Makerspace programs are offered in two locations
Bergen Community College and
Bergen County Technical Schools
Addresses are listed below

MB 103 Introduction to the Arduino Microcontroller
1 session; 3 hours; $35
Come explore what’s possible with the Arduino. Arduino is a microcontroller, a circuit board used with a computer that can control many things. This circuit board can be made to use a variety of sensors like, light, sound and motion it reads them to control things like turning lights on or off, control sound on electronics like TVs and more. Circuit boards use input information data and codes to achieve these tasks. Arduino can be used for many things and makes the world of interactive electronics accessible to everyone. No prior experience is necessary. All you need is an interest in technology and basic computer skills. All materials required materials will be supplied. This workshop is appropriate for children ages 12 and up. Children under the age of 16 must be accompanied by a parent or legal guardian throughout the duration of the program.

Location BT: Room 168
Bergen County Technical Schools
200 Hackensack Avenue
Hackensack, NJ 07450

MB 140 Build your own Solar Panel I (Adults & Teens)
1 session; 3 hours; $35 $10 Materials fee
Learn the skills needed to build a solar panel, or (photovoltaic panel). In this session you will work with hands-on training skills and build your own solar panel. Gain an understanding of how solar cells produce useable energy, about the different types of solar cells, cost and efficiency, and the pros/cons of homemade solar panels. You will also learn soldering techniques as we build a small solar panel that you can take home with you. No experience necessary. This course is designed for teams of adults and teens ages 12 and up. Children under the age of 16 must be accompanied by a parent or legal guardian throughout the duration of the program. Maximum enrollment is 20 participants, or 10 teams.

Location BT: Room 168
Bergen County Technical Schools
200 Hackensack Avenue
Hackensack, NJ 07450

✔ NEW
MB 120 Getting to Basics in Jewelry Making
16 sessions; 40 hours $325 $50 (Materials fee payable to the Instructor)
001 BC; T/Th; September 29–November 19, 2015
Hours: 6:30-9:00 p.m.

Instructor: Teresa Owens
Location BC: TBA
Bergen Community College
400 Paramus Road
Paramus, NJ 07652
Location BT: Room 168
Bergen County Technical Schools
200 Hackensack Avenue
Hackensack, NJ 07450

Location: TBA
Instructor: Teresa Owens
In this course you will learn the basics of creating jewelry using techniques such as cold connection, riveting, saw piercing, bending, forming, drilling, marking, etching, and polishing metal. We will also learn some chain making techniques to create your own chains. Copper and Silver will be used in this course to create a beautiful marriage between the two metals. No experience is required for this course. A material list will be given the first night of class for metal and some basic tools. Material fee $50 payable to instructor at first session.

Location BC: TBA
Bergen Community College
400 Paramus Road
Paramus, NJ 07652
Location BT: Room 168
Bergen County Technical Schools
200 Hackensack Avenue
Hackensack, NJ 07450

✔ NEW
MB 121 Bring Life to Jewelry Using Found Objects with Resin and Other Coloring Techniques
16 session; 40 hours $325 $50 (Materials fee payable to the Instructor)
001 BC; M/W; October 21 – December 16, 2015
(no class 11/25)
Hours: 9:00 a.m.-12:00 p.m.

Instructor: Teresa Owens
Location: TBA
Bergen Community College
400 Paramus Road
Paramus, NJ 07652
Location BT: Room 168
Bergen County Technical Schools
200 Hackensack Avenue
Hackensack, NJ 07450

Have you ever wondered what to do with all those little things that you’ve collected over the years such as buttons from your grandmother, your child’s baby teeth or hair, or small seashells from the shore? You can cast them in resin and make them into heirlooms to wear! This course will teach you how to use resin and other color techniques to make beautiful jewelry. You will learn how to use colored pencil on metal, use patinas, and use beads to accent your jewelry. No experience is required for this course. A material list will be provided the first night of class for materials and basic tools. Material fee $50 payable to Instructor at first session.

Location BC: TBA
Bergen Community College
400 Paramus Road
Paramus, NJ 07652
Location BT: Room 168
Bergen County Technical Schools
200 Hackensack Avenue
Hackensack, NJ 07450

Please visit: bergenmakerspace.bergen.org for more program dates, times and locations.
MAKERSPACE

MB 102 Introduction to UAV/UAS (Unmanned Aerial Vehicles/Unmanned Aerial Systems) for Adults & Children
1 session; 2 hours; $35
003 BC, Saturday; March 8, 2014
Hours: 10:00 a.m. - 12:00 p.m.
Instructor: Steve Cohen
Learn the foundation and principles behind each system needed to operate UAV/UAS and how they work together. Through the use of demonstrations you will learn about the principles behind multi-rotor flight and the interdependent systems required to operate small hobby UAV’s. The systems include the use of radio control transmission, micro-robotics, and independent navigation. Thanks to advances like cellphones and micro-robotics these devices have never been easier to understand and operate. Participants will have hands-on opportunities to familiarize themselves with the components of the system, electrical and radio frequency theory, and the basics of aerial photography and videography. This workshop is appropriate for adults and children ages 12 and up. Children under the age of 18 must be accompanied by a parent or legal guardian throughout the duration of the program.
Location BT: Bergen County Technical Schools
200 Hackensack Avenue
Hackensack, NJ 07450
Room 168

MB 130 Practical Computer Cyber Security for Adults & Teens
2 sessions; 4 hours; $50
Being aware of what threats are out there will help you stay safe. This two session seminar is designed to help you understand the various types of computer cyber-attacks that are being used to steal data, compromise identities, and harm users. We will show what the attacks may appear as so the user can better avoid being a victim of one. Demonstrations will show how quickly some attacks can take place, where they most likely to occur, and how to stay vigilant so you don't become a target. Learn about security terms, attack vectors, secure passwords, forensic tool kits, and general best practices for computer security; this seminar will provide a foundation of cyber security best practices. This course is offered to adults and teens age 16 and up.
Location BT: Bergen County Technical Schools
200 Hackensack Avenue
Hackensack, NJ 07450
Room 168

MB 110 Homemade Gourmet Coffee Roasting and Tasting
1 session; 2 hours; $35
Learn the basics of home gourmet coffee roasting. Before growth of coffee shops everywhere people roasted their coffee at home all the time. While we gained convenience, we lost much more in flavor and subtlety. Gourmet coffee roasting is a simple task that yields delicious palate pleasing results. At this demonstration and tasting session we will roast several coffees in different manners and detail the chemical changes the coffee seeds undergo in order to become the coffee we grind, extract, and savor. Using a stove-top popcorn maker and an electric home coffee roaster, we'll observe the results, and then taste a variety of coffees from different origins, experience and discuss the regional differences in flavor. Please note that decaffeinated coffees are not available in this course, all coffee products are caffeinated, and some products used may include allergens.
Location BT: Bergen County Technical Schools
200 Hackensack Avenue
Hackensack, NJ 07450
Room 168

MB 201 The I2C Bus and the Arduino
1 session; 2 hours; $35
This course is designed for those with some experience in programming the Arduino. Learn more in depth information and expand your knowledge of input/output options on the Arduino. No equipment is required. We will have computers, Arduino boards, breadboards and everything else you need to get started.
Location BT: Bergen County Technical Schools
200 Hackensack Avenue
Hackensack, NJ 07450
Room 168

MB 104 The New York City Drone User Group NYC DUG “Build – In”
1 session; 3 hours; $15
Join us for our first “Build-In” event where other drone user enthusiasts will share their knowledge and experience to build, program and fine tune flying robotics. Meet and collaborate with local individuals that share your passion for this technology. Build your quad copter using best practices techniques to make your first flight safe and successful. Don't miss this opportunity to get proven advice on successful construction techniques, programming, and more. Beginners through advanced skill level users are welcome to attend. Please bring your tool kit, solder equipment and any other special items needed. Basic materials like solder, shrink tubes, zip ties and other materials will be supplied. For a full list of parts for building a custom multicopter from low cost off-the-shelf parts please visit: www.wiki.dcdrone.org/KitPartsList
Location BC: Room TEC 101
Bergen Community College
400 Paramus Road
Paramus, NJ 07652

To register, call: (201) 447-7488 • www.bergen.edu/continuinged | FALL 2015
**MAKERSPACE**

**MB 106 Introduction to 3D Printing**
1 session; 3 hours; $35
Come explore the world of 3D printing and learn how you can create something truly original. This class will introduce you to basic 3D computer modeling and show you how to go from the computer screen to the real world using our Makerbot Replicate 3D printers. We will show you how to access the world open source models available through sites like Thingsaverse. No experience is necessary. All you need is interest and basic computer skills. All required materials will be supplied. This workshop is appropriate for children ages 12 and up. Children under the age of 16 must be accompanied by a parent or legal guardian throughout the duration of the program.

**Location BT:** Bergen County Technical Schools
200 Hackensack Avenue
Hackensack, NJ 07450
**Room 168**

**MB 105 Arduino – Buffet “Build – In”**
1 session; 3 hours; $15
Arduino Buffet - “Build-In”
Join us at the Arduino Buffet “Build-In” attend this event and experiment with a wide variety of hardware and sensors. Work alongside experienced users or experiment on your own. This workshop is offered as a follow up to our Intro to Arduino course but is also great for those with some Arduino experience interested in expanding their knowledge and skills. Bring your own equipment or experiment with ours. We have everything you need for the Build-In including Arduino boards, breadboards, LCD displays, LED’s, temperature sensors, servos, some I2C devices and much more.

**Location BT:** Bergen County Technical Schools
200 Hackensack Avenue
Hackensack, NJ 07450
**Room 168**

**MB 105 Servos and Motors Workshop**
1 session; 3 hours; $35
This workshop includes an introduction to controlling Remote Control hobby servos, small motors and electronic speed control with the Arduino. A variety of motor types, interfaces and pulse width modulation are some of the topics covered in this workshop. After a brief overview and discussion our experts will guide attendees with some hands-on learning activities and experimentation. You can bring your own equipment or work with our selection hobby motors, shields and speed controllers. This program is suitable for those with some Arduino experience and highlighting controlling motors and servos for hobby projects, robots, or industrial use.

**Location BT:** Bergen County Technical Schools
200 Hackensack Avenue
Hackensack, NJ 07450
**Room 168**

**MB 150 Playing With Fire: An Introduction to Arc Welding**
1 session; 3 hours; FREE DEMO
Ever want to learn how to weld? Ever wonder how electric arc welding works? Bought a welder but don’t know where to start? Arc welding is fun and one of the most useful skills anyone can learn. Whether its hobbies or home improvements, repairs or artwork, welding can be applied to a wide variety of metals and applications. This introductory presentation will show examples of TIG, MIG and Stick electric arc welding, including a brief discussion of how the process works, equipment buying recommendations and safe working procedures. Open to everyone 16 and over! Course attendees must wear safety glasses at all times in the LAB.

**Location BC:** Room TEC 101
Bergen Community College
400 Paramus Road
Paramus, NJ 07652

**MB 143 DIY Deck Building Basics - Part I, II, III**
3 sessions; 9 hours; $99
If you’ve always dreamed of building your own deck, but were hesitant to tackle such a large, complicated construction project, we’ve got some good news. We have a pro to demonstrate the proper techniques for building a deck, stairs for raised decks and railings. All you need are some basic carpentry tools and the desire to invest a little sweat equity. A simple deck can be built with a floor frame that’s supported by a ledger board and concrete piers, topped with the decking of your choice.

Attendees can learn how to plan and install their own style of railing design or learn to install lumber yard purchased composite railings which are already fabricated. Gain hands-on experience, and understanding of best practices for safety and compliance with current Building Codes.

**Instructor:** Don Dobres, Fine Home Construction

**Location BT:** Bergen County Technical Schools
200 Hackensack Avenue
Hackensack, NJ 07450
**Room 168**
**Hours:** 9:00 a.m.-12:00 p.m.

**Cancellations**
Bergen Makerspace reserves the right to cancel a course when registration is less than the minimum required. If the course is cancelled, tuition and fees will be refunded within 4-6 weeks. Students will be notified by phone or email. Note safety glasses are to be worn at all times while in all lab areas.

Please visit: bergenmakerspace.bergen.org for more program dates, times and locations.