

## Course Overview

In accordance with the National Association of State Boating Law Administrators (NASBLA) Boat Operations and Training (BOAT) Program, the following outline provides a course of instruction designed to provide maritime law enforcement officers the foundational knowledge, skills and ability for recovering evidence from GPS devices and preparing it for courtroom presentation. The class will take students through the history of the GPS system, describe the components of the system, and explain the basic concepts of how GPS works. Students will learn about the wide variety of devices that are on the market and the types of data the devices might hold. They will learn the best practices for securing a GPS for examination and the legal guidelines that must be followed. Finally, students will learn about the tools and software needed

Module	Subject Area
1	GPS Basics
2	Receiver Round-Up and Review
3	Device Seizure and Evidence Collection
4	Legal Considerations
5	Conducting a GPS Examination
6	Report Writing

to conduct a basic examination of a GPS, and learn how to present the results.

## Course Purpose

Modern GPS devices are capable of storing vast amounts of navigational data in the form of maps, track lines, waypoints, routes, and more. Some of this data is captured and stored automatically by the device whenever it is in use. Other data is manually entered by the GPS user. In the hands of a law enforcement investigator, the data can be used as critical evidence in a courtroom setting. It is the purpose of the course to provide the law enforcement officer with the skills necessary to extract and document that critical information in a proper, efficient and legal manner that preserves the evidence and provides the information necessary in effective investigations.

## Method of Delivery

The course is exportable and delivered to the location of the host agency and the venue of their choice, and uses subject matter expert lecture, Power Point presentation, case studies, class discussion and interaction, and practical exercises to deliver the information and assure student understanding. The instructor will emphasize student interaction and discussion throughout the course to ensure that the information taught is being understood and can be applied in a real-world environment.

*\* Students must bring a laptop to this training session and will be required to download GPS software to fully participate. NASBLA will provide "Flash Drives" which are loaded with the Student Manual and all the data needed to perform class exercises.*

## Criteria Performance Standard

Upon successful completion of the course, the student will demonstrate understanding and knowledge of each of the objectives outlined in each module through a compilation of measures including objective testing, scenario review, class discussion, and practical activities.

## Target Audience

This class is designed to provide federal, state, county, local and tribal maritime law enforcement officers who may be responsible for criminal or accident investigations in their jurisdictions.

## Course Requirements

Students will be required to bring a laptop that is capable of downloading GPS Manufacturer Provided software that will be provided in the class.



## Facility Requirements

In order to deliver the course, a classroom area will have to be provided that will seat at tables up to 40 people. Additionally, the classroom will require a projector a screen, a whiteboard and/or easel boards with paper, writing instruments, power cords, sound speakers, bathroom facilities, and dock space for vessels in close proximity to the classroom.

## Materials Provided

Each student will be provided a “Student Handbook” complete with every slide and some reference material they can use for future application. Additionally, students who would like copies of the modules will be allowed access to the “Instructor Portal” to facilitate the sharing of information. Within 30 days of completion of the course, students will be provided a certificate from NASBLA’s National Headquarters in Lexington, KY and will be entered into the national database of trained BOAT Crew Members.

## Course Cost

The fee for the one day/8 hour course is \$7,500 for up to 30 students, and covers all instructor costs (travel, per diem, fees, etc..) administrative costs (certificates, database entry, etc..) and materials (student handbooks, practical exercise materials, etc.)

## CONTACT INFORMATION:

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## Course Outline

### Module One: GPS Basics

- Learning Objectives: By the end of this module, the student will know the history of the Global Positioning System, be able to describe in simple terms how the system works, and explain mapping and coordinate systems.
- Enabling Objectives:
  - Discuss the history of the Global Positioning System
  - Identify the components of GPS
  - Describe how GPS works
  - Explain the coordinate systems
  - Define common GPS terms

### Module Two: Receiver Round-up and Data Review

- Learning Objectives: By the end of this module, students will be familiar with the wide variety of GPS devices on the market and be able to identify the primary types of data that may be found in the device's memory.
- Enabling Objectives:
  - Discuss the types of GPS receivers available in today's marketplace
  - Explain what track lines are and describe what types of data they contain
  - Define what waypoints are and discuss how they are important
  - Describe routes and how they are used
  - Discuss other sources of data that may be found in a GPS

### Module Three: Device Seizure and Evidence Collection

- Learning Objectives: By the end of this module, students will be able to explain the best practices for securing and documenting a scene involving electronic evidence, state which items should be seized, and describe what tools will be needed to conduct a GPS forensic examination.
- Enabling Objectives:
  - Describe how to document the scene and preserve evidence
  - Explain how and why a GPS should be powered down
  - State why the GPS should not be powered up prior to the forensic examination



- Describe the best practices for securing a GPS device
- Identify what other items should be seized with the GPS
- Summarize what tools will be needed for the GPS examination

## Module Four: Legal Considerations

- Learning Objectives: By the end of this module, students will be able to describe the case law which impacts GPS forensics, discuss the court's trend towards protecting privacy, and explain how the court is looking at evolving technology.
- Enabling Objectives:
  - Discuss Fourth Amendments limitations on GPS forensics
  - Describe how recent case law is affecting GPS forensics
  - Explain the best evidence rule



## Module Five: Conducting a GPS Examination

- Learning Objectives: By the end of this module students will be able to describe the preparations for a GPS forensic analysis, explain how to protect the integrity of GPS evidence, and demonstrate how to conduct a basic GPS examination.
- Enabling Objectives:
  - Discuss preparations for conducting a GPS examination
  - Explain how to prevent a GPS from acquiring satellite signals during the examination
  - Identify what options are available to power the GPS during an examination
  - Discuss data transfer and the steps to protect and preserve your evidence
  - Perform data recovery and analysis from Garmin GPS's using Garmin Basecamp and Google Earth
  - Perform data recovery and analysis from other devices using Google Earth

## Module Six: Report Writing

- Learning Objectives: By the end of this module, students will be able to explain the importance of writing detailed and well organized reports, as well as describe the elements of an effective GPS report.
- Enabling Objectives:
  - Review the importance of writing detailed and well organized reports
  - Discuss the best ways to illustrate the GPS data recovered during an investigation
  - Review sample reports