

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:

- [EEEC101] Circuit Theory : ohms law, kirchoffs law, circuit analysis (loop, mesh, superposition, etc)
- [EEEC110] Semiconductor Devices : Semiconductor theory, PN junction, diode, triode, transistors
- [EEEC111] Analog 1 : bipolars BJT, mos/mes-FETs, basic amplifiers
- [EEEC211] Analog 2 : differential amplifiers, op-amp, current mirrors
- [EEEC120] Computer Programming 1 : algorithms/flow chart, variables/data, branch, loop, sub-routines, file access
- [EEEC220] Computer Programming 2 : project management (makefiles?), GUI programming
- [EEEC121] 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)
- [EEEC221] Digital 2 : combinational logic circuits (mux, decoder, encoder), sequential logic circuits (registers, counters), state machines

Applied Series:

- [EEEC102] Electric Machines :
- [EEEC222] Microprocessor : basic microprocessor system, addressing, instruction set
- [EEEC203] Signal & Systems :
- [EEEC230] Communication Systems :
- [EEEC204] Electromagnetic Theory :
- [EEEC224] Instrumentation :

Specializations (Computing):

- [EEEC322] Microcontroller
- [EEEC323] Computer Architecture

- [\[EEC420\]](#) Operating Systems ([Lab](#))

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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