

## **Dakota College at Bottineau Course Syllabus**

**Course Prefix/Number/Title:** ENVT 110 - Introduction to GPS

**Number of credits:** 2

**Course Description:**

The Global Positioning System (GPS) is a system of hardware, software, and procedures designed to support the capture, management, manipulation of spatially referenced data for solving complex planning and management problems. GPS applications use data collectors to locate positions and to guide navigation.

This course covers GPS applications related to recreation, navigation and engineering.

**Pre-/Co-requisites:** None

**Course Objectives:**

Successful completion of this course enables students to:

- . Demonstrate ability to use handheld GPS units.
- . Demonstrate ability to collect data in the field for use in computer applications.
- . Be able to understand and describe the range of applications of GPS
- . Discuss what GPS is in terms of its components and functionality
- . Identify the components of the GPS system and sources of data discrepancies
- . Plan, prepare, and carry out a GPS based data collection
- . Demonstrate ability to use a standard GPS unit.

**Instructor:** Cody Clemenson

**Office:** By appointment

**Office hours:** By appointment

**Phone:** 701-263-5772

**E-mail:** cody.s.clemenson@dakotacollege.edu

**Lecture/Lab Schedule:** Tuesdays 7-8:30pm

**Textbook(s):** NA

**Course Requirements:** Students are required to complete in class assignments, answer quiz questions, complete lab assignments where they collect data and answer questions regarding GPS applications in the real world.

**Grading Scale:** The grading scale is listed below.

Percentage Grade

90 - 100 A

80 - 89 B

70 - 79 C

60 - 69 D

< 60 F

**Tentative Grade Allocation:**

In class assignments ~ 200

In class quizzes ~100

Projects ~100

Test ~ 100

Total of ~500 possible points for the course.

**Tentative Course Outline:**

- An overview of Global Positioning Systems (GPS)
- GPS hardware, GPS terminology
- Data collection; sources, accuracy and error propagation
- GPS segments and structure
- Map projections, datums, coordinate systems, structures and scale
- Review of current GPS issues and events
- Integration of Global Positioning Systems (GPS) field measurements into GIS databases
- Legal issues concerning GPS data collection
- Data transfer/exchange from GPS to the computer
- GPS activities (Geocaching)

**Student E-mail Policy:**

Dakota College is increasingly dependent upon e-mail as an official form of communication. A student's campus assigned e-mail address will be the only one recognized by the campus for official mailings. The liability for missing or not acting upon important information conveyed via campus e-mail rests with the student.

**Classroom Policies:**

All students will respect the classroom environment which will allow for maximum interaction between students and the professor. All cell phones, iPods, and related technology are discouraged in the classroom at all times. Food and beverages are allowed in the classroom; make sure to clean up after.

**Academic Integrity:**

All students are expected to adhere to the highest standards of academic integrity. Dishonesty in the classroom and with assignments, quizzes and exams is a serious offense and is subject to disciplinary action by the instructor and college administration. For more information refer to the Student Handbook.

**Disabilities and Special Needs:**

Please inform the professor if any assistance is required due to disabilities or special need.