

# Bucoco Merit Badge Academy

## Master Prerequisites List

### **First Aid**

1. Demonstrate to your counselor that you have current knowledge of all first-aid requirements for Tenderfoot, Second Class, and First Class ranks.

### **Emergency Preparedness**

Complete First Aid merit badge

### **Robotics**

1. Safety. Do each of the following:
  - (a) Explain to your counselor the most likely hazards you may encounter while working with robots and what you should do to anticipate, mitigate and prevent, and respond to these hazards. Describe the appropriate safety gear and clothing that should be used when working with robotics.
  - (b) Discuss first aid and prevention for the types of injuries that could occur while participating in robotics activities and competitions, including cuts, eye injuries, and burns (chemical or heat).
2. Robotics Industry. Discuss the following with your counselor:
  - (a) The kinds of things robots can do and how robots are best used today.
  - (b) The similarities and differences between remote-control vehicles, telerobots, and autonomous robots.
  - (c) Three different methods robots can use to move themselves other than wheels or tracks. Describe when it would be appropriate to use each method.
3. General Knowledge. Discuss with your counselor three of the five major fields of robotics (human-robot interface, mobility, manipulation, programming, sensors) and their importance to robotics development. Discuss either the three fields as they relate to a single robot system OR talk about each field in general. Find pictures or at least one video to aid your discussion.
6. Competitions. Do ONE of the following.
  - (a) Attend a robotics competition and report to your counselor what you saw and learned about the competition and how teams are organized and managed.

(b) Learn about three youth robotics competitions. Tell your counselor about these, including the type of competition, time commitment, age of the participants, and how many teams are involved.

7. Careers. Name three career opportunities in robotics. Pick one and find out the education, training, and experience required for this profession. Discuss this with your counselor, and explain why this profession might interest you.

Note: It would be helpful if each scout uses the robotics merit badge workbook to document their research before coming to class.

### **Citizenship in Society**

1. Before beginning work on other requirements for this merit badge, research the following terms and explain to your counselor how you feel they relate to the Scout Oath and Scout Law: identities, diversity, equality, equity, inclusion, discrimination, ethical leadership, upstander.

### **Citizenship in the World**

7. Do TWO of the following (with your parent or guardian's permission) and share with your counselor what you have learned:

(a) Visit the web site of the U.S. State Department. Learn more about an issue you find interesting that is discussed on this web site.

(b) Visit the web site of an international news organization or foreign government, OR examine a foreign newspaper available at your local library, bookstore, or newsstand. Find a news story about a human right realized in the United States that is not recognized in another country.

(c) Visit with a student or Scout from another country and discuss the typical values, holidays, ethnic foods, and traditions practiced or enjoyed there.

(d) Attend a world Scout jamboree.

(e) Participate in or attend an international event in your area, such as an ethnic festival, concert, or play.

### **Communication**

3. Draft a 5 minute speech (it does not need to be a script; just an outline and/or ideas of what they would say in response to the topics) on any of the following topics of "how scouting impacts you and the community," "what scouting means to me," and/or "what do I want to be

when I grow up and why," In the past, I found scouts have trouble coming up with a topic so really these are suggestions. If they have something better, by all means great!

4. Interview someone they know and be prepared to discuss that individual as though they are being introduced.
5. Attend a public meeting (for proof, they can bring their notes or documents they got from the meeting)
7. (any one of the subsections) - Scout should be prepared to discuss what they did, and whether they got a response
8. Plan a troop activity; scout should bring their script, agenda, outline, etc. of what they did

## **Geocaching**

7. With your parent or guardian's permission\*, go to [www.geocaching.com](http://www.geocaching.com). Type in your city and state to locate public geocaches in your area. Share with your counselor the posted information about three of those geocaches. Then, pick one of the three and find the cache.

\*To fulfill this requirement, you will need to set up a free user account with [www.Geocaching.com](http://www.Geocaching.com). Before doing so, ask your parent for permission and help.

8. Do ONE of the following:

- (a) If a Cache to Eaglecode® series exists in your council, visit at least three of the locations in the series. Describe the projects that each cache you visit highlights, and explain how the Cache to Eaglecode® program helps share our Scouting service with the public.
- (b) Create a Scouting-related Travel Bug® that promotes one of the values of Scouting. "Release" your Travel Bug into a public geocache and, with your parent or guardian's permission, monitor its progress at [www.geocaching.com](http://www.geocaching.com) for 30 days. Keep a log, and share this with your counselor at the end of the 30-day period.
- (c) Set up and hide a public geocache, following the guidelines in the Geocaching merit badge pamphlet. Before doing so, share with your counselor a three-month maintenance plan for the geocache where you are personally responsible for those three months. After setting up the geocache, with your parent or guardian's permission, follow the logs online for 30 days and share them with your counselor. You must archive the geocache when you are no longer maintaining it.
- (d) Explain what Cache In Trash Out (CITO) means, and describe how you have practiced CITO at public geocaches or at a CITO event. Then, either create CITO containers to leave at public caches, or host a CITO event for your unit or for the public.

9. Plan a geohunt for a youth group such as your troop or a neighboring pack, at school, or your place of worship. Choose a theme, set up a course with at least four waypoints, teach the players how to use a GPS unit, and play the game. Tell your counselor about your experience and share the materials you used and developed for this event.

## **Archery**

Wear weather-appropriate clothing.

## **Fishing**

Prerequisites pending

## **Reptiles and Amphibians**

8. Do ONE of the following:

(a) Take custody of one or more reptiles or amphibians in a manner approved by your counselor. Maintain one or more reptiles or amphibians for at least a month. Record food accepted, eating methods, changes in coloration, shedding of skins, and general habits; or keep the eggs of a reptile from the time of laying until hatching; or keep the eggs of an amphibian from the time of laying until their transformation into tadpoles (frogs) or larvae (salamanders). Whichever you chose, keep records of and report to your counselor how you cared for your animal/eggs/larvae to include lighting, habitat, temperature and humidity maintenance and any veterinary care requirements. Unless you are the long-term owner, at the conclusion of this study, turn the animal(s) over to another responsible party approved by your counselor.

(b) Choose a reptile or amphibian that you can observe or foster at a local zoo, aquarium, nature center, local rescue, or other such exhibit (such as your classroom or school). Study the specimen weekly for a periods of three months. At each visit, sketch the specimen in its captive habitat and note any changes in its coloration, shedding of skins, and general habits and behavior. Discuss with your counselor how the animal you observed was cared for to include its housing and habitat, how the lighting, temperature, and humidity were maintained, and any veterinary care requirements. Find out, either from information you locate on your own or by talking to the caretaker, what this species eats and what are its native habitat and home range, preferred climate, average life expectancy, and natural predators. Also identify any human-caused threats to its population and any laws that protect the species and its habitat. After the observation period, share what you have learned with your counselor. COUNSELOR NOTE: It should not involve caring for a venomous reptile or amphibian (although if observed at a nature center with a safe habitat, that would be fine).

## **Digital Technology**

Prerequisites pending

## **Cooking**

2c. Track your daily level of activity and your daily caloric need based on your activity for five days. Then, based on the MyPlate food guide, discuss with your counselor an appropriate meal plan for yourself for one day .

4a. Using the MyPlate food guide or the current USDA nutrition model, plan menus for three full days of meals (three breakfasts, three lunches, and three dinners) plus one dessert. Your menus should include enough to feed yourself and at least one adult, keeping in mind any special needs (such as food allergies) and how you keep your foods safe and free from cross-contamination. List the equipment and utensils needed to prepare and serve these meals.

4b. Find recipes for each meal. Create a shopping list for your meals showing the amount of food needed to prepare for the number of people you will serve. Determine the cost for each meal.

5-(a) Using the MyPlate food guide or the current USDA nutrition model, plan a day of meals for trail hiking or backpacking that includes one breakfast, one lunch, one dinner, and one snack. These meals must consider weight, not require refrigeration and are to be consumed by three to five people (including you). List the equipment and utensils needed to prepare and serve these meals.

5-(b) Create a shopping list for your meals, showing the amount of food needed to prepare and serve each meal, and the cost for each meal.

6a. Using the MyPlate food guide or the current USDA nutrition model, plan a menu that includes four meals, one snack, and one dessert for your patrol (or a similar size group of up to eight youth, including you) on a camping trip. These four meals must include two breakfasts, one lunch, and one dinner. Additionally, you must plan one snack and one dessert. Your menus should include enough food for each person, keeping in mind any special needs (such as food allergies) and how you keep your foods safe and free from cross-contamination. List the equipment and utensils needed to prepare and serve these meals.

6b. Find or create recipes for the four meals, the snack, and the dessert you have planned. Adjust menu items in the recipes for the number to be served. Create a shopping list and budget to determine the per-person cost.

## **Rifle Shooting**

Students bring binoculars. Wear weather appropriate clothing

## **Space Exploration**

5. Do TWO of the following:

(a) Discuss with your counselor a robotic space exploration mission and a historic crewed mission. Tell about each mission's major discoveries, its importance, and what was learned from it about the planets, moons, or regions of space explored.

(b) Using articles from the internet, photographs and text, create a blog, website, or slide show about a current planetary mission or use magazine photographs, news clippings, and articles from the internet to make a scrapbook about a current planetary mission.

(c) Design a robotic mission to another planet, moon, comet, or asteroid that will return samples of its surface to Earth. Name the planet, moon, comet, or asteroid your spacecraft will visit. Show how your design will cope with the conditions of the environments of the planet, moon, comet, or asteroid.

### **Horsemanship**

All participants must fill out the [participant packet](#) for the stable facility and bring it with them to class.

For the second day of the class everyone is required to wear long pants (preferably jeans) and close-toed shoes with preferably with some form of heel. Helmets are provided by the stable.