<center>**Dakota College at Bottineau Course Syllabus**</center>

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: Ken Cabarle

Office: NSC 113

Office hours: M, T, W 10:00-10:50, W, 2:00-2:50; by appointment

Office phone: 701-228-5493

E-mail: kenneth.cabarle@dakotacollege.edu

Lecture/Lab Schedule: 9:00 - 9:50 AM on M, W

Textbook(s):

   None

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 ~ 100

In class quizzes ~200

Projects ~200

Total of 600 possible points for the course.

Tentative Course Outline:
1. An overview of Global Positioning Systems (GPS)
2. GPS hardware
3. GPS terminology
4. Data collection; sources, accuracy and error propagation
5. GPS segments and structure
6. Map projections, datums, coordinate systems, structures and scale
7. Review of current GPS issues and events
8. Integration of Global Positioning Systems (GPS) field measurements into GIS databases
9. Legal issues concerning GPS data collection
10. Data transfer/exchange from GPS to the computer

Relationship to Campus Theme:
This course addresses the campus theme by incorporating GPS computer technologies, applied natural resource management and GPS data collection technologies that are used to develop natural resource management plans.

Classroom Policies
1) Cell phones should muted before entering the classroom.
2) Food and beverages are permitted in accordance with IVN classroom policy.
3) Be respectful of other students, technicians, instructors, and guests.

Academic Integrity
All students are expected to adhere to the highest standards of academic integrity. Dishonesty in the classroom or laboratory 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
If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact your instructor and Jan Nahinurk in the Learning Center (228-5479) as early as possible during the beginning of the semester.