Mobile GIS GEOG 701g
Fall '07 Syllabus
11-12:15, T/TH MS 222

Instructor: Dr. Jill S. Heaton
Office: Mackey Science 325A, or
G-Lab: Mackey Science 327
Telephone: 784-8056
E-mail: jheaton@gis.unr.edu

The goal of this course is to provide you with practical skills in the use of cutting edge Mobile GIS technologies. Technologies include software and hardware. This course assumes that you have the principles and fundamentals of GPS and GIS. In other words you have used GPS units before and have taken an introductory GIS class. This course is very much a hands on course. Though we will casually discuss topics such as datums, projections, coordinate systems, differential correction, accuracy, WAAS, etc. there will be no formal lectures per say.

Several different types of GPS equipment will be used throughout the course. In addition to traditional GPS handheld units, students will work with PDA/Handheld based GPS/ArcPad systems. Students will transfer field data to and from desktop systems, create and edit data in the field and integrate GPS data with GIS. You will also learn how to import spatial data into Google Earth

Each students will complete three exercises throughout the semester. A final project selecting one of the systems learned in class will be completed by each individual student and presented at the end of the semester.

Required Text:
None, see network for electronic documentation.

Grades derived from:

Assignments	
Recreational GPS	100
ArcPad Exercise	100
Pathfinder/TerraSync Exercise	100
Pendragon Forms Exercise	100
Group Project	200
CLASS TOTAL	**600**

Exercises will be graded based upon the following criteria:

1. **10pts**-Organization-Since we are dealing with mostly electronic documents it is essential that I am able to *easily* locate the necessary documents in your network folder space.
2. **40pts**-Form Sophistication-The forms you develop in your exercises should not be so complex that they are cumbersome or excessive. However, they should not be excessively simple either. I'm looking for creative forms, with judicious use of tools available for that particular software and a diversity of tool and data types.
3. **10pts**-Form Function-I suppose it goes without saying that your form must work.
4. **20pts**-Implementation-you must successfully collect data, download it from the unit and display it in some map format. This will require that you obtain additional data for

display purposes only. For example, roads, geology, vegetation, something that places your collected data in place context (i.e. roads, sidewalks, etc.) and topic context (i.e. vegetation, buildings, etc.).

5. **20pts**-Shapefiles-all data must be converted to shapefile format with accompanying completed metadata.

Grades

93-100% (4.0)	= A	90-92.9% (3.7)	= A-
87-89.9 (3.3)	= B+	83-86.9 (3.0)	= B
80-82.9 (2.7)	= B-	77-79.9 (2.3)	= C+
73-76.9 (2.0)	= C	70-73.9 (1.7)	= C-
67-69.9 (1.3)	= D+	63-66.9 (1.0)	= D
60-63.9 (0.7)	= D-	Below 60% (0.0)	= F

Attendance Policy: I expect you to attend every class. If you cannot attend then I expect to hear from you prior to class or if you cannot contact me before then shortly thereafter.

Mobile GIS GEOG 701g
Fall '07 Course Outline
11-12:15, T/Th MS 222

WEEK 1 28, 30 August	Introduction **Goals:** Course Overview, Lab login procedures, equipment, class times
WEEK 2 4, 6 September	Garmin 76s and Etrex, Garmin DNR Exercise **Goals:** Garmin Operation, Load Data, Collect Data, Garmin DNR
WEEK 3 11, 13 September	Process and Present GPS data **Goals:** Download Data, Import into ArcGIS, ArcGIS Editing, Datums/Projections and Map Making, Shp2Kml, Import into Google Earth
WEEK 4 18, 20 September	Introduction to GeoXM/XT and Pathfinder: **Goals:** Hardware and software introduction, Pathfinder Office Tutorial-create data dictionary, differential correction, viewing and editing, exporting, updating, batch processing
WEEK 5 25, 27 September	Introduction to TerraSync **Goals:** Software introduction, TerraSync Tutorial-preparing for data collection, data collection, processing the data, preparing for data update, update.
WEEK 6 2, 4 October	Pendragon Forms: Introduction and Building Custom Forms **Goals:** Designing and implementing a custom Pendragon form
WEEK 7 9, 11 October	Pendragon Forms: Individual project **Goals:** Identify individual projects. Design form, load, test and download data.
WEEK 8 16, 18 October	Pendragon Forms: Deploy Custom Pendragon Forms **Goals:** Implement form
WEEK 9 23, 25 October	Nevada Wilderness Field Project **Goals:** Project introduction, , Ricoh 500SE GPS-Enabled Camera, Data Needs Assessment, Product Needs Assessment, Make individual assignments
WEEK 10 30 October 01 November	Nevada Wilderness Field Project **Goals:** System design, load, test,
WEEK 11 6, 8 November	Nevada Wilderness Project **Goals:** Collect data
WEEK 12 13, 15 November	Nevada Wilderness Project **Goals:** Finish data collection and product development
WEEK 13 20, 22 November	Thanksgiving Week Nevada Wilderness Project **Goals:** Present results to NWP
WEEK 14 27, 29 November	Introduction to Dell Axim and ArcPad **Goals:** In class: Dell Axim Operation, Hotsync, Compile data for ArcPad, connecting GPS to Handheld, Navigation, Editing data on handheld
WEEK 15 4, 6 December	ArcPad Application Builder **Goals:** ArcPad Application Builder Exercise, Design custom form
WEEK 16 11 December 13 December	ArcPad: Implement Form **Goals:** Load custom form, test, load, deploy **Final: 7:30 – 9:30 am**