

GPS Lab - ALTERNATIVE ASSIGNMENT

The purpose of this lab is to introduce you to the world of Global Positioning Systems (GPS). GPS units are able to use satellite signals to find accurate locations on the surface of the earth. These units will detect the signals from multiple satellites, and by reading the time it takes for the multiple signals to arrive at the receiver, it is able to accurately locate the unit's position in three-dimensional space.

In lab we walked around Salem State and found latitude, longitude and altitudes for various locations as well as using our knowledge of how latitude and longitude changes to determine points of interest based on their lat/long coordinates. When the final location was discovered, we used weather instruments to determine the station data for Salem (temperature, wind speed and direction, cloud cover and type, etc.)

As an alternative to this activity it is possible to learn about GPS from other sources other than direct experience. You will need to complete the following research assignment in order to get credit for this lab (and to earn a passing grade in lab.)

ASSIGNMENT

Answer the following questions on GPS in a research paper format. In text citations are IMPORTANT but the paper does not require a separate bibliography.

- **What is GPS? Who invented it, when and why?**
- **How does GPS work? Explain Trilateration.**
- **What are some of the applications for using GPS?**
 - **In the military**
 - **In the government**
 - **In business**
 - **For private citizens**
- **What are some of the potential uses for GPS in the future?**

You will need to write a **600-750 word (approximately 2 ½ - 3 pages) essay** on the topic above.

Essay is to be:

- Single spaced
- 12 point type
- Times New Roman, Arial or Cambria font (or similar)
- No indent / Skip 1 line between paragraphs
- 1" margins all around
- SPELLING and GRAMMAR will count!!
 - Seek help in the Writing Center if you think you might need assistance.
- NAME and CLASS on top line of paper

DUE NEXT LAB MEETING DATE