

MY1 Electronics Engineering Program

This is my 'fantasy' curriculum for an electronics engineering program - complete with course codes



Note: planned for a 4-year program with 7 academics semesters (1 semester for practical training)

I		II		III		IV		V		VI		VII	
Circuit Theory	3	Electric Machines	3			EM Theory	3						
Semiconductor Devices	3	Analog 1	3			Analog 2	3	Instrumentation	3				
		Digital 1	3	Digital 2	3	Microprocessor	3	Microcontroller	3	Computer Architecture	3	Operating Systems	3
Programming 1	3			Programming 2	3								
				Signal & Systems	3			Communication System	3				
						Basic IC Design	3	Digital IC Design	3	Analog IC Design	3	System on Chip	3

Fundamental Series:

- [\[EEC101\]](#) Circuit Theory : ohms law, kirchoffs law, circuit analysis (loop, mesh, superposition, etc)
- [\[EEC110\]](#) Semiconductor Devices : Semiconductor theory, PN junction, diode, triode, transistors
- [\[EEC111\]](#) Analog 1 : bipolars BJT, mos/mes-FETs, basic amplifiers
- [\[EEC211\]](#) Analog 2 : differential amplifiers, op-amp, current mirrors
- [\[EEC120\]](#) Computer Programming 1 : algorithms/flow chart, variables/data, branch, loop, sub-routines, file access
- [\[EEC220\]](#) Computer Programming 2 : project management (makefiles?), GUI programming
- [\[EEC121\]](#) Digital 1 : base-n numbers, basic logic (truth table, boolean equation, boolean algebra, POS/SOP form), combinational logic (basic gates), combinational logic implementation (e.g. adder), sequential logic (basic flip-flop)
- [\[EEC221\]](#) Digital 2 : combinational logic circuits (mux, decoder, encoder), sequential logic circuits (registers, counters), state machines

Applied Series:

- [\[EEC102\]](#) Electric Machines :
- [\[EEC222\]](#) Microprocessor : basic microprocessor system, addressing, instruction set
- [\[EEC203\]](#) Signal & Systems :
- [\[EEC230\]](#) Communication Systems :
- [\[EEC204\]](#) Electromagnetic Theory :
- [\[EEC224\]](#) Instrumentation :

Specializations (Computing):

- [\[EEC322\]](#) Microcontroller
- [\[EEC323\]](#) Computer Architecture

- [\[EEC420 Operating Systems](#)

Specializations (Microelectronics):

- [\[EEE215 Basic IC Design](#) : transistor level netlist, simulation, layout
- [\[EEE315 Digital IC Design](#)
- [\[EEE325 Analog IC Design](#)
- [\[EEE425 System on Chip](#)

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