

ECE 4331

Systems and Signals Laboratory

Tutorial Videos

Playlist Link (all videos)

https://www.youtube.com/playlist?list=PLi_MnF9U3WsJfeXTsBhkeYb1q_kg6GsCg

LAB 0

STEP h - How to export CSV files from oscilloscope to USB drive (it is recommended to format the USB drive in a computer)

<https://www.youtube.com/watch?v=cQpEtbe7ong&>

STEP i - How to plot XY on the oscilloscope (parametric plot)

<https://www.youtube.com/watch?v=kFO4qcgiu5M>

LAB 1

STEP e – How to configure the AD633 circuit to plot the input and output signals

<https://youtu.be/GVysWAFSToQ>

Bonus – Square root circuit with DC input signal

<https://youtu.be/qFSpPsPfnMo>

LAB 2

STEP I – RC relaxation oscillator / scope tips

https://www.youtube.com/watch?v=H1pdDOK6vBU&list=PLi_MnF9U3WsJfeXTsBhkeYb1q_kg6GsCg&index=6&t=0s

LAB 3

Op Amp Offset (integrator circuit)

<https://www.youtube.com/watch?v=pfpMc-UvQtQ>

Sine Wave Oscillator – How to stabilize signals

<https://www.youtube.com/watch?v=rzxivNUMell>

LAB 4

Sallen Key Circuit – Time domain analysis on scope

<https://www.youtube.com/watch?v=fwDrRZ-TISY>

Frequency Analysis – Waveforms / AD2

<https://www.youtube.com/watch?v=kN91zU9GAyg>

Zero State Response (Unit Step Input) Analysis on Scope

https://www.youtube.com/watch?v=F5R_NZ4b1mU

LAB 5

General Tips for Building Lorenz Circuit

<https://www.youtube.com/watch?v=uGMgImB0Tgs>

Additional Tips for Building Lorenz Circuit (Tips for Matlab / Hardware Connections)

<https://www.youtube.com/watch?v=66knErKgMzc>

How to use the Bifurcation Diagram / Monitor Voltage “a”

https://www.youtube.com/watch?v=utu893_wFTA

LAB 6

How to determine the cutoff (half power) frequency experimentally for the Butterworth Filter

<https://www.youtube.com/watch?v=fXf3e4ox14g>

Frequency domain analysis of the Butterworth Filter using AD2

<https://www.youtube.com/watch?v=mnLE9-9zoMg&t=4s>

LAB 7

Setup with Krohn-Hite filter and summed input (part C)

https://www.youtube.com/watch?v=y49_ZP8DZZU&index=16&list=PLi_MnF9U3WsJfeXTsBhkeYb1q_kg6GsCg&t=6s

Fourier analysis of bandpass filter using AD2 – how to measure the spectral components in waveforms software.

https://www.youtube.com/watch?v=ghVuYcEJ688&index=17&list=PLi_MnF9U3WsJfeXTsBhkeYb1q_kg6GsCg&t=0s