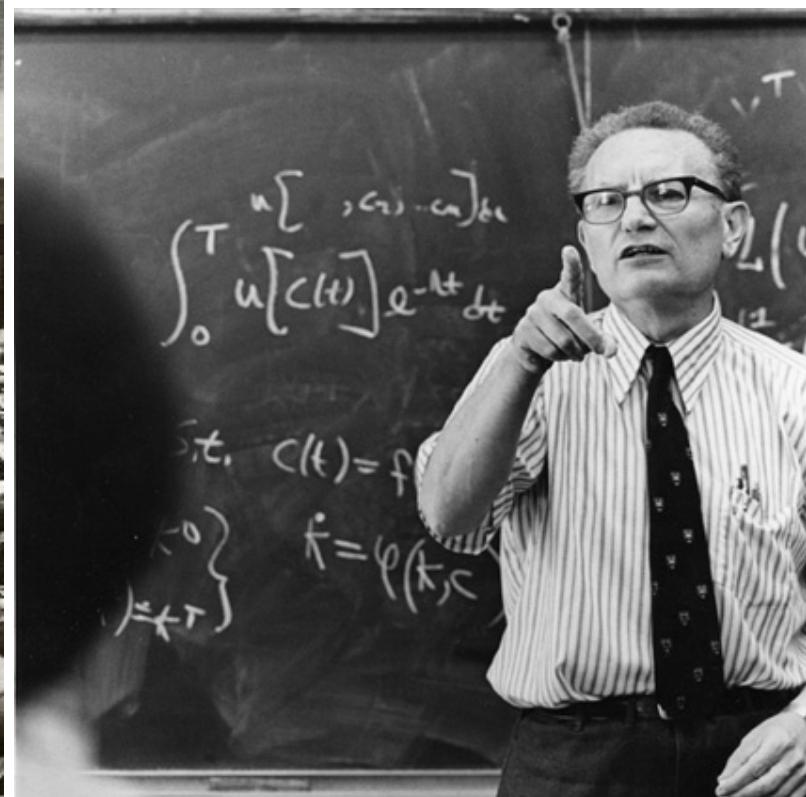
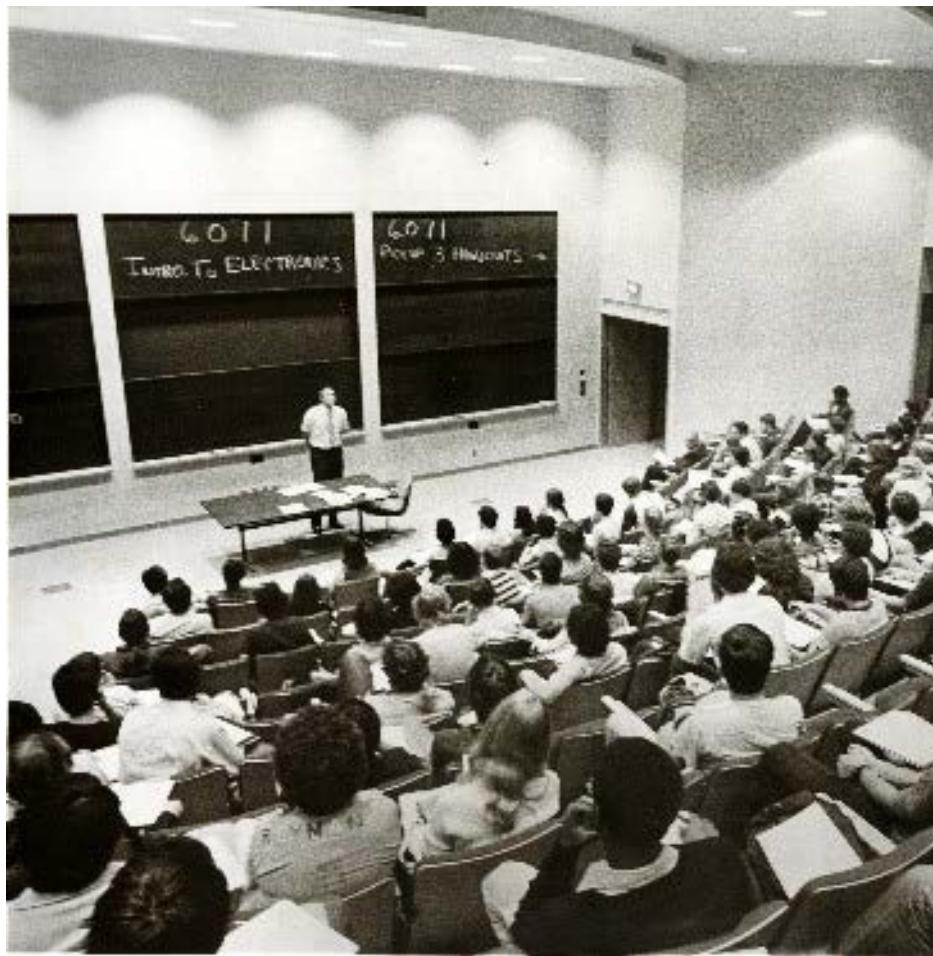
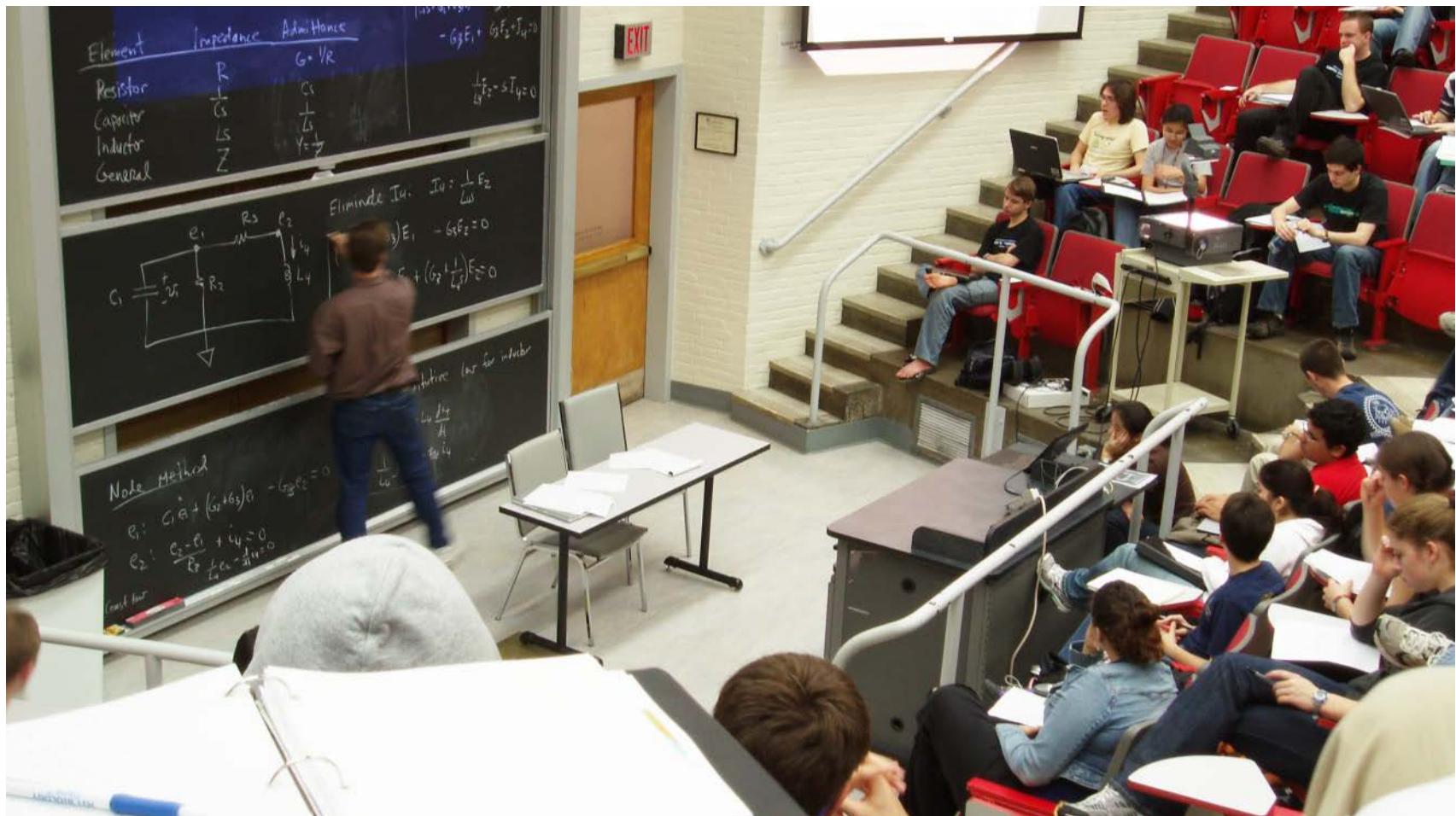


REINVENTING EDUCATION

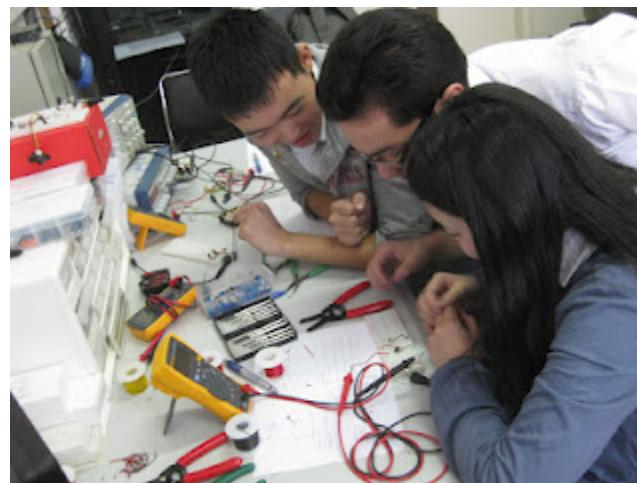
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The new classroom



Where is this?



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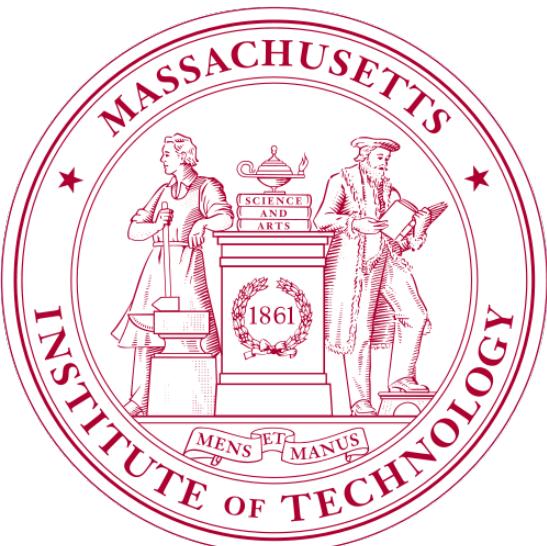
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*Harvard and MIT have committed \$60M to the venture

The image shows the homepage of the edX website. At the top, there is a banner with the text "The Future of Online Education for anyone, anywhere, anytime" and a video player. Below the banner, there are logos for MIT, Harvard University, and Berkeley. The main content area displays several course cards with titles like "3.091x Introduction to Solid State Chemistry", "CS50x Introduction to Computer Science I", "CS160.1x Software as a Service", "6.002x Circuits and Electronics", "PH207x Health in Numbers: Quantitative Methods in Clinical & Public Health Research", "CS188.1x Artificial Intelligence", and "6.00x Introduction to Computer Science and Programming". Each course card includes a thumbnail image and the MITx or HarvardX logo. Below the course cards, there is a section titled "edX NEWS & ANNOUNCEMENTS" with a summary of UC Berkeley joining edX, opening doors for exceptional students in Mongolia, and a Brazilian teen's experience with the 6.002x course. The footer contains links for "Find Courses", "About", "Blog", "Jobs", "Contact", and social media icons. There is also a copyright notice for 2012 and links for "terms of service", "privacy policy", "honor code", and "help".

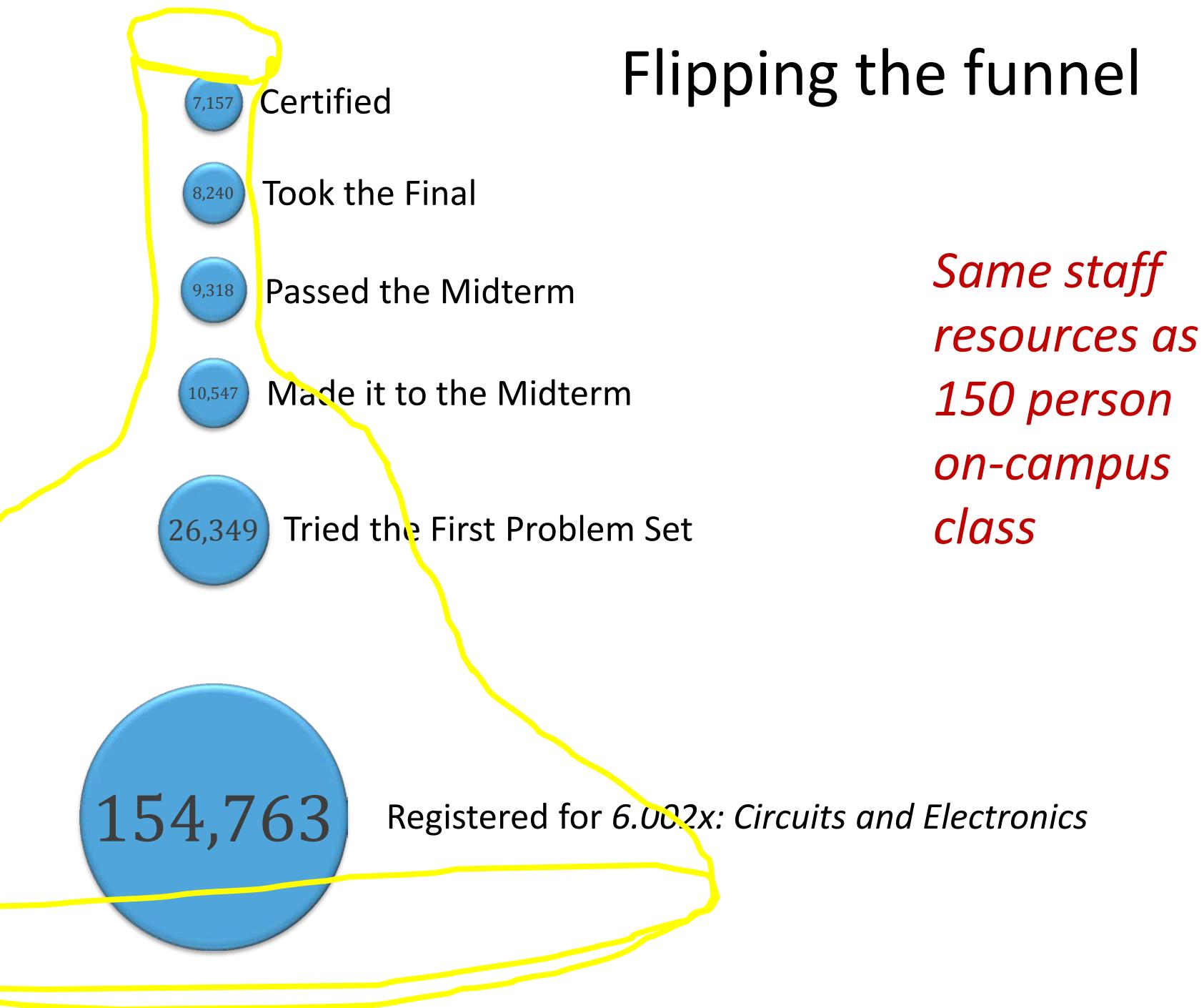
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Admitted: ~1600

Applied to MIT's Class of 2015: ~18,000

Flipping the funnel



Focus on efficiency not cost

$$\text{Efficiency} = \frac{\text{Quality}}{\text{Cost}}$$

Courseware – MITx 6.002x

https://6002x.mitx.mit.edu/courseware/6.002_Spring_2012/Week_9/Undamped_Second-Order_Systems/#

Getting Started neso Google csail Carbon agarwal-public Imported From Firef... mitx-stage MITX aa mitx-int

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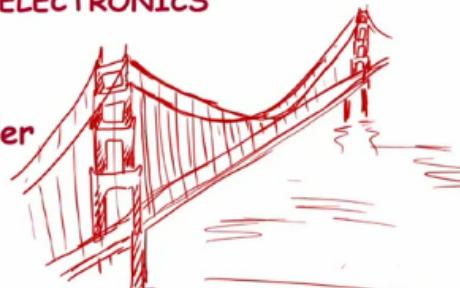
Courseware Index

- Overview
- Week 1
- Week 2
- Week 3
- Week 4
- Week 5**
 - MOSFETs: Large Signals Lecture Sequence
 - MOSFET Amplifiers: Small signal model Lecture Sequence
 - MOSFETs Homework due April 15
 - Mosfet Amplifier Lab due April 15
 - Mosfet Amplifier Experiment Lab due April 15
 - Week 5 Tutorials Tutorial Index
- Week 6

S17V1: Motivating Example

6.002x CIRCUITS AND ELECTRONICS

Second-Order Systems



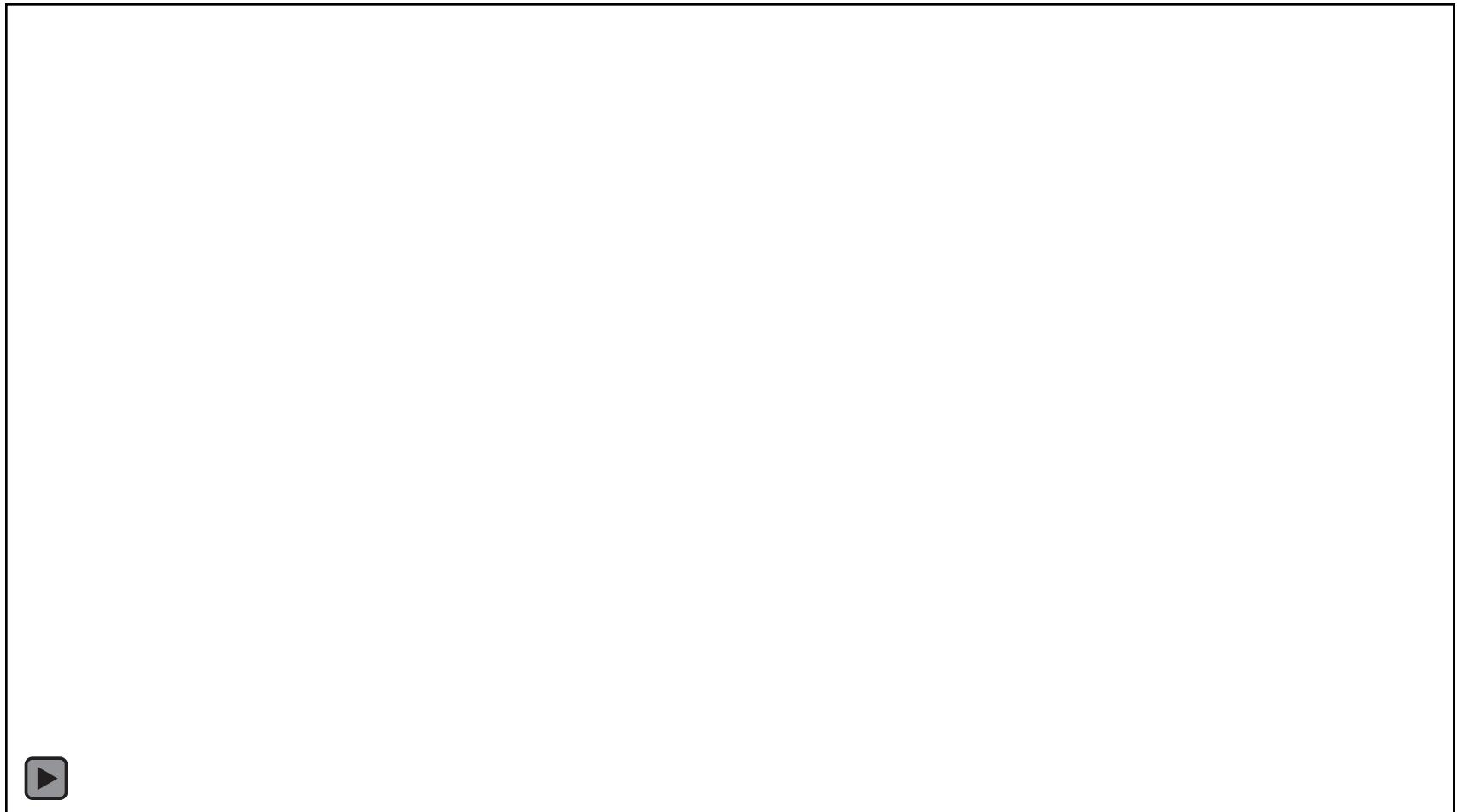
[Review complex algebra Appendix C in textbook]

0:00 / 6:11 SPEED 1.50x cc

SPEAKER : Now let's move on to second-order systems.

So far you looked at first-order systems that contained a single energy storage element such as a capacitor. So a circuit containing a voltage source, a capacitor, and a resistor was a first-order circuit. these circuits, you will have two independent

Textbook Discussion



**Great lectures were theater,
but the future is in games**

Instant feedback

Courseware - MITx 6.002x https://6002x.mitx.mit.edu/

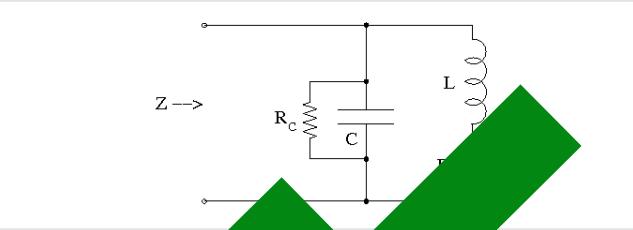
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 - Lecture Sequence
 - Resonance
 - Lab due May 27
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 - Homework due May 27
 - Week 11 Tutorials
 - Tutorial Index
- Week 12
- Week 13
- Week 14
- Final Exam

H11P1: LC TANK

Parallel resonant "tank" circuits are common in radio equipment. But unfortunately there is always resistance that prevents them from being perfect: in every real inductor, the wire that makes up the inductance has some resistance, and there may be leakage in the capacitor that can be modeled as a resistance. Also, the Norton resistance of the system connected to the tank circuit looks like a leakage through the capacitor. So a realistic model for a tank circuit is the following:



In the space provided below write an algebraic expression for the device parameters for the bandwidth $\Delta\omega$ of the impedance Z looking into the tank circuit.

The antenna tank of a [Graymark 536 Radio Kit](#) has an inductance $L \approx 0.65\text{mH}$. The resistance of the inductor $R_L \approx 4.0\Omega$. The equivalent resistance across the capacitor is $R_C \approx 490.0\text{k}\Omega$. The capacitor is variable, for tuning.

If we tune to a station at $f = 950.0\text{kHz}$ what is the capacitance, in picoFarads, of the tuning capacitor?

What is the bandwidth, in kHz, of the tank at $f = 950.0\text{kHz}$?

If next we tune to a station at $f = 1480.0\text{kHz}$ what is the capacitance, in picoFarads, of the tuning capacitor?

What is the bandwidth, in kHz, of the tank at $f = 1480.0\text{kHz}$?

So it is apparent that this is not the only circuit in the radio that selects the desired station from stations on adjacent channels.

Show Answer



An edX cult symbol?



Oh god; have I missed you... :~}

Virtual game-like laboratory



Much
better
63%

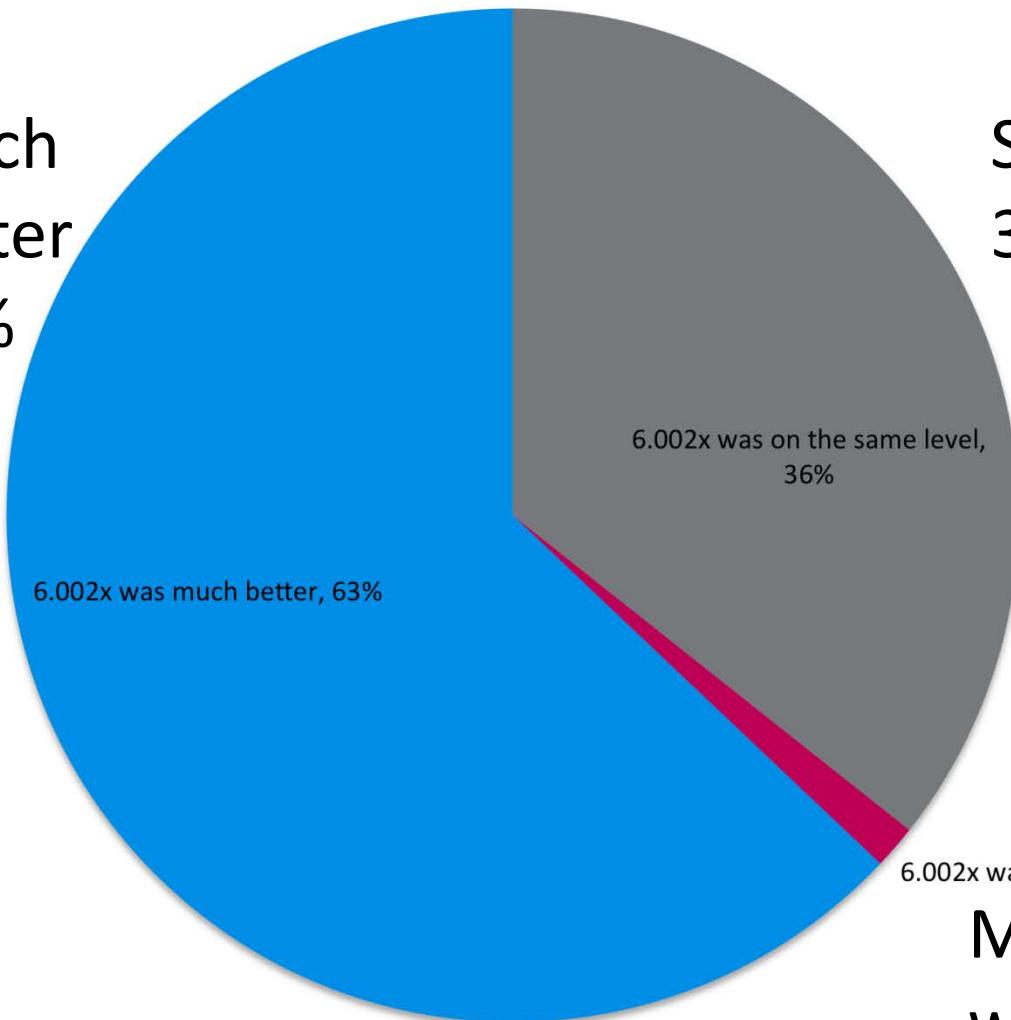
Same
36%

6.002x was on the same level,
36%

6.002x was much better, 63%

6.002x was much worse, 1%

Much
worse
1%



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-Student, Pakistan

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