

# EE 100B - Electronic Circuits II

4 units, Lecture - 3 hours; Laboratory - 3 hours

Prerequisites: EE 100A

The course content includes: Differential and multistage amplifiers, output stages, feedback, signal generators, and CMOS digital circuits.

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Item	OUTCOME-RELATED LEARNING OBJECTIVES	OUTCOMES													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Design and analysis of current mirrors and amplifiers with active loads.	1	1	1											
2	Analysis of differential and multistage amplifiers.	1	1												
3	Understanding of negative feedback, including closed-loop gain and input/output resistances.	1	1												
4	Design and analysis of output stages.	1	1	1											
5	Understanding of operation principles of signal generators.	1	1												
6	Understanding and design of CMOS inverter and logic gates.	1	1			1						1			
7	Ability to use simulation software for analysis of electronic circuits.	1										1			
8	Performing laboratory experiments with electronic circuits containing BJTs and MOSFETs.		1	1								1			
<b>SUBTOTALS</b>		<b>7</b>	<b>7</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>

**OBJECTIVE ADDRESSES OUTCOME: SLIGHTLY - 1, MODERATELY - 2, SUBSTANTIALLY - 3**

- Outcome 1: Ability to apply knowledge of mathematics, science, and engineering.
- Outcome 2: Ability to design and conduct experiments, as well as analyze and interpret data.
- Outcome 3: Ability to design a system, component, or process to meet desired needs.
- Outcome 4: Ability to function on multidisciplinary teams.
- Outcome 5: Ability to identify, formulate, and solve engineering problems.
- Outcome 6: Understanding of professional and ethical responsibility.
- Outcome 7: Ability to communicate effectively.
- Outcome 8: Broad education necessary to understand the impact of engineering solutions in a global and societal context.
- Outcome 9: Recognition of the need for and an ability to engage in lifelong learning.
- Outcome 10: Knowledge of contemporary issues.
- Outcome 11: Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
- Outcome 12: *Optional - as determined by program.*
- Outcome 13: *Optional - as determined by program.*
- Outcome 14: *Optional - as determined by program.*