplies, filter circuits and amplifiers

- Assignment; experiments on electronic devices and circuit designs

Grade Assessment(1)



- Midterm 35%
- Final 35%
- Laboratory 25%
- Homework 5%

Grade Assessment(2)



A $75 \leq x < 100$

B+ $70 \leq x < 75$

B $65 \leq x < 70$

C+ $60 \leq x < 65$

C $50 \leq x < 60$

D+ $45 \leq x < 50$

D $40 \leq x < 45$

F $0 \leq x < 40$

References



Books

- Electronic Devices: Conventional Current Version, By Thomas L. Floyd, PEARSON Education
- Any books dedicated to Electronic Devices and Circuit Design.....

Others

- From Internet i.e. Google, Wikipedia, etc.