

Course title	Former Course number	Section number
GIS Advanced	GIS 205	NA

Building or Remote	Meeting Time/Day	Room Number	Meeting Dates
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Instructor: Conrad Stanley

Contact information

Office hours:

Mon-Sat

Call for appointment

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E-mail: constanley@juno.com

Remote through "Breeze" by appointment

Description:

Introduction to advanced GIS techniques such as map algebra, raster manipulation, model builder, etc.

Prerequisites:

- **Introduction to GIS Basics -- GIS 105**

GIS, a computer information technology, is a demanding field of study. Familiarity with core IT concepts and skills such as directory structure, Internet usage, FTP, login, and hardware compatibility, among other things is expected. Students should anticipate an extensive investment of time and effort in order to be successful in this demanding IT discipline. Like a musician, a GIS operator must practice daily in addition to receiving direct instruction. As such, problem-based projects are a core component of the course.

Remote attendees:

ALL: It is strongly suggested that all learners attending remotely contact the instructor via e-mail and/or phone. The e-mail should include the student's full name, a telephone number that they can be reached at, and the e-mail account they will be using.

Fully and totally isolated (individual) learners --

All isolated learners must meet the following hardware/software requirements:

- 1.8 GHz processor/512 MB RAM
- 40 plus gigabyte hard drive
- NIC and Internet connectivity (768k+ recommended for video streaming)
- DVD -- R/CD -- RW
- soundcard
- administrator status for loading programs, software, and plug-ins.

The benefits of participating in "real-time" instruction cannot be overstated, and so it is required that students attend live lecture sessions. All fully isolated students are subject to these additional time and travel demands unless auditing the course:

- travel for quarterly tests proctored at an approved location such as a satellite campus library or other impartial entity- 4 days. Students must provide the contact information for the proctor to the GIS-instructor at least 2 days prior to testing.
- Students must purchase a compatible GPS unit for use in the course.
- Student will receive a service packet containing datasets, utilities, FTP and "Breeze" access instructions, etc.

It is the student's responsibility to make these arrangements and forward the contact information to the course instructor.

Modus operandi :

Communication in a conference environment is not intuitive for most students or instructors. Because of the many different types of students and the different classroom configurations, certain communication protocols should be observed.

- Off-site students should ascertain whether they have the most recent lecture, i.e. -- PowerPoint, and assignment, i.e. --A#, along with any related data sets that they will need for class. FTP transfers should be completed at least one hour before class.
- The FTP portal to CNCC -- GIS will close, except for special occasions, during class time so as to conserve bandwidth for the broadcast.
- Please try to arrive between five and 10 minutes early so that there will not be mass confusion at login.
- Do not download files, music, or check e-mail during class times.
- Generally, the first five to 10 minutes of class will be an open forum for asking questions and resolving issues.
- Typically after the open forum there will be a pop quiz. Remote lab attendees or isolated students should FTP their answers into the class drop folder immediately after the quiz.
- During lecture, please leave your mic-lock OFF. If you need to get my attention to ask a question, type into the chat window, "question". You may key the mic and ask to stop also, but I'm not sure how this will in fact affect the integrity of the broadcast.
- After lecture, I suggest leaving the microphone off and keying it to ask questions. If a dialog needs to transpire, then lock it on.

Communicating in a conference type environment is difficult at best and I hope that these few suggestions will keep class orderly and allow for everyone to benefit.

Objectives/core topics:

- Demonstrate basic programming literacy as it relates to a GIS operation and analysis. Discuss work flow charting, input/output, and operations. Demonstrate novice proficiency with model builder.
- Describe the characteristics and operations that can be performed upon the major GIS data types: raster, vector, and TIN. Contrast the strengths and weaknesses of the listed data types. Demonstrate novice proficiency with geodatabase information.

- Apply various techniques to import, transform, or otherwise generate GIS data; such as image analysis and reclassification of satellite imagery or digitizing legacy documents.
- Find solutions to real-world problems such as reservoir siltation or fire hazard danger through sound reasoning, thorough planning (e.g. -- flow charting), model construction, and new data synthesis.
- Demonstrate basic proficiency in 3-D manipulation and animation, [ArcGlobe](#) technologies, GPS pathfinder office, and Crystal reports software.

Required* and/or suggested materials:**

texts: (one required)

“GIS Fundamentals” 3rd ed. Bolstad (used in all GIS courses) online

email account

miscellaneous:

USB Mass storage device ***

three ring binder suggested for handouts

Spiral notebook, writing utensils, etc..***

Service packet – sent to you

Grading criteria:

Grades will be based upon quizzes, tests, assignments, and projects. Typical point values are:

Homework/short assignments	< 50 points
Quizzes	3 -- 10 points
Tests	100 points
Projects	50 -- 150 (each)

Your grade is based upon the percentage of total points. Grading scale categories:

>= 90 A

80 - < 90 B

70 - < 80 C

60 - < 70 D

< 60 F

- Quizzes are unannounced and expect two assignments per week. Tests and practicum assessments are based upon blocks of similar material and will be announced no less than one week in advance. These must be proctored!! Every assignment may not be explicitly checked by the instructor. If you're having difficulties seek assistance during office hours.

- Re: electronic submissions

Traditional and lab groups:

Backup all of your work to your personal folder lest it be erased or altered. Using ArcCatalog only, place the digital file, e.g. -- map document, shapefile, etc., into the class drop at path:

G:\PRJ_CRCLM\GIS_DROP”

Name the file using the following convention: "last name_assignment initials_205".

You cannot retrieve dropped files!!

Do not use punctuation or leave spaces in filenames or folder names.

Fully and totally isolated learners:

You will receive explicit instructions for submitting work via FTP at:
\\PRJ_CRCLM\GIS_DROP

- You are responsible for your own work. Cheating and plagiarism can result in dismissal from class and a grade of "F." for the course. Quizzes cannot be made up. Tests given during an unexcused absence must be made up before the next test and will incur a penalty of 10% per day. This policy applies to due- assignments also. Assignments due during excused absence are allowed to be submitted after you return. The submission period is based upon the number of days absent. A doctor's excuse will be required to submit work after three consecutive absences. In no event will assignments, tests, or projects be accepted after the next unit test.