I.   Basic Course Information

A. Course Number and: **GEOG 104: Introduction to Geographic Information Science**
Name

B. Section Number and
Meeting Time / Loc: # 5631 / TTh 1715-1835, Bldg 30, Room 252

C. Instructor: M. A. Goodman, M. A., Professor of Geography

D. Office: Room: Bldg 37, Rm 300A-3

E.   Hours   **M   1230-1345**
T   1230-1345
W   1230-1345
Th   1230-1345
(or by appointment)

F. Contact: (619) 644-7886 (office) mark.goodman@gcccd.edu

*** I M P O R T A N T   I N F O R M A T I O N ***

Class Website Address:

http://www.grossmont.edu/judd.curran/gis.htm

Students are required to have access to the Internet. Utilizing the class website on a regular basis will be an important component of your learning. If you need assistance in acquiring an Internet account with Grossmont College, contact your instructor in the first week of the semester.

II.   Civic Rights and Responsibilities
If you are not registered to vote, you can register at tinyurl.com/reg2voteonline. Choose the "vote-by-mail" option.

III. Course Materials

A. REQUIRED: <u>Getting to Know ArcGIS</u>, 3rd Edition updated for ArcGis 10, 2010, (with data CD) ESRI Press. ISBN: 9781589482609

B. RECOMMENDED: <u>Geographic Information Systems and Science</u>, 3rd Edition, 2011 by Longley, et al., Wiley Press. ISBN: 9780470721445

C. REQUIRED: One 3-GB (or larger) USB memory device

D. REQUIRED: One 3-ring binder to hold handouts, notes, etc. Pens, pencils, highlighters, and note paper.

IV. Catalog Description

3 units, 2 hours lecture, 3 hours laboratory

Fundamental concepts in geographic information systems including cartography, global positioning systems (GPS), remote sensing, and spatial statistics. Hands-on use of current, industry-standard computer technologies that enhance geographic analysis and improve decision-making abilities for solving geospatial problems in a wide range of applications.

Transfers to: CSU

Satisfies General Education for: Grossmont College A3.

Prerequisite: A "C" or "CR" grade or higher in Math 103 or Math 110, or equivalent

V. Course Objectives / Student Learning Outcomes

A student who successfully completes this course will be able to solve simple problems of a spatial nature using desktop Geographic Information Systems. In order to meet this objective, students will work on developing competency in the following areas:

A. Design and implement a research project to effectively evaluate a problem using GIS.

B. Develop the ability to collect, manipulate, classify, and interpret spatial data.

C. Demonstrate ability to apply appropriate application of GIS operations to analyze data and explain the various methods for effectively presenting results.

D. Utilize GPS in combination with GIS to collect, import, and display and/or store spatial data.

E. Develop spatial literacy through the use of computers, mathematical algorithms, and spatial statistics to analyze geospatial problems.

VI. Assignments and Points

A. On a 450-point scale, the following points will be allocated to the various assignments listed below.

B. 10 Take-home Exercises at 10 points each (100 points total) = 22.2% of grade

C. 4 Lab Exercises at 25 points each (100 points total) = 22.2% of grade

D. 4 Quizzes at 25 points each (100 points total) = 22.2% of grade

E. 1 GPS-GIS Exercise at 30 points (30 points total) = 6.7% of grade

F. 1 Final Project at 120 points (120 points total) = 26.7% of grade

VII. Grades

A. 90-100%	A	403-450 points
B. 80-89%	B	358-402 points
C. 70-79%	C	313-357 points (C or better for *P*/NP)
D. 60-69%	D	268-312 points
E. 0-59%	F	0-267 points

Please note that a plus-minus grading system will apply for this class. The percent scale for plus-minus grades is as follows:

100-97%	A+	89-87%	B+	79-77%	C+	69-60% D	59-0% F
96-94%	A	86-84%	B	76-70%	C		
93-90%	A-	83-80%	B-				

Also note that everything you do for a grade in this class is important in determining your final grade. At the end of the semester I simply add up the total number of points **you have earned** to calculate your grade for the course. This is a college-level, transferable course. Thus, there is a degree of academic rigor and a certain pace associated with this class. You must keep up with the course material at all times to do well and to learn. If you encounter problems with the course, come see me for assistance and guidance.

VIII. GIS Final Project

You are required to organize and complete a final project using ArcGIS revolving around a particular geographical topic/problem. You will display your project in poster format within ArcGIS, print the poster, and present you work to the class. A draft version of your project is due the week before final exams. More specific details will be provided to you later in the semester.

### IX.	Assignment and Quiz Make-ups

Assignments and quizzes cannot be made up unless the instructor is informed of your situation in a timely fashion (e.g. before the assignment/quiz is due or within 24 hours after the assignment/quiz is due). To schedule a make-up assignment/quiz, contact the instructor in person or by e-mail. Note that you are allowed to make up one assignment and one quiz only during the semester. There is no provision to make up a missed GIS Final Project.

### X.	In-class Requirements

Come to class prepared. This means you should always bring writing instruments, USB data storage devices, note paper, handouts, textbook (with data CD) to each and every class meeting. You are required to take notes during lecture. You will also need to complete assigned readings and exercises in advance of due dates. It is strongly recommended that you get to know your fellow classmates and form study groups.

Students are expected to exhibit and follow a high standard of classroom decorum. Disruptive and inappropriate behaviors in the classroom will not be tolerated. A student may be excluded from class whenever the student exhibits behavior which interferes with the educational process. You are responsible for reading and adhering to the rules outlined in the *"Student Conduct"* section of the most recent catalog.

### XI.	Academic Integrity

Cheating and plagiarism (using as one's own ideas, writings or materials of someone else without acknowledgement or permission) can result in any one of a variety of sanctions. Such penalties may range from an adjusted grade on the particular exam, paper, project, or assignment to a failing grade in the course. The instructor may also summarily suspend the student for the class meeting when the infraction occurs, as well as the following class meeting. For further clarification and information on these issues, please consult with your instructor or contact the office of the Assistant Dean of Student Affairs.

### XII.	Attendance and Drop Policy

When absences exceed the number of hours that a class meets a week, the instructor may drop the student from the class. It is the student's responsibility to discuss anticipated extensive absences with the instructor. Partial absences (late arrivals, long breaks, early exits, etc) will constitute a ½ day absence. No absence relieves the student of the responsibility of completing all work assigned. Consult the **Fall 2014 Schedule of Courses** for important dates regarding attendance and dropping.

If you have not yet officially added this class, please note: ***This class must be added before the last day to officially add a class or you will not be in this class!***

XIII. Academic Integrity

Cheating and plagiarism (using as one's own ideas, writings or materials of someone else without acknowledgement or permission) can result in any one of a variety of sanctions. Such penalties may range from an adjusted grade on the particular exam, paper, project, or assignment to a failing grade in the course. The instructor may also summarily suspend the student for the class meeting when the infraction occurs, as well as the following class meeting. For further clarification and information on these issues, please consult with your instructor or contact the office of the Assistant Dean of Student Affairs.

XIV. Accommodations for Students with Disabilities

Students with disabilities who may need accommodations in this class are encouraged to notify the instructor and contact Disabled Student Services & Programs (DSP&S) **early in the semester** so that reasonable accommodations may be implemented as soon as possible. Students may contact DSP&S in person in room 110 or by phone at (619)644-7112 (7119 is TTY for deaf).

XV. Supervised Tutoring Referral

Students are referred to enroll in the following supervised tutoring courses if the service indicated will assist them in achieving or reinforcing the learning objectives of this course:

IDS 198, Supervised Tutoring to receive tutoring in general computer applications in the Tech Mall

ENGL 198W, Supervised Tutoring for assistance in the English Writing Center (Room 70-119)

IDS 198T, Supervised Tutoring to receive one-on-one tutoring in academic subjects in the Tutoring Center (Room 70-229, phone number 644-7387)

To add any of these courses, students may obtain Add Codes at the Information/Registration Desk in the Tech Mall. All Supervised Tutoring courses are non-credit/non-fee. However, when a student registers for a supervised tutoring course, and has no other classes, the student will be charged the usual health fee.

XVI.   Tentative Schedule for Fall 2014

GEOG 104—Introduction to Geographic Information Science

THX = Take-home Exercise / LE = Lab Exercise / Q = Quiz

01	Aug 19, 21	GI Systems, Science, & Applications / History of GIS
02	Aug 26, 28	Cartography, Maps, Datums, & Coordinate Systems Geo-referenced Data (Vector vs. Raster) **THX1 due**
03	Sep 02, 04	Projection and Scale Generalization of Geographic Data **THX2 due / LE1**
04	Sep 09, 11	Tabular Data / Tables in ArcGIS **THX3 due / Q1**
05	Sep 16, 18	Data Acquisition **THX 4 due / LE2**
06	Sep 23, 25	GPS / GPS to GIS Transition **THX5 due**
07	Sep 30/Oct 02	Geo-referencing & Geo-processing **THX6 due**
08	Oct 07, 09	Geo-processing **THX7 due / LE3 / Q2**
09	Oct 14, 16	Geo-processing **THX8 due**
10	Oct 21, 23	Data Modeling: Spatial Analyst **THX9 due / LE4**
11	Oct 28, 30	Data Modeling: 3-D Analyst **THX10 / Q3**
12	Nov 04, 06	Data Modeling: Geo-coding
13	Nov 11, 13	**Veterans Day: no class meeting on Tuesday** **GPS to GIS Exercise on Thursday**
14	Nov 18, 20	Final Project Work **Q4**
15	Nov 25, 27	Final Project Work / Poster Development
16	Dec 02, 04	Final Project Work / 1st Draft Review
17	**Dec 09**	**Final Project Presentation, 1805-2005**