

Course related YouTube video link

Chapter 07 AC Power

Power of Electrical Engineering

<https://www.youtube.com/watch?v=UW7Pm3kXJT8>

How does a Transformer work?

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

Engineer This -- Power Engineering 101: Exploring a career in the subfield of electrical engineering

<https://www.youtube.com/watch?v=IVQ291liEyM>

Electrical Engineering Technology (Power and Controls): A student sharing

<https://www.youtube.com/watch?v=sRKx8MOGD-0>

Electrical Grid 101 : All you need to know !

<https://www.youtube.com/watch?v=nbPmsBmo03Y>

Understanding Your Home's Electrical System: The Main Panel

https://www.youtube.com/watch?v=0B0JK2FZ_tQ

How Three Phase Electricity works - The basics explained

<https://www.youtube.com/watch?v=4oRT7PoXSS0>

Construction of three phase transformer

<https://www.youtube.com/watch?v=H2hYUu8IPY0>

Three phase transformer Assembly process

<https://www.youtube.com/watch?v=9Y958Vc5ohl>

Three Phase and Single Phase Powerline Lecture

https://www.youtube.com/watch?v=T_1Np-AP4r0&t=6s

Chapter 08 Operational Amplifiers

What is an op amp? Operational Amplifier tutorial & super spy microphone circuit

<https://www.youtube.com/watch?v=TQB1VILBgJE>

Animation explains the op amp differentiator

<https://www.youtube.com/watch?v=ZtC2r09e9mQ>

What is an Operational Amplifier (Op-amp) - Ec-Projects

<https://www.youtube.com/watch?v=DmyIrgSD3aA>

Active High Pass Filter Using Op-Amp

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

Opamp "echo remove" & "phase sound" audio bandpass filter

<https://www.youtube.com/watch?v=k5jQHhIYPBw>

LM358 Opamp Moog Filter

<https://www.youtube.com/watch?v=gePTJw8r4Ws>

Mini Audio Amplifier using OPAMP. (LM358)

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

Chapter 09 Semiconductors and Diodes

The PN Junction. How Diodes Work? (English version)

<https://www.youtube.com/watch?v=JBtEckh3L9Q>

What Is A Semiconductor?

<https://www.youtube.com/watch?v=gUmDVe6C-BU>

Semiconductors 3D Animation

<https://www.youtube.com/watch?v=kD1O9B5CUUw>

Peak Detectors

https://www.youtube.com/watch?v=ic_yEUV7Y3c

Voltage regulator tutorial & USB gadget charger circuit

https://www.youtube.com/watch?v=GSzVs7_aW-Y

Diode Tutorial & How to build an AC to DC power supply

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

What is a zener diode?

<https://www.youtube.com/watch?v=xSQHfsHTS88>

How To Properly Wire a LED

<https://www.youtube.com/watch?v=91fL9KKMFxg&nohtml5=False>

HOW TO: LED Light bulb

<https://www.youtube.com/watch?v=dLlqtaYlFE&nohtml5=False>

How do solar panels work? - Richard Komp

<https://www.youtube.com/watch?v=xKxrkht7CpY>

The Truth About Solar

https://www.youtube.com/watch?v=nabM5MGq_NY

Chap 10 Bipolar Junction Transistors

From Sand to Silicon: the Making of a Chip | Intel

<https://www.youtube.com/watch?v=Q5paWn7bFg4>

Chip Manufacturing Process - Philips Factory

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

Transistors

<https://www.youtube.com/watch?v=FODFowmDfvY&nohtml5=False>

An Introduction to Logic Gates

<https://www.youtube.com/watch?v=95kv5BF2Z9E&nohtml5=False>

Chap 11 Field-Effect Transistors

MOSFET transistor

https://www.youtube.com/watch?v=v7J_snw0Eng

Transistor / MOSFET tutorial

<https://www.youtube.com/watch?v=Te5YYVZiOKs>

What's inside a microchip ?

<https://www.youtube.com/watch?v=GdqBLmdKgw4&nohtml5=False>

How MOSFETs and Field-Effect Transistors Work!

https://www.youtube.com/watch?v=tz62t-q_KEc&nohtml5=False

How Transistors Work - The MOSFET (English Version)

<https://www.youtube.com/watch?v=QO5FgM7MLGg&nohtml5=False>

Chap 12 Power Electronics

Voltage regulator tutorial & USB gadget charger circuit

https://www.youtube.com/watch?v=GSzVs7_aW-Y

LM317 Adjustable Voltage Regulator Tutorial

<https://www.youtube.com/watch?v=ljJWWGPjc-w>

Switch mode power supply tutorial: DC-DC buck converters

https://www.youtube.com/watch?v=CEhBN5_fO5o

Adjustable switch mode power supply tutorial

<https://www.youtube.com/watch?v=QR8qsygs1Kw>

DC-DC Boost converter tutorial

<https://www.youtube.com/watch?v=wJU7AJgERG8>

Power MOSFET Magic

<https://www.youtube.com/watch?v=l1h-HZmIJ4E>

Chap 14 Digital Systems

How a CPU is made

<https://www.youtube.com/watch?v=qm67wbB5Gml>

How a microcontroller is made?

<https://www.youtube.com/watch?v=p4vZwycU4Cw>

How a CPU Works

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

PIC microcontroller

<https://www.youtube.com/watch?v=MjFpWb-0jPI>

Chap 15 Electronic Instrumentation and Measurements

Comparator tutorial & clapper circuit

<https://www.youtube.com/watch?v=y0Q0ERSP24A>

Chap 16 Analog Communication Systems

Amplitude Modulation and Frequency Modulation

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

Radio Broadcasting Modulation and Demodulation

https://www.youtube.com/watch?v=CWLgl8_h6Bo

How to build a FM radio transmitter

<https://www.youtube.com/watch?v=X2ozDgBF6vw>

Weekend Projects - Super Simple FM Transmitter

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

Build your own FM Receiver

https://www.youtube.com/watch?v=h_F3J4vyzNk

Satellite Communication

<https://www.youtube.com/watch?v=hXa3bTclGPU>

How GPS works? Trilateration explained

<https://www.youtube.com/watch?v=4O3ZVHVFhes>

Chap 18 Principles of Electromechanics

Solenoid Basics - Part 1

<https://www.youtube.com/watch?v=hsoggQOoG4s>

Solenoids & Relays

<https://www.youtube.com/watch?v=i3lGy3MjUhY>

Working of Moving Coil Instruments

https://www.youtube.com/watch?v=CqW5rmmqv_Y

Moving Coil Galvanometer

https://www.youtube.com/watch?v=sD_5iyHl3s

DIY Super Electromagnet

<https://www.youtube.com/watch?v=wzXRFp0DDrU>

How Magnet Works - The FORCE of Nature | A Documentary Film

<https://www.youtube.com/watch?v=BY1LS10GMkg>

World's Simplest Electric Train (2)

<https://www.youtube.com/watch?v=Y1MDOerruDU>

Physics of Maglev Trains (EMS & EDS)

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

Chapter 19 Electric Machinery

DC Motor, How it works?

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

How does an Alternator Work ?

<https://www.youtube.com/watch?v=tiKH48EMgKE>

Induction Motor How it works

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

How Electric Vehicles Work - the technology underlying an EV

<https://www.youtube.com/watch?v=zL6leS-Eugw>

Simplified Explanation of How Electric Cars Work

<https://www.youtube.com/watch?v=dFWEc7Ytq44>

How it's made Electric Roadsters Tesla electric car

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

Extra-providing video

MEDICAL ELECTRONICS: INTRO TO INDUSTRY

<https://www.youtube.com/watch?v=O0CHWFc-gO8>

AI 機器人狂潮席捲全球人工智慧時代正式來臨 T 觀點

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

AlphaGo 是什麼？人工智慧真的戰勝人腦了嗎!? | 科學大爆炸 EP.59

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

5 分鐘搞懂自動駕駛汽車！ | 科學大爆炸 2-EP.25

<https://www.youtube.com/watch?v=09tRb1G5afU>