Electronics course tracker

COURSE TRACKER

Rate yourself after each lesson: R = not yet, A = getting there, G = confident. Revisit every R and A before prelims.

Area	I can...	Lessons	R/A/G	Date
Systems	I can draw and use a universal system diagram (input, process, output, energy).	E0.1		
Systems	I can draw sub-system diagrams with a system boundary and describe feedback.	E0.2		
Systems	I can explain open-loop and closed-loop control.	E0.2		
Analogue	I can state the function of: battery, switch, resistor, variable resistor, LDR, thermistor, LED, buzzer, diode, motor, lamp, ammeter, voltmeter.	E1.1–E1.3		
Analogue	I can describe a circuit in terms of input, process and output.	E0.1, E5.4		
Analogue	I can use Ohm's law to calculate V, I and R.	E2.1–E2.2		
Analogue	I can calculate resistance, current and voltage in series and parallel circuits.	E2.3–E2.5		
Analogue	I can calculate voltages in a fixed voltage divider.	E4.1		
Analogue	I can read LDR and thermistor characteristics from tables and graphs.	E4.2–E4.3		
Analogue	I can design a voltage divider to give an input signal.	E4.4–E4.5		

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Area	I can...	Lessons	R/A/G	Date
Analogue	I can explain the switching function of a transistor.	E5.1		
Analogue	I can describe the function of a relay.	E5.2		
Analogue	I can explain the function of a protection diode and place it correctly.	E5.3		
Analogue	I can describe the operation of a control circuit with a divider, transistor, relay and output.	E5.4		
Energy	I can calculate electrical energy and power (E = Pt, P = VI).	E3.1		
Energy	I can calculate efficiency and complete an energy audit.	E3.2		
Digital	I can complete truth tables for AND, OR and NOT gates with up to three inputs.	E6.1–E6.2		
Digital	I can write and read Boolean expressions.	E6.3		
Digital	I can design a logic circuit from a description with labelled inputs.	E6.4		
Digital	I can describe uses of microcontrollers in commercial and industrial products.	E7.1		

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Area	I can...	Lessons	R/A/G	Date
Digital	I can compare microcontroller and hard-wired systems and connect inputs and outputs to pins.	E7.2		
Digital	I can draw flowcharts with the Data Booklet symbols, pin numbers and delay units.	E8.1–E8.2		
Digital	I can use decisions, continuous loops and fixed loops.	E8.3–E8.4		
Digital	I can read a program and match it to a flowchart and simulation.	E8.5		
Roles and impacts	I can describe tasks of electrical, electronic and other engineers.	E9.1		
Roles and impacts	I can describe social, economic and environmental impacts and link climate change to greenhouse gases.	E9.2		
Roles and impacts	I can identify an emerging technology.	E9.2		
Skills	I can write expected results, test results and evaluations.	E10.1, P1–P8		
Skills	I can answer exam questions at about 1 minute per mark.	E10.2		