

MITx 6.002.3x

Circuits and Electronics 3: Applications

Syllabus

Week* 1

Topics	Second-order systems, RLC circuits, damping in second-order systems
Readings**	12.1-12.2, 12.5, 12.7
Graded assignments	HW1, Lab1

Week 2

Topics	Sinusoidal steady state analysis, frequency response, frequency response plots, impedance methods
Readings	13.1-13.3, 13.4, 13.4.1-13.4.2
Graded assignments	HW2, Lab2

Week 3

Topics	Filters, quality factor, time and frequency domain responses
Readings	13.5-13.6, 14.5
Graded assignments	HW3, Lab3

Week 4

Topics	Op-amp abstraction, negative feedback, Op-amp amplifiers, Op-amp filters and other circuit applications
Readings	15.1-15.5, 15.6.5
Graded assignments	HW4, Lab4

Week 5

Topics	Stability, positive feedback, oscillators, energy and power
Readings	15.7-15.8, 11.1-11.4
Graded assignments	None

Week 6

Topics	CMOS logic, breaking the abstraction barrier
Readings	11.5
Graded assignments	None

Final Exam

* The term “Week” is used to indicate the length of time allocated for the topics listed in the original 6.002x course. It is also the pace at which the course is taught at MIT. Since this course is self-paced, you may choose to allocate more or less time to study the materials. The suggested workload for this course is approximately 8-10 hours per “week”.

** Readings refer to sections in the course textbook.