



## Merit Badge College at Kettering (Flint) Event Class Catalog

### Event Contacts

Name	Title	Phone	Email
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Registration opens October 25, 2015  
Visit [www.scoutingevent.com?MBCKetterin](http://www.scoutingevent.com?MBCKetterin) to register



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MICHIGAN CROSSROADS COUNCIL



## Event Class Catalog

Merit Badge College at Kettering (Flint) at Kettering University

### Merit Badge College classes at Kettering (Scheduled Classes)

**MBCK100** 8:30-4 PM



#### Automotive Maintenance

Modern automobiles are important to many aspects of American life. Those who service automobiles must understand each principle, and how these principles interact to provide smooth, efficient performance. Owners of cars also benefit by understanding how their vehicles operate. This enables them to understand why certain periodic maintenance is required to keep their vehicles in tip-top shape.

**Maximum number of participants:** 16

**Prerequisites:** Pre-requisites: 2 all, 4b, 8d, 10c, 11, 12

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**MBCK111** 8:30-4 PM



#### Digital Technology

**Maximum number of participants:** 16

**Prerequisites:**

Pre-requisites:

1. Earn your Cyber Chip

<http://www.netsmartz.org/scouting>

2. Merit Badge Pamphlet: Read and bring to Merit Badge College

3. Complete all requirements of the merit badge prior to event \*

4. Complete Merit Badge Workbook downloaded from

[http://meritbadge.org/wiki/index.php/Merit\\_Badge\\_Worksheets](http://meritbadge.org/wiki/index.php/Merit_Badge_Worksheets)

5. Bring a USB thumb drive containing the files and outputs of requirements

Additional information:

Scouts participating should

â€œ come prepared to participate

â€œ have fun

â€œ learn about digital technology

If the Scout decides to complete requirement 6d, they will need to send a email to me for approval. My email address is [wnicolai@chartermi.net](mailto:wnicolai@chartermi.net). The subject line needs to state: â€œAPPROVAL REQUIRED-DIGITAL TECHNOLOGY MERIT BADGEâ€œ. All email correspondence must be received by 5:00 PM on Sunday, 29 November 2015.

\* This year, Iâ€™m requiring that the Scout complete all requirements of the Digital Technology Merit Badge prior to the event. The morning of the event will consist of various activities including labs and discussions. The afternoon is dedicated to individual working session and to complete requirements if necessary. During these sessions, you will have one on one time with a counselor for checkout/merit badge signoff.

Scouts who do not complete all requirements prior to the event may still participate, but there is a likelihood that they will need to schedule additional meetings with me after the Merit Badge College to complete the merit badge.

Yours in Scouting,

Bill Nicolai

H: 810 653-3783

## Event Class Catalog

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**MBCK102** 8:30-4 PM



### Electricity

Electricity is a powerful and fascinating force of nature. As early as 600 b.c., observers of the physical world suspected that electricity existed but did not have a name for it. In fact, real progress in unraveling the mystery of electricity has come only within the last 250 years.

**Maximum number of participants:** 16

**Prerequisites:** Bring the worksheets that can be downloaded from.

[http://meritbadge.org/wiki/index.php/Merit\\_Badge\\_Worksheets](http://meritbadge.org/wiki/index.php/Merit_Badge_Worksheets)

2. Complete an electrical home safety inspection of your home using the checklist found in the pamphlet.

8. On a floor plan of a room in your home, make a wiring diagram of the lights, switches, and outlets. Show which fuse or circuit breaker protects each one

9a. Read an electric meter and, using your family's electric bill, determine the energy cost from the meter readings.

**MBCK103** 8:30-4 PM



### Electronics

Electronics is the science that controls the behavior of electrons so that some type of useful function is performed. Today, electronics is a fast-changing and exciting field.

**Additional Fee:** \$3.00

**Maximum number of participants:** 16

**Prerequisites:** Merit Badge Pamphlet: Purchase / Read / Bring to event.

Bring to event Merit Badge Workbook downloaded from

[http://meritbadge.org/wiki/index.php/Merit\\_Badge\\_Worksheets](http://meritbadge.org/wiki/index.php/Merit_Badge_Worksheets)

Bring to the event safety glasses if you have them. There is only a limited supply available at the event.

Additional information:

Scouts participating should

• come prepared to participate

• have fun

• learn about electronics

Scouts will build / solder an electronics kit for requirement 4. There is an extra cost for the kit when registering for Electronics Merit Badge.

**MBCK104** 8:30-4 PM



### Energy

Saving, producing, and using energy wisely will be critical to America's future. If we are to leave future generations with a world in which they can live as well or better than we have, SCouts and other potential leaders of tomorrow must begin the hard work of understanding energy and the vital role it will play in the future.

**Maximum number of participants:** 16

**Prerequisites:** In order to get a complete sign off for the energy merit badge, the student must complete and bring the required items to the merit badge class:

1. Requirement 1, Part A. The scout can bring in a article from a magazine or if they covered the use or conservation of energy in school "bring in the homework.

2. Requirement 4, both A and B must be completed. The scout needs to bring in their written out audit and write down their answers to part b.

3. Requirement 5, Both A and B must be written out and brought in.

**MBCK105** 8:30-4 PM



### Model Design and Building

Model making, the art of creating copies of objects that are either smaller or larger than the objects they represent, is not only an enjoyable and educational hobby: it is widely used in the professional world for such things as creating special effects for movies, developing plans for buildings, and designing automobiles and airplanes.

**Maximum number of participants:** 16

**Prerequisites:** #4 and #5

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4. Do ONE of the following:

- Make an architectural model. Build a model of a house to a scale of 1/4" = 1'0" (50:1 metric). Discuss with your counselor the materials you intend to use, the amount of detail required, outside treatment (finish, shrubbery, walks, etc.), and color selections. After completing the model, present it to your counselor for approval.
- Build a structural model. Construct a model showing corner construction of a wood-frame building to a scale of 1/2" = 1'0" (8:1 metric). All structures shown must be to scale. Cardboard or flat sheet wood stock may be used for sheeting or flooring on the model. Review with your counselor the problems you encountered in gathering the materials and supporting the structure. Be able to name the parts of the floor and wall frames, such as intermediate girder, joist, bridging, subfloor, sill, sole plate, stud, and rafter.
- Make a process model. Build a model showing the plumbing system in your house. Show hot and cold water supply, all waste returns, and venting to a scale of 3/4" = 1'0" (15:1 metric). Talk to your counselor about how to begin his model, and present the scale and the materials you will use. After completion, present the model to your counselor, and be prepared to discuss any problems you had building this model.
- Complete a mechanical model. Build a model of a mechanical device that uses at least two of the six simple machines. After completing the model, present it to your counselor. Be prepared to discuss materials used, the machine's function, and any particular difficulty you might have encountered.
- Make an industrial model. Build a model of an actual passenger-carrying vehicle to a scale of 1" = 1'0" or 1/2" = 1'0" (10:1 or 25:1 metric). Take the dimensions of the vehicle and record the important dimensions. Draw the top, front, rear, and sides of the vehicle to scale. From your plans, build a model of the vehicle and finish it in a craftsmanlike manner. Discuss with your counselor the most difficult.

5. Build a special-effects model of a fantasy spacecraft that might appear in a Hollywood science-fiction movie. Determine an appropriate scale for your design—one that makes practical sense. Include a cockpit or control area, living space, storage unit, engineering spaces, and propulsion systems. As you plan and build your model, do the following:

- \* Study aircraft, submarines, and naval ships for design ideas.
- \* Arrange and assemble the parts.
- \* Sketch your completed model.
- \* Write a short essay in which you discuss your design, scale, and materials choices. Describe how you engineered your model and discuss any difficulties you encountered and what you learned.

**MBCK108** 8:30-4 PM



### Radio

Radio is a way to send information, or communications, from one place to another. Broadcasting includes both one-way radio (a person hears the information but can't reply) as well as two-way radio (where the same person can both receive and send messages).

**Maximum number of participants: 16**

**Prerequisites:** #9b BROADCAST RADIO

a.

- Prepare a program schedule for radio station "KBSA" of exactly one-half hour, including music, news, commercials, and proper station identification. Record your program on audiotape or in a digital audio format, using proper techniques.
- Listen to and properly log 15 broadcast stations. Determine the program format and target audience for five of these stations.
- Explain at least eight terms used in commercial broadcasting, such as segue, cut, fade, continuity, remote, Emergency Alert System, network, cue, dead air, PSA, and playlist. There are two attachments to use that are attached to this event.

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**MBCK109** 8:30-4 PM



### Robotics

Earning the Robotics merit badge requires a Scout to understand how robots move (actuators), sense the environment (sensors), and understand what to do (programming); he should demonstrate robot design in building a robot. You should help ensure that the Scout has sufficiently explored the field of robotics to understand what it is about, and to discover whether this may be a field of interest for him as a career.

**Maximum number of participants:** 16

**Prerequisites:** Pre-requisites:

\* Merit Badge Pamphlet: Purchase / Read / Bring to event.

\* Bring to event Merit Badge Workbook downloaded from [http://meritbadge.org/wiki/index.php/Merit\\_Badge\\_Worksheets](http://meritbadge.org/wiki/index.php/Merit_Badge_Worksheets)

Additional information:

Scouts participating should

• come prepared to participate

• have fun

• learn about robotics

**MBCK110** 8:30-4 PM



### Welding

The new Welding badge and pamphlet was released by BSA, and Scouts could begin earning the badge on February 24, 2012.

**Additional Fee:** \$2.00

**Maximum number of participants:** 16

**Prerequisites:** \* Merit Badge Pamphlet: Purchase / Read / Bring to event.

\* Bring the worksheets that can be downloaded from [http://meritbadge.org/wiki/index.php/Merit\\_Badge\\_Worksheets](http://meritbadge.org/wiki/index.php/Merit_Badge_Worksheets)

1. Do the following:

a. Explain to your counselor the hazards you are most likely to encounter while welding, and what you should do to anticipate, help prevent, mitigate, or lessen these hazards.

b. Show that you know first aid for, and the prevention of, injuries or illnesses that could occur while welding, including electrical shock, eye injuries, burns, fume inhalation, dizziness, skin irritation, and exposure to hazardous chemicals, including filler metals and welding gases.

3. Explain the terms welding, electrode, slag, and oxidation.

7. Do the following:

a. Find out about three career opportunities in the welding industry.

b. Discuss the role of the American Welding Society in the welding profession.

Additional information: To participate in the Welding Merit Badge, Scouts MUST present themselves properly dressed for welding in protective equipment, clothing, and footwear, as described in the Welding Merit Badge Pamphlet Requirement 2b. Scouts must bring with them, or wear, the following safety equipment:

1. Inexpensive leather work gloves

2. Old, long sleeve, shirt (not made of nylon, dacron, polyester, etc. synthetic fabrics)

3. Closed toe, hard shoes

4. Safety glasses (general purpose work or laboratory safety glasses will be worn under welding helmet)