# NRES 777 - Geospatial Analysis for Natural Resources Management

**3 cr. Instructors:**

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**Office Hours**:  
(CNR 246; mdemchik@uwsp.edu):  
 M 2:00-3:00, T 2:00-4:00; open door policy

**Quick Note (right up front):**  You can use any of the stuff from this class for your own use (I recommend you archive it because you may want the info in a few years); however, NONE of the material from class is to be posted or otherwise electronically published.  I feel stupid putting this in the syllabus, but apparently notes from my classes are now on-line.  I do not want that.

**Description:**  
Learn how to use various geographic information system tools for natural resource management, such as ArcMap and Google Earth Pro. Prepare various forms of data for use in smartphones or tablets. Learn how to collect field data, upload and download data, and analyze these data using various data analysis tools.

**Competencies:**

Upon completion of this course, learners will be able to:
1. Collect data using various apps for cell phones
2. Export and process data for use within Geographic Information System (GIS) programs
3. Use various GIS applications to process data
4. Prepare and share kml, kmz, shp and other files
5. Prepare maps for presentation of data
6. Preform various types of geospatial analysis.

**Grading Policies:**

There are no exams in this class.  While there are several quizzes, the majority of the work in this class is based on "deliverables".  The quizzes to not count towards your grade at all; however, you are required to pass them at a 70% level or you cannot proceed to the next level in the course.  I know this sounds harsh, but, all trainings that I run are directed at meeting basic competencies.  This is a demonstration of that.

By deliverables, I mean specific projects or files that demonstrate attainment of specific competencies.  In order to complete this class, all activities must be completed and a score of at least 50% attained on all assignments and maps.  For assignments and maps scoring below 50%, the item will be returned with details regarding deficiencies.  You will be required to address these deficiencies and resubmit the assignment/map.  Deadlines for each assignment will be posted in canvass.  The first attempt at the assignment must be by the deadline.  The student will be allowed 5 calendar days to repair any returned assignments that scored below 50%.  Attainment of lower than 50% on the second attempt results in failure of the class.

**Main Due Dates:**

- Site Selection/Data Selection: Approved by me (1/31/20)….I can help, if you do not have one
- Full proposal regarding the analysis needs- Needs to be approved by me (2/10/20)
- Dataset assembled by 2/28/20
- Plan for how to process the data submitted by 3/17/20
- All data analysis and presentation is done, progress report submitted by 4/10/20
- Full portfolio of these items submitted by 4/17/20
- I will review and provide feedback (4/24/20)
- Final full report due (5/8/20)
- Final reflection due (5/13/20)

<u>Letter Grade Definitions</u>

92.50-100.00  A
89.50- 92.49  A-
86.50- 89.49  B+
etc.

Specific timeline for the course is still in development

Overall Map Rubric (Example)

| Category | Item | Perfect | Minor gaps | Missing some part | Missing many parts | Absent or Nearly So |
|---|---|---|---|---|---|---|
| Basic Cartography | North Arrow | 5 | 4 | 3 | 2 | 1 |
| | Scale bar (appropriate unit) | 5 | 4 | 3 | 2 | 1 |
| | Legend (all parts without extras) | 5 | 4 | 3 | 2 | 1 |
| | Title (stand alone) | 5 | 4 | 3 | 2 | 1 |
| | Creator and date | 5 | 4 | 3 | 2 | 1 |
| | Map will print correctly | 5 | 4 | 3 | 2 | 1 |
| | Map will view correctly in PDF | 5 | 4 | 3 | 2 | 1 |
| | Resolution (DPI) appropriate to use and file size | 5 | 4 | 3 | 2 | 1 |
| Data | Data is used appropriately | 5 | 4 | 3 | 2 | 1 |
| | Sources are appropriate | 5 | 4 | 3 | 2 | 1 |
| | Collection/representation is adequate | 5 | 4 | 3 | 2 | 1 |
| | Legend represents appropriate data sources | 5 | 4 | 3 | 2 | 1 |
| Analysis | Correct analysis | 5 | 4 | 3 | 2 | 1 |
| | Techniques are appropriate | 5 | 4 | 3 | 2 | 1 |
| | Can be replicated | 5 | 4 | 3 | 2 | 1 |
| | Statistics are reasonable and valid | 5 | 4 | 3 | 2 | 1 |
| Visuals | It is understood by viewer | 5 | 4 | 3 | 2 | 1 |
| | Color scheme is reasonable | 5 | 4 | 3 | 2 | 1 |
| | Attention to aesthetics | 5 | 4 | 3 | 2 | 1 |
| | Appropriate to intended use (online, for field collection, etc.) | 5 | 4 | 3 | 2 | 1 |