Instructor Information:
Instructor(s): Fermin Glasper
Phone(s): (636) 734-8934
Office(s): N/A
E-mail(s): fglasper@icloud.com
Office Hours: TBA

Course Information:
Delivered and scheduled through the Outreach Credit Program

Prerequisites: LS 2400

Course Description:
From fundamental theory to practical application and advanced technologies, this class covers all aspects of GPS needed to understand and use GPS as a land surveyor including the basics of GPS technology, common hardware, surveying methods, survey design, planning and observing, real-time kinematics and DGPS. Prerequisites

Disability Statement:
If you have a physical, learning, sensory or psychological disability and require accommodations, please let me know as soon as possible. You will need to register with, and provide documentation of your disability to University Disability Support Services (UDSS) in SEO, room 330 Knight Hall.

Objectives/Outcomes/Standards:
The student will;
● Understand satellite signals, types of signals, and integer ambiguity
● Understand the error sources in GPS measurements
● Be familiar with the different types of measurements, RTK, fast static & static
● Proper RTK field procedures
● Be able to design a static network and be able to plan a GPS field survey
● Be able to site calibrate in the field and using office software
● Be able to Use OPUS and other post processing methods

Text(s) and Readings:
GPS for Land Surveyors, 3rd Edition, Jan Van Sickle

Course Requirements/Assignments:
There will be 26 exercises throughout the term which will comprise 80% of the final grade and a proctored on-line final exam which will comprise 20% of the final grade.

Grading Standards:
Grading will be based on A = 100% - 90%, B = 89% - 80%, C = 79% - 70%, D = 69% to 60%, F > 59%

Attendance/Participation Policy:
University sponsored absences are cleared through the Office of Student Life. Grading will be based on A = 100% - 90%, B = 89% - 80%, C = 79% - 70%, D = 69% to 60%, F > 59%
Academic Honesty:
The University of Wyoming is built upon a strong foundation of integrity, respect and trust. All members of the university community have a responsibility to be honest and the right to expect honesty from others. Any form of academic dishonesty is unacceptable to our community and will not be tolerated [from the University Catalog]. Teachers and students should report suspected violations of standards of academic honesty to the instructor, department head, or dean. Other University regulations can be found at: http://www.uwyo.edu/generalcounsel/new-regulatory-structure/index.html

Course Outline:

- How GPS Works
- The GPS Signal
- The Code and Carrier Wave
- The Integer Ambiguity
- Error Sources in GPS
- The GPS Segments
- Classifications and explanations of positioning solutions
- GPS Receivers and Methods
- RTK Setup and Procedures
- Post-processing/Static/Fast Static Setup and Methods
- RTK and Static Surveying Combined
- GPS Surveying Technique
- Designing & Planning a GPS Network
- Preparing for a GPS Field Survey
- Field Exercise Utilizing RTK Equipment
- Coordinate Systems and GPS Site Calibrations
- Attaching a Cartesian coordinate system to our GPS measurements and perform a GPS Site Calibration
- OPUS and other post-processing methods

The instructor may make changes to the syllabus as the course proceeds. If necessary, these changes will be announced in class. Substantive changes made to the syllabus shall be communicated in writing to the students.