

Free E-courses available for Electronics Enthusiasts

by Puneet Sharma - Sunday, November 09, 2014

<http://gonitsora.com/engrossing-free-e-courses-available-electronics-enthusiasts/>

Quoting Times of India “Over 2.5 lakh Indians have registered for courses on edX, the massive open online course (Mooc) platform founded by Massachusetts Institute of Technology (MIT) and Harvard University in May 2012 to host online university-level courses.

This makes Indians the second largest community, after Americans, to register for these courses, said edX president Anant Agarwal, an Indian American who grew up in Mangalore and who has been teaching the circuits & electronics course in MIT for 26 years.”

Below we have compiled a list of some FREE E-courses available that we believe that every electronics enthusiast should enroll for:

1. Learn KiCAD printed circuit board design:

Course Provider: Udemy

Course Instructor: Niklas Wennerstrand

Details: This Udemy tutorial gives you the opportunity to learn KiCad in a fast visual fashion. During these video tutorials the instructor will teach you how to set up your project and design a printed circuit board.

URL: <https://www.udemy.com/learn-kicad-printed-circuit-board-design/>

2. Modelling and Simulation using MATLAB®

Course Provider : iversity

Course instructor: Prof. Dr.-Ing. Georg Fries, Prof. Dr. Peter Dannenmann

Details : Modelling and simulation make a particular part of the world easier to define, visualize and understand. Both require the identification of relevant aspects of a situation in the real world and then the use of different types of models for different objectives and the definition of the most suitable model parameters.

This course teaches you to simulate models for a wide range of applications using MATLAB – a high-

level programming language and an environment for numerical computation and visualization.

URL: https://iversity.org/en/my/courses/modelling-and-simulation-using-matlab/lesson_units

3. Circuits and Electronics:

Course Provider: edx

Course Instructor: Anant Agarwal, Gerald Sussman, Piotr Mitros, Chris Terman
Details : The course introduces engineering in the context of the lumped circuit abstraction. Topics covered include: resistive elements and networks; independent and dependent sources; switches and MOS transistors; digital abstraction; amplifiers; energy storage elements; dynamics of first- and second-order networks; design in the time and frequency domains; and analog and digital circuits and applications. Design and lab exercises are also significant components of the course.

Weekly coursework includes interactive video sequences, readings from the textbook, homework, online laboratories, and optional tutorials. The course will also have a midterm exam and a final exam.

URL : <https://www.edx.org/course/mitx/mitx-6-002x-circuits-electronics-2606#.VFaNlfnF-1U>

4. Principles of Electric Circuits:Course Provider: edx

Course Instructor : Xinjie Yu, Wenjuan Lu, Wei Zhao
Details :Principles of Electric Circuits (20220214x) is one of the kernel courses in the broad EECS subjects. Almost all the required courses in EECS are based on the concepts learned in this course, so it's the gateway to a qualified EECS engineer.The main content of this course contains linear and nonlinear resistive circuits, time domain analysis of the dynamic circuits, and the steady state analysis of the dynamic circuits with sinusoidal excitations. Important concepts, e.g. filters, resonance, quiescent point, etc., cutting-edge elements, e.g. MOSFETs and Op Amps, etc., systematic analyzing tools, e.g. node method and phasor method, etc., and real-world engineering applications, e.g. square wave generator and pulse power supply for railgun, etc., will be discussed in depth.

In order to facilitate the learning for students with middle school level, we prepare the necessary knowledge for calculus and linear algebra in week 0. With your effort, we can show you the fantastic view of electricity.

URL: https://www.edx.org/course/tsinghuax/tsinghuax-20220214x-principles-electric-2956#.VFaj_nF-1V

5. Embedded Systems - Shape The World:

Course Provider:edx

Course Instructor: Dr. Jon Valvano, Dr. Ramesh Yerraballi

Details : Build real-world embedded solutions using a bottom-up approach from simple to complex in this hands-on, lab-based course.

URL:

<https://www.edx.org/course/utaustinx/utaustinx-ut-6-02x-embedded-systems-4806#.VFakTPnF-1U>

6. Sense, Control, Act: Measure the Universe, Transform the World:Course Provider: edx

Course Instructor: Surya Singh, Michael Kearney, Stephen Wilson**Details:** This course will journey through sensor physics, electronic instrumentation, signal processing, and basic control strategies. A wide variety of applications will be presented and the common underlying principles of sensing, signal processing and control will be the key learning areas.

A series of design & build activities is a key part of this course. A customised kit will be made available for purchase in order to participate. More details about where to purchase the kit will be made available closer to the start date of the course.

URL : <https://www.edx.org/course/uqx/uqx-sense101x-sense-control-act-measure-1813#.VFbAVPnF-1U>

7. Electronic Interfaces: Bridging the Physical and Digital Worlds:|Course Provider: edx

Course Instructor: Michel M. Maharbiz, Tom Zajdel**Details:** Learn by doing: analyze, design, and build electronic interfaces between sensors and a microcontroller to build a robot or your own creation in this hands-on lab course.

URL:<https://www.edx.org/course/uc-berkeleyx/uc-berkeleyx-ee401x-electronic-3276#.VFbA2vnF-1U>

8. Discrete-Time Signal Processing:Course Provider: edx

Course Instructor: Alan V. Oppenheim, Tom Baran

Details : A focused view into the theory behind modern discrete-time signal processing systems and applications.

URL: https://www.edx.org/course/mitx/mitx-6-341x-discrete-time-signal-4396#.VFbBR_nF-1U

9. Introduction to Linux :Course Provider: edx

Course Instructor: Jerry Cooperstein**Details:** Develop a good working knowledge of Linux using both the graphical interface and command line, covering the major Linux distribution families.**URL:** <https://www.edx.org/course/linuxfoundationx/linuxfoundationx-ifs101x-2-introduction-5386>

10. Autonomous Mobile Robots:Course Provider: edx

Course Instructor : Roland Siegwart, Paul Furgale

Details: Introduction to Autonomous Mobile Robots – basic concepts and algorithms for locomotion, perception, and intelligent navigation.

Note - This is an Archived course

URL: <https://www.edx.org/course/ethx/ethx-amrx-autonomous-mobile-robots-1342#.VFbCWfnF-1V>

Source : Edx, iversity, course-era, udemy

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