

Boy Scout Merit Badge

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Outline

- Brief History of the Surveying Merit Badge
- How to Start a Merit Badge Program
- How to become a Merit Badge Counselor
- Merit Badge Requirements
- Tips and Tricks from previous programs
- Other Related Merit Badges



History of Boy Scouts

- 1910 Boy Scouts of America founded
- 1911 First BSA Handbook is published
- 57 Merit Badges in the first Handbook
- Surveying was in the first Handbook



Merit Badges

- 57 Merit Badges in 1911
- Since 1911 there have been 221 different Merit Badges
- Currently there are 119 Merit Badges
- Of the original 57 Merit Badges only 27 remain



Why Start a Merit Badge Program?

- Exposes young men to Surveying
- Helps to motivate the “next generation” of Surveyors
- Reaches a good group of potential surveyors, young men who are typically interested in the outdoors and motivated
- Provides a positive image of surveyors



How to Start a Program

- Become a counselor
- Begin planning a program
- 3 ways to proceed
 - Find a troop/group of interested Scouts
 - Announce a planned program and date to the council and get scouts to sign up on their own
 - Attend a council sponsored merit badge event such as a merit badge clinic or scout camp



How to Start

- Become a Merit Badge Counselor
 - 2 different ways
- Through a Local Troop
- Through a Local Council



Application Process

- Filling out and returning the form
- Statement of qualifications
- Background check
- Affiliation with Troop or Council
- Name listed as Merit Badge Counselor
 - Individual Scouts or Units may now seek you out



Getting Started

- Decide where and when the event will be held
- Choose to work with small groups of scouts on your own or as a larger event
- Arrange for additional surveyors as volunteers if planning to work with a large group of scouts
- Contact Local Scout office



Opportunities

- Troop Meetings
- Troop Campouts
- Camporees
- Merit Badge Colleges
- Summer Camps
- Merit Badge Clinics



Responsibilities

- “Follow the requirements of the merit badge, making no deletions or additions, ensuring that all advancement standards are fair and uniform for all Scouts”
- “Have two or more Scouts present at all instructional sessions.”



Who are we Teaching?

- Boy Scouts – boys between 10 and 18 years old
- 5th Grade through Seniors in High School
- May have poor math skills
- May have short attention spans



What do we need?

- Surveying Merit Badge Pamphlet
- Surveying Equipment
 - Total Station
 - Optical Level
 - Tripods
 - Tape
 - Field Books
 - Rods



What do we need?

- Drafting supplies
 - Graph Paper
 - Scales
 - Protractors
 - Triangles
 - Pencils
 - Calculators



Where ?

- Need space for Surveying and cover for Drafting
- Possible Locations
 - Scout Camps
 - City/County Parks
 - Church



Class Size

- Must have at least two Scouts
- No more than five Scouts
- Multiple groups of 3-4 Scouts seem to work well



What do we teach?

- 8 Requirements
- Field and office tasks
- First Aid
- Discussions with a Licensed Surveyor
- Different technologies used by Surveyors



Badge Requirements

- 1) Show that you know first aid for the types of injuries that could occur while surveying, including cuts, scratches, snakebite, insect stings, tick bites, heat and cold reactions, and dehydration. Explain to your counselor why a surveyor should be able to identify the poisonous plants and poisonous animals that are found in your area.



Requirement #1

- Don't need to be an expert in First Aid
- Most Scouts already know these items
- This task can be accomplished by the Scouts prior to you meeting with them
- Consult the Merit Badge Manual for all necessary information



Badge Requirements

- 2) Find and mark the corners of a five-sided lot that has been laid out by your counselor to fit the land available. Set an instrument over each of the corners and record the angle turned between each line and the distance measured between each corner, as directed by your counselor. With the assistance of the counselor, compute the error of closure from the recorded notes. The error of closure must not be more than 5 feet. From the corners, take compass readings or turn angles to trees, shrubs, and rocks and measure to them. All measurements should be made using instruments, methods, and accuracies consistent with current technology.



Requirement #2

- One of the more time consuming requirements
- Groups of 2-4 Scouts with a Surveyor work well
- Need lots of guidance in the setup and use of equipment
- To conserve time consider having Surveyors set up Equipment and have Scouts assist in the operation
- Explain error of closure and do a simple calculation





Badge Requirements

3) From the field notes gathered for requirement 2, draw to scale a map of your survey. Submit a neatly drawn copy.





Requirement #3

- Need to explain how to draw to scale
- May need to explain the use of a scale and a protractor
- Consider grouping scouts together for this requirement



Badge Requirements

- 4) Write a metes and bounds description for the five-sided lot in requirement 2.



Requirement #4

- Type of description to use
- Depending on the age and ability of group azimuths and bearing may be explained and used
- For younger less experienced Scouts a description written by angles and distances will meet the requirement



Badge Requirements

- 5) Use one of the corner markers from requirement 2 as a benchmark with an assumed elevation of 100 feet. Using a level and rod, determine the elevation of the other four corner markers.





Requirement #5

- Teach how to read a level rod
- Explain how to keep level notes
- No requirement on closure like before
- Helps to have a Surveyor confirm the reading on the rod



Badge Requirements

- 6) Get a copy of the deed to your property, or a piece of property assigned by your counselor, from the local courthouse or title agency.



Requirement #6

- This requirement is best done by the Scouts on their own before meeting with you
- Deed can be obtained in person or via the internet
- When you meet with the Scouts you can discuss their experiences in obtaining the deed



Badge Requirements

- 7) Tell what GPS is; discuss with your counselor the importance of GPS and how it is changing the field of surveying.



Requirement #7

- Many of the Scouts have already used GPS for navigation purposes
- Discuss how survey GPS is different and the uses of GPS in the Surveying world



Badge Requirements

- 8) Discuss the importance of surveying with a licensed surveyor. Also discuss the various types of surveying and mapping, and applications of surveying technology to other fields. Discuss career opportunities in surveying and related fields. Discuss qualifications and preparation for such a career.



Requirement #8

- This is a good time to talk about the many opportunities that surveyors have
- Discuss education needed to be a surveyor and what classes they can begin to take in high school
- Explain the different ways you can be a licensed surveyor in Wisconsin
- Share your personal experiences



Past Experiences

- Two merit badge clinics were held this past year in the Madison area
 - The first involved an individual troop, it was held at the farm of one of the Scout's parents and 15 Scouts attended and received their merit badges
 - The second was part of a council merit badge Saturday held at a local Scout camp, 14 Scouts attended this session



Tips and Tricks

- Don't expect the local Boy Scout office to plan your event for you
- Best to plan an event and then invite the scouts
- Arrange to be part of a larger event
- Interest has been high in both of our programs, the classes were filled to capacity



Tips and Tricks

- Set out course to be Surveyed ahead of time
- Have scout leaders or parents on hand to assist with larger groups
- Have plenty of equipment on hand, and backups such as batteries
- Have a good mix of hands on and classroom time

































Resources

- www.scouting.org
- www.meritbadge.com
- Feel free to contact me about getting a program starting or who to contact at the Boy Scouts
– aschleicher@gmail.com



Related Merit Badges

- Orienteering
- Engineering
- Drafting
- Astronomy



Questions ?


