Introduction to Geographic Information Systems (GIS)

Course number: GIS4043/L
Credit Hours: 4
Prerequisites: None
Co-requisites: GIS3015/L Cartographic Skills
Term: Spring TERM A (January 6th – April 30th)

Instructors and Contact Information:
GIS 4043: Amber Bloechle, email: abloechle@uwf.edu phone, 850-857-6121
Graduate Teaching Assistant: Kathryn “Leah” Lewis, email: kll21@students.uwf.edu phone, 850-857-6121

Course Description: The purpose of this course is to teach the theory and practical use of Geographic Information Systems (GIS). Major components of the course include computer representation of geographic information, the construction of GIS databases, spatial analysis with GIS, application areas of GIS, and social and management issues that concern GIS. The lecture portion of the course is intended to provide the theoretical underpinnings of GIS while the lab portion of the course is intended to allow the student to put into practice those concepts and techniques described in lecture. At the end of the course, the student is expected to have an understanding of elementary GIS theory, working knowledge of ArcGIS, and the ability to develop GIS-based solutions to geographic modeling and analysis tasks.

Important UWF dates (drop/add, withdrawal, holidays): http://uwf.edu/uwfmain/calendar/

Course Format:
This is an online course and you will not meet in a traditional classroom. Instead, you will complete your lessons and communicate with your instructor and classmates using UWF gmail, course blog and eLearning website discussion board. All new students must activate their student account in ARGUS https://argus.uwf.edu/cp/home/displaylogin

eLearning: Access online through ARGUS or search elearning.uwf.edu

UWF Gmail: Access student Gmail online at gmail.students.uwf.edu
Course blog: [http://introgis.blogspot.com/](http://introgis.blogspot.com/)

**Lecture Section**

Students will:

- Define GIS and answer questions like:
  - What is the difference between G.I.Systems and G.I.Science?
  - How does GIS differ from cartography or other similar disciplines?

- Understand the history of GIS and how it has developed into what we have today.
- Understand the role of differing map projections and coordinate systems and learn why they are so important before analyzing GIS data.
- Distinguish between different types of data and measurement principles that are important before analyzing GIS data.
- Be introduced to the raster data model including usage, compression, and storage.
- Be introduced to the vector data model including usage, compression, and storage.
- Discuss the role of GIS in the wider decision-making / management process.

A secondary goal of this course is to become familiar with GIS software to assist in future classes such as Applications in GIS, GIS Programming, and Independent Study. We do use substantial ArcGIS in this course but the goal of the lab section is to introduce students to the software before the more challenging analysis courses such as Applications in GIS.

**Lab Section**

Students will:

- Become familiar with common ArcGIS 9.X software tools.
- Learn how to utilize ArcGIS Help.
- Begin simple data processing tasks and map creation.
- Complete common transformation of the differing data models.
- Utilize Geographic Information Systems for spatial analysis.
- Create, edit, and transform spatial data.

**Text Requirement:**

Supplemental Texts (NOT required):


Other Requirements:  Broadband internet access, UWF GIS eDesktop for GIS access, UWF student email account and Blogger.com account.

Software / Computer Skills:
This course has an expectation that all students will have access to a web-connected (Broadband/High Speed) computer capable of running Windows 98 (or greater), Internet Explorer (Version 5.0 or greater), and UWF’s eDesktop for GIS (software fee assessed). Students must understand the use of these software tools to be successful in this course. You will use Internet Explorer to access the course websites and submit many online assignments. Students are expected to have some basic computing skills. Students should be able to perform basic Windows operations: copy files, navigate directories, open programs, etc. It is up to you to acquire the skills to meet these requirements before enrolling in the course.

Basic Computer Skills You Should Know

Responsibilities of Online Learners:
As an online learner, you will be responsible for determining the pace and schedule of your work. You can complete the readings and activities at any times that are convenient to you as long as they are submitted before the assignment deadline (late work is not accepted). You must also take the online quizzes at the specified times.

Although you might be completing your work hundreds of miles from the University of West Florida, you should expect to have frequent contact with your instructor and classmates via e-mail, blog and the online discussion boards. All of your assignments will be submitted using these tools. You can also use the online discussion board to ask questions, offer comments, and obtain advice from both your instructor and your classmates.

Lesson Format:
For each lesson, you will visit the course website in eLearning to obtain your instructions. You will then complete your work by doing some or all of the tasks listed below.

- Read assigned materials.
- Visit recommended websites to read or obtain data.
• Complete activities and projects designed to apply what you have learned or deepen your understanding.
• Write an organized paragraph that summarizes your knowledge.
• Take an online quiz on the lesson topic.
• Submit all work for a lesson as specified on the course website and course blog.

Your instructor and/or grad-assistant will respond to your work a few days after the lesson due date.

Module/Lesson Availability and Due Dates:

All lessons will be posted at least two weeks prior to the due date and you may begin working on a lesson as soon as it is posted. A list of the modules, due dates and quizzes are shown in the Course Assignment Schedule document on the course website.

Please Note: Because students in this course are from multiple time zones it is impossible to honor the time table of each different zone. The schedule will apply to the U.S. Central Time zone (Pensacola, FL) regardless of the time zone you live in/work from. It is up to you to figure out the time difference for your specific location. If you plan to be away from your studies at any time or while on vacation, it is your responsibility to work ahead and be certain that you meet the posted deadlines.

Participation:

The participation component of this class will be assessed through graded discussion posts and overall involvement in the class. There will be at least three occasions where I will assign a graded discussion post. The required post may be a written summary pertaining to additional readings or written results from a weekly project. Posts must be well written using proper grammar, spelling, etc. On at least one occasion during the semester, I will randomly choose one of your graded discussion posts to grade.

Quiz and Weekly Project Policy:

Each weekly set of readings will include an associated quiz testing mastery of the material. The laboratory exercises or other project deliverables (maps, graphs, presentations, etc) are to be posted to personal blog or a specified elearning dropbox and graded by hand by instructor and/or TA. Quizzes are administered in eLearning course website. Quizzes can be taken at any time before the Wednesday due date of each Module (see course assignment schedule for specific dates).
To access quizzes: log on to eLearning, select Introduction to GIS and then select the Quizzes link once inside of the course. From here, a list of quizzes will appear (past, present, and future). Click on the appropriate quiz and select START. Make sure you are prepared before taking the quiz. Quizzes are timed based on length, so make note before you begin and notice the running clock.
**Tips:** You should take your quizzes on a reliable, freshly restarted computer with only one window open. This will minimize the possibility of computer crashes or freeze-ups during the quiz. After your quiz is complete, you may view results by going to the Quizzes link once again and selecting the appropriate quiz under the “Past Quizzes” section. Your grade will automatically be posted to the Grades link in most instances (hand-grading by your instructor may be necessary at times).

Quiz/Weekly Project problems will be handled in the following ways:
- You forget a quiz or are out-of-town: You can take the make-up quiz on April 28th.
- Your quiz is unsuccessful because of a computer problem or human error: You can take the make-up on April 28th.
- You exceed the time limit on a quiz: One minute of overtime is not penalized because the clock on the eLearning server starts before the quiz loads on your computer. One point will be deducted from your score for each additional overtime minute.
- Two or more of your quizzes are missed or unsuccessful: You can take a make-up quiz to replace the first quiz score. Other missed or unsuccessful quizzes will receive a score of zero.

**Final Project:** You will be assigned a Final Project that will summarize all the material that you will have been exposed to during the semester. This is a great introduction to more complex assignments that you will assigned during the certificate program. I will be providing some assistance with this project.

**Grading/Evaluation:**

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<thead>
<tr>
<th>Grading Scale</th>
<th>Orientation: 5%</th>
<th>Participation: 5%</th>
<th>Quizzes: 35%</th>
<th>Weekly Project Deliverables: 35%</th>
<th>Final Project: 20%</th>
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<td>A</td>
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<td>94-100%</td>
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<td>A-</td>
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Course Communication Policy:

Your instructor, Mrs. Bloechle, believes that communications about assignments, course policy and content should be available to all students in the course. It would be unfair for her to give advice by email or phone to one student and not to all others in the course. We will place all of these discussions in the open by using the "Helping Each Other" conference. Posting your questions in this conference will be your fastest method of obtaining assistance. Your instructor will read this conference at least once every 48 hours and respond to questions as needed. In many instances one of your classmates will know the answer and respond before your instructor's next visit to the website. This is how things should work and your instructor encourages communications among students. Any questions about course content or course policy that are sent to the instructor will be returned to the sender with instructions to post them in the "Helping Each Other" conference.

Questions about grades or matters of private concern should be sent to Mrs. Bloechle by email messages from your UWF email account. This allows your instructor to communicate grades and other private information with some assurance that she is communicating with the proper person. Questions about such matters sent from outside email accounts will be returned to the sender without answers.

Instead of holding office hours a couple times per week, your instructor will normally check and respond to the “Helping Each Other Conference” a couple times per day. You can be assured that she will respond no less than once every 48 hours unless previously announced. This should be adequate to take care of nearly all typical communications. If you have a situation where email communications are not possible you can call 850-857-6121. If she is not in when you call please leave a clearly spoken message on the answering machine with your phone number and some potential times for her to return your call.

Your Study Schedule:

If you are coming into this course thinking that online study is a way to "click your way to three credits" then you will be in for a rude awakening. Be prepared to spend a significant amount of time completing this course. Students in previous sessions of this course reported spending between 8 and 10 hours on the typical lesson. A few reported spending a bit more time challenging lessons.

When you take an on-campus course, you spend about 45 hours in the classroom over an entire semester. In addition, you should spend an even larger amount of time reading, going to the library, completing homework, writing, and studying for tests. Most students who have completed this online course report that they spent more time doing the work than they would have expected to spend in an on-campus course.
The key to success is self-motivation and perseverance. Set some special work hours every week and stick to them. Learning at home requires much greater dedication than learning on-campus. This course allows you great flexibility as long as you meet the inflexible deadlines.

You can begin working as soon as the first lesson is posted. Each week you must do enough work to complete one lesson. The amount of time needed to complete a lesson will vary depending upon the length of the lesson, your reading speed, and your writing ability.

Email Communications:

All UWF students are given an e-mail account that should be used for all electronic communications about academic matters. It is your responsibility to learn how to use your UWF/ArgoMail e-mail account and check it on a regular basis. You are responsible for any announcement or assignment that is sent to your UWF ArgoMail e-mail account. To assure that your academic information remains confidential, your instructor will not respond to requests for private information with a return address that is outside of the UWF e-mail system.

Course Website:

All of your assignments will be posted on the course website in eLearning. Completed assignments will be submitted online via eLearning and/or blog. Every student should plan for regular and frequent use of personal computers to access this website and complete assignments.

Program Goals:

This is a required course for completion of a certificate in GIS.

Expectations for Academic Conduct/Plagiarism Policy:

Academic Conduct Policy: (Web Format) | (PDF Format) | (RTF Format)

Plagiarism Policy: (Word Format) | (PDF Format) | (RTF Format)

Student Handbook: (PDF Format)

ASSISTANCE:

Students with special needs who require specific examination-related or other course-related accommodations should contact Barbara Fitzpatrick, Director of Disabled Student Services (DSS), dss@uwf.edu, (850) 474-2387. DSS will provide the student with a letter for the instructor that will specify any recommended accommodations.