GIS 463.001
Server GIS
Spring 2019

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Course Description:
GIS 463 Server GIS. 3 semester hours. Learn the architecture of a GIS server and its different setups in a network. Students will explore different options and plan for a best practice in implementing the system. The end goal is to have a functioning GIS server setup for online data management and GIS mapping services.

Course Objectives:
Geographic Information System (GIS) is a computer system for the management, analysis, and display of geographic information. GIS includes a set of comprehensive tools for working with geographic data. This advanced special problem course integrates desktop GIS and online GPS into a centralized GIS server that will allow access from different platforms over the network. Students will investigate the different options in setting up the system through a virtual environment. The final product will be a functioning GIS server that allows for managing users, organizing data, and providing online data and mapping services.

Program Learning Outcomes:
GIS has become commonplace in a multitude of disciplines. This class applies geospatial technologies for GIS database management in a network setting. Issues of server and network architecture and the use of GIS for real-world applications are emphasized.

The course is designed to address the Program Learning Outcomes in understanding the competency of ecology, biology, policy, economics, and administration of forestry and environmental science at intermediate level, as well as understanding the competency of resource measurement, management and oral and written communication skills at advanced level.

Student Learning Outcomes:
Students will demonstrate competency in the fundamentals of GIS in natural resource management. They will learn not only the most common GIS software but also the necessary background to understand how the software package works. As the semester develops, students will understand basic concepts and principles of GIS, apply spatial analytical tools to address questions and solve problems in natural resources. They will also understand professional ethics and demonstrate competency in oral and written communication skills through project preparation and presentation.
Textbook:

Software:
Esri ArcGIS Enterprise, ArcGIS Desktop, ArcGIS Pro, and ArcGIS Online.

Course Outlines:
- ArcGIS Enterprise components (10%)
- Base ArcGIS Enterprise deployment (10%)
- Single-machine vs. multi-machine deployment (10%)
- ArcGIS Enterprise Builder (30%)
- Deployment patterns for ArcGIS Enterprise (10%)
- ArcGIS Server and Portal for ArcGIS (10%)
- ArcGIS Data Store and ArcGIS Web Adaptor (10%)
- Apps for ArcGIS Server (10%)

Grading Policy:
Server installation and database creation (70%)
Project presentation (10%)
Technical reports (20%)

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
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<tbody>
<tr>
<td><img src="image1.png" alt="Icon" /></td>
<td>The ArcGIS Enterprise user.</td>
</tr>
<tr>
<td><img src="image2.png" alt="Icon" /></td>
<td>A base ArcGIS Enterprise deployment, which can be configured with a single machine or with multiple machines as described in the base ArcGIS Enterprise deployment help topic.</td>
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<tr>
<td><img src="image3.png" alt="Icon" /></td>
<td>An additional ArcGIS Server site, licensed with a specific server role.</td>
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<tr>
<td><img src="image4.png" alt="Icon" /></td>
<td>An instance of ArcGIS Data Store registered with the deployment.</td>
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<tr>
<td><img src="image5.png" alt="Icon" /></td>
<td>An instance of ArcGIS Web Adaptor configured with the deployment.</td>
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