MAKER

Jocelyn H. Lee Innovation Lab

AUGUST 2015

Class Registration is Required: 281-488-1906

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1 10:30 am 3D Printing Orientation† 1:00 pm & 3:00 pm E.C.: Paper Circuits
3 10:30 am Mechanical Systems I	**4** 10:30 am Arduino 101 2:00 pm Intro to "Tinkercad"†	**5** 10:30 am Squishy Circuits 2:00 pm Kid Hack Session	**6**	**7**	**8**
10 10:30 am Mechanical Systems II	**11** 10:30 am Raspberry Pi 101 4:00 pm Teen Hack Session	**12** 7:00 pm Lab Skills: DC Power	**13** 2:00 pm JHLIL Lab Orientation	**14**	**15** 10:30 am Laser Cutter Orientation 1:00 pm & 3:00 pm E.C.: Vacuum Molding
17 10:30 am Mechanical Systems III 7:00 pm Creatorspace	**18** 10:30 am Raspberry Pi Networking 2:00 pm 3D Printer Orientation†	**19** 4:30 pm Teen Coding Club 7:00 pm 3D Printer Users Group	**20** 7:00 pm Laser Cutter Orientation	**21**	**22**
24 2:00 pm Lab Skills: Soldering	**25** 10:30 am Arduino: Motor Control 2:00 pm Intro to "Scratch"†	**26** 7:00 pm Lab Skills: Oscilloscope	**27** 7:00 pm Hack Session	**28**	**29** 10:30 am 3D Printing Orientation
31 2:00 pm Basic Circuits I				KEY: * Registration Not Required †Meets in the Computer Lab	

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Clear Lake City-County Freeman Branch Library
16166 Diana Lane | Houston, Texas 77062 | 281-488-1906
www.hcpl.net

UPCOMING PROGRAMS AT THE CLEAR LAKE CITY-COUNTY FREEMAN BRANCH LIBRARY

Jocelyn H. Lee Innovation Lab

The JOCELYN H. LEE INNOVATION LAB is a *makerspace* – a place for people to learn, share resources, work on projects and network with other creative minds. Access to the Lab and classes is free to the public. Participants under age 12 must be accompanied by an adult guardian.

3D Printer Orientation
Get an overview of the Lab's 3D scanning and printing capabilities and discover easy ways to generate your own models and prints. This class is required for reserving print time on the 3D printers.

3D Printer Users Group
Share your latest 3D models, swap tips and collaborate on projects.

Arduino 101
The Arduino is a small microcontroller making a big impact on the maker scene. Come learn how easy it is to develop your own circuits and programs in this hands-on class.

Arduino: Motor Control
Learn how to control speed and direction of a brushed DC motor using motor-driver circuits and an Arduino microcontroller.

Basic Circuits I
These hands-on sessions progressively introduce concepts of basic circuits. Session I focuses on circuits using batteries, switches and lights.

Creatorspace
Join us for a presentation from local maker group Creatorspace (www.creatorspace.org).

Engineering Challenge: Paper Circuits
Paper, copper tape and LEDs combine into electronic art using a little technical knowledge and creativity. Greeting cards, sculptures and interactive displays are just some of the things you could consider making.

Engineering Challenge: Vacuum Molding
Learn the process of thermal vacuum forming by building a custom pattern and creating a plastic mold from food-safe polystyrene plastic – use it for candies, plaster casts or as adornment for your latest costume.

Hack Sessions
Spend some time opening up toys, machines and consumer electronics to see how they're made, how they work and how they can be repurposed. 'Kids'-session: ages 8-12 with adult guardian. 'Teen'-session: ages 12-18.

Innovation Lab Orientation
Take a close-up look at the tools, learn more about the classes and tell us what YOU want to make.

Introduction to 'Scratch'
'Scratch' is an easy-to-use programming language using graphical blocks to create fun and interactive multimedia software. This class will use this free software to explore primary concepts in computer programming.

Introduction to 'Tinkercad'
Learn the basics of 3D design using a free, browser-based tool that is easy to use and able to generate models suitable for 3D printing.

Lab Skills: DC Power
Explore ways to provide DC (direct-current) power to your projects using batteries and power supplies.

Lab Skills: Oscilloscope
It's amazing what you can learn from using an oscilloscope to test and measure your electronics. Boost your lab skills using a basic 2-channel 'scope in this hands-on class.

Lab Skills: Soldering
Learn the tools and techniques of 'thru-hole' soldering in this hands-on class. All material is provided.

Laser Cutter Orientation
Learn the techniques for using the laser cutter and prepare your own jobs for cutting and etching. This class is required for reserving time on the laser cutter. *Participants under age 16 must be accompanied by an adult guardian.*

Mechanical Systems
These sessions will progressively cover simple principles and elements of mechanical designs. Students will have a chance to construct simple motion control mechanisms using gears, linkages, belts and more. Session I introduces mechanical forces and static forces. Session II examines rotary motion and gears. Session III explores linear motion and linkage mechanisms.

Minecraft Pi
Learn the Python programming language by customizing a Minecraft game using Raspberry Pi computers and simple circuits.

Raspberry Pi 101
The Raspberry Pi is a single board computer developed to teach basic computer science. Explore the Raspberry Pi's Linux operating system and interface the Pi with the physical world.

Raspberry Pi Networking
See how to connect the Raspberry Pi to your local network and run 'headless' using common networking tools.

Scratch Pi
'Scratch' is an easy-to-use programming language using graphical blocks to create fun and interactive multimedia software. This class will use the Raspberry Pi computers to explore primary concepts in programming.

Squishy Circuits
If building circuits with solder or breadboards isn't your style, how about building circuits with play dough? For ages 6-10 with adult guardian.

Teen Coding Club
This summer the 'Teen Coding Club' will work on projects using the Raspberry Pi computer. For ages 12-18.

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Jocelyn H. Lee Innovation Lab tools and programs are made possible with assistance from The Friends of Freeman Library