

2010

SURVEYING PROGRAM OVERVIEW & WORKBOOK



STUHR MUSEUM

MERIT BADGE UNIVERSITY

OVERLAND TRAILS COUNCIL

7/31/2010

TABLE OF CONTENTS

PROGRAM OVERVIEW

MERIT BADGE REQUIREMENTS

*(PRE-REQUISITE REQUIREMENTS IN **BOLD RED UNDERLINED ITALICS**)*

WORKBOOK PART ONE

(COMPLETE BEFORE ATTENDING MBU)

WORKBOOK PART TWO

(WILL BE COMPLETED DURING CLASS)

ADDITIONAL RESOURCES

APPLICATION for MERIT BADGE

(MUST HAVE UNIT LEADER SIGNATURE PRIOR TO CLASS)



FEBRUARY 2010

Information in this booklet was accurate at the time of publishing.
Boy Scouts Requirements 2010, Copyrighted Boy Scouts of America
Program Overview & Workbook was reviewed by
MBU Staff/Committee.

SURVEYING PROGRAM OVERVIEW

COUNSELOR: tba

C/O: Overland Trails Council
PO Box 1361
Grand Island, NE 68802-1361

LOCATION: Stuhr Museum

TRANSPORTATION: N/A

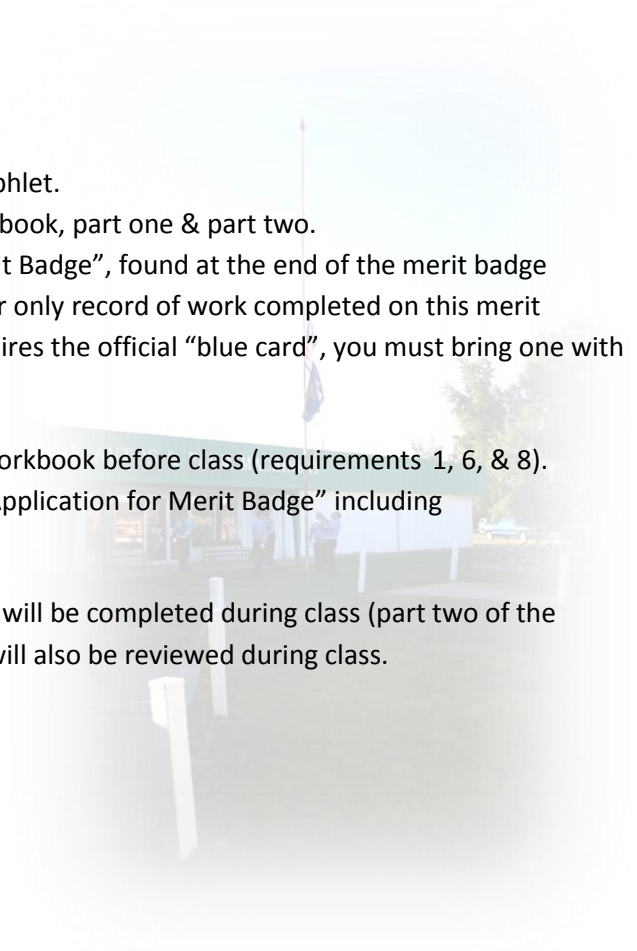
ADDITIONAL COSTS: None

CLASS SIZE: 7

BRING TO CLASS: Surveying merit badge pamphlet.
Surveying merit badge workbook, part one & part two.
Signed "Application for Merit Badge", found at the end of the merit badge workbook. (This will be your only record of work completed on this merit badge.) If your Council requires the official "blue card", you must bring one with you to class.

PRE-REQUISITES: Complete Part One of the workbook before class (requirements 1, 6, & 8).
Complete information on "Application for Merit Badge" including Scoutmasters signature.

CURRICULUM: Requirements 2, 3, 4, 5, & 7 will be completed during class (part two of the workbook). Pre-requisites will also be reviewed during class.



PRE-REQUISITE REQUIREMENTS ARE PRINTED IN **ITALICS &**
MUST BE COMPLETED BEFORE CLASS.

- 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.**
- 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. 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.
- From the field notes gathered for requirement 2, draw to scale a map of your survey. Submit a neatly drawn copy.
- Write a metes and bounds description for the five-sided lot in requirement 2.
- 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.
- 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.**
- Tell what GPS is; discuss with your counselor the importance of GPS and how it is changing the field of surveying.
- 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 the qualifications and preparation for such a career.**

SURVEYING WORKBOOK

PART ONE, PRE-REQUISITIES



Name _____
 Unit # _____ District _____
 Council _____

Part One of the workbook must be completed before class.

Bring the entire workbook (part one and part two) with you to class.

Also bring the "Application for Merit Badge" signed by your scoutmaster (included at the end of the workbook).

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.

First Aid for:

<i>Cuts and scratches</i>	
<i>Snakebite</i>	
<i>Insect bites</i>	
<i>Tick bites</i>	
<i>Heat reactions</i>	
<i>Cold reactions</i>	
<i>Dehydration</i>	

Why a surveyor should be able to identify poisonous plants and poisonous animals:

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.

Deed to your property:

	<i>Initial:</i>	<i>date:</i>
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Name _____

- 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 the qualifications and preparation for such a career.

Importance of surveying with a licensed surveyor:

Various types of surveying and mapping, and applications of surveying technology to other fields:

Career opportunities in surveying and related fields:

Qualifications and preparations for such a career:



SURVEYING WORKBOOK PART TWO, CLASS CURRICULUM

Name _____
Unit # _____ District _____
Council _____

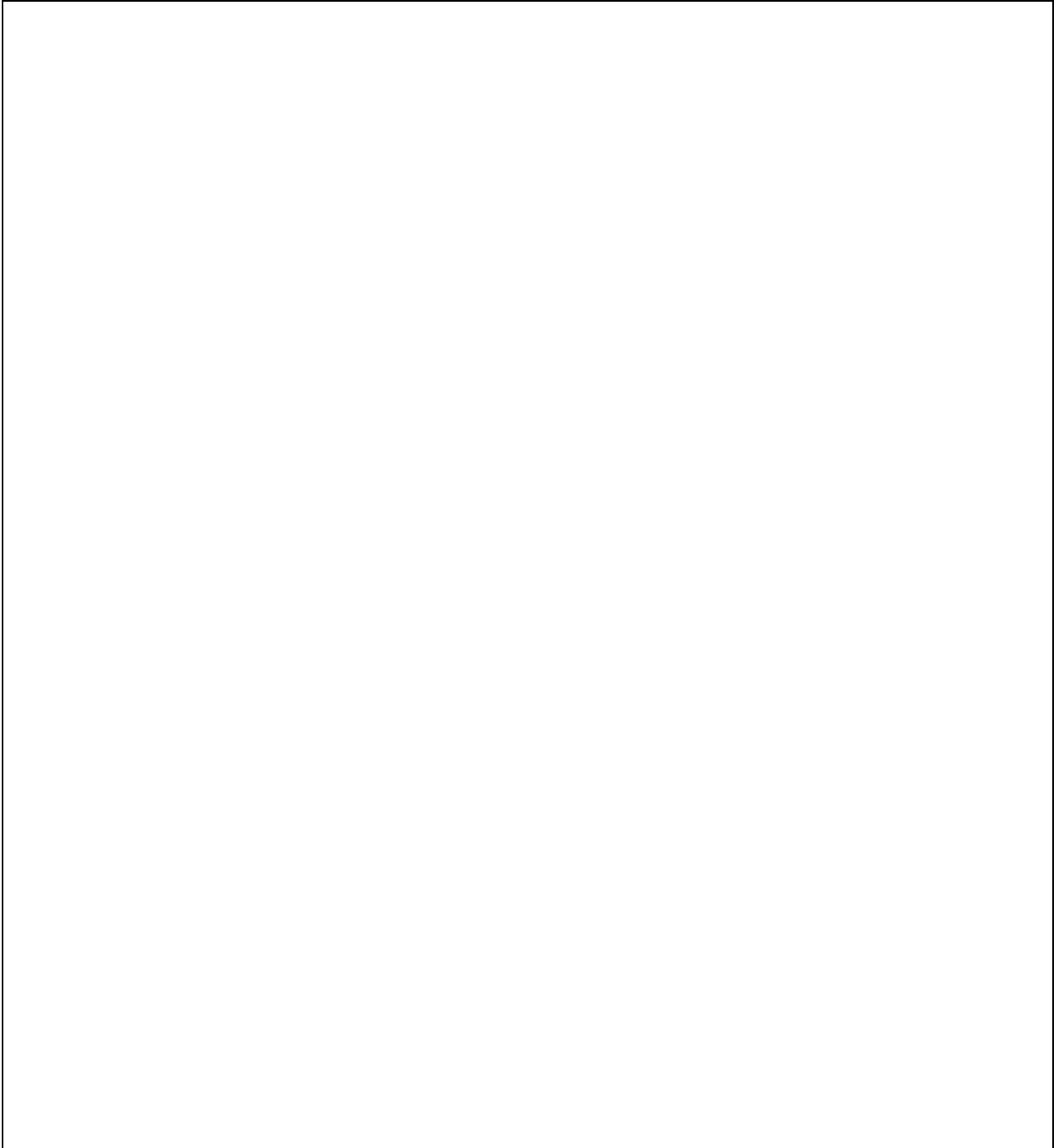
Part Two of the workbook will be completed during class.

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. 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.

Name _____

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

Scaled map of your survey:



Name _____

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

What is GPS:

Importance of GPS:

How is it changing the field of surveying:

ORGANIZATIONS and WEB SITES

(Whenever you go online, be sure you have your parent's permission first.)

American Congress on Surveying and Mapping

<http://www.acsm.net>

National Society of Professional Surveyors

<http://www.nspsmo.org>

Topozone.com

<http://www.topozone.com>

U.S. Geological Survey

<http://www.usgs.gov>

SURVEYING WORKBOOK

Notes



APPLICATION FOR MERIT BADGE

Name: _____

Address: _____

City: _____

State: _____

Is a registered _____ Boy Scout,
 _____ Varsity Scout,
 _____ Venturer,

of _____ No. _____
Troop, team, crew, ship

District: _____

Council: _____

MERIT BADGE UNIVERISTY

Merit Badge: **Surveying**

Counselor: _____

Address: Overland Trails Council

PO Box 1361

2808 O'Flannagan

Grand Island, NE 68802-1361

Phone: 308-382-3717

email: mbuotc@yahoo.com

and is qualified to begin working for this merit badge and has completed the following pre-requisite requirements:

SECTION A PRE-REQUISITE REQUIREMENTS

Requirement No. and letter	Date of Approval	Counselor Initial	Requirement No. and letter	Date of Approval	Counselor Initial
1					
6					
8					

The applicant has personally appeared before me and demonstrated to my satisfaction that he has met all pre-requisites requirements for the above stated merit badge and is ready to attend his assigned MBU class.

Signature of Unit Leader _____ Date _____

SECTION B APPLICANTS RECORD

Requirement No. and letter	Date of Approval	Counselor Initial	Requirement No. and letter	Date of Approval	Counselor Initial
2					
3					
4					
5					
7					

The applicant has personally appeared before me and demonstrated to my satisfaction that he has completed all requirements in **SECTION B** above for the

Merit Badge: **Surveying**

Name of Counselor: _____

Signature of Counselor _____ Date _____

SCOUT INSTRUCTIONS

- Complete your name, address, city, unit type & number, district, & council on the Application for Merit Badge
- Your unit leader must sign the Application for Merit Badge before attending class.
- All other information is already printed on the Application for Merit Badge; please make sure all information is correct.
- The merit badge counselor is registered & approved for this merit badge and is on the MBU Counselor's List.
- Read the merit badge pamphlet.
- Attend the merit badge class.
- Always meet with your counselor along with a buddy (a Scout, friend, or parent)
- Have your merit badge worksheet with you when you attend class.
- **If the merit badge pre-requisites are not completed before class, you will not be able to complete the merit badge during this weekend event, you will have to follow up with your Unit's Advancement Chair when you return home**
- **PLEASE BE AWARE THAT SOME COUNSELORS WILL NOT ALLOW YOU TO ATTEND THEIR CLASS WITHOUT PRE-REQUISITES COMPLETED—CLASS CURRICULUM IS DEPENDENT ON PRE-REQUISITE WORK BEING COMPLETED!**

COUNSELOR INSTRUCTIONS

- Never meet alone with a Scout.
- Verify all information & merit badge name on Application for Merit Badge is correct.
- Sign your name on the line at the bottom of **"SECTION B APPLICANTS RECORD"**.