



HOUSTON COMMUNITY COLLEGE SOUTHWEST

Introduction to Geographical Information Systems (GIS) CRTG 1011

Date and Time of class:

Class CRN:

Instructor's Name:

School Site:

Phone number:

**HOUSTON COMMUNITY COLLEGE • SOUTHWEST
COURSE SYLLABUS**

**Introduction to Geography in Geographical Information Systems (GIS)
CRTG 1011**

Introduction to basic concepts of vector GIS using several industry specific software programs including nomenclature of cartography and geography.

COURSE OBJECTIVE

This course will allow the student to create and access data in the GIS using an appropriate software package. Develop and print maps with industry standard legends.

Upon successful completion of the course the student will be able to operate industry standard GIS packages, such as ArcView, on a personal computer, capture positional and attribute information with correct and accurate geographic referencing, convert geographic information among several coordinate systems, acquire GIS information from databases, existing maps, and the Internet and annotate output for finished maps, documents and reports.

GOALS

The SCANS competencies will be incorporated into specific assignments. These are as follows

- W1- Managing Resources - Manage time, money, material, space, staff.
- W2- Exhibiting Interpersonal Skills - Work on teams; teach others; Serve customers; Lead work teams; Negotiate with others; Work with different cultures.
- W3- Working with Information - Acquire/evaluate data; Organize/Maintain data; Interpret/communicate data; Process information with computers.
- W4- Applying Systems Knowledge - Understand systems; Monitor/correct systems performance; Design/improve systems.
- W5 - Using Technology- Select equipment and tools; Apply technology to specific tasks; Maintain/troubleshoot technologies.
- F1- Demonstrate Basic Skills - Reading; Writing; Arithmetic/mathematics; Speaking; Listening.
- F2- Demonstrating Thinking Skills - Creative thinking; Decision making; Problem solving; Thinking Logically; Seeing with the mind's eye.
- F3- Exhibiting Personal Qualities - Individual responsibility; Self-esteem; Sociability; Self-management; Integrity.

LEARNING OUTCOMES

Students will demonstrate mastery of these objectives by successfully completing all assignments. The student will be able to:

- Explain basic concepts of GIS and GPS including positioning on the earth, mapping the earth in spatial terms, and populating the GIS to access data
- Create and access data in the GIS using an appropriate software package; and develop and print maps with industry standard legends.
- Operate industry standard GIS packages on a personal computer

- Capture positional and attribute information with correct and accurate geographic referencing
- Convert geographic information among several coordinate systems
- Acquire GIS information from databases, existing maps, and the Internet
- Annotate output for finished maps, documents, and reports.

PREREQUISITE

No prior GIS experience is required. Students must have basic skills in the windows desktop computer environment (Creating Folders, copying data files, basic operations in Word and Excel)

REQUIRED TEXTBOOK

An Introduction to Geographical Information Systems by Ian Heywood, Sarah Cornelius and Steve Carver, Longman 1998

How to Lie with Maps, by Mark Monmonier, University of Chicago Press, 2nd, ed., 1997.

Getting to Know ArcView GIS, ESRI Press, 3rd. ed., 1999 (includes trial AV3.0 on CD)

COURSE REQUIREMENTS AND EXPECTATIONS

This is a 3-hour lecture, 3-hour lab per week course. Student is expected to complete all assignments.

ATTENDANCE

To fully benefit from the class, students are expected to attend all classes.

REQUIREMENTS FOR COURSE COMPLETION CERTIFICATE

To receive a Certificate of Completion and be awarded CEUs, students must meet the following requirements:

- Attend at least 80% of scheduled class time
- Complete the course lab demonstrating 80% mastery of course concepts or equivalent skills demonstration to instructor.

OPPORTUNITIES FOR STUDENT-FACULTY INTERACTION

Students are encouraged to ask questions and request clarification or guidance as needed during class. A question and answer period is always provided.

OPPORTUNITIES FOR CAREER EXPLORATION

Topics relevant to future employment and career exploration opportunities will be presented to the students, including certification and degree prospects.

OPPORTUNITIES FOR SUPPLEMENTAL INSTRUCTION

Students are informed of instructional aids and resources, including books, other publications, and web sites relevant to the course.

SPEAKER FORUM

At the discretion of the instructor, speakers may be invited to address the class on pertinent topics.

CELL PHONES AND PAGERS

Cell phones and pagers can be disruptive during class. Please turn these devices off or set to mute while in the classroom or student lab.

WITHDRAWAL AND REFUND POLICY

Please refer to your schedule for withdrawal and refund policy.

DISABILITY SERVICES

Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the Disability Services Office at the respective college at the beginning of each semester. Faculty is authorized to provide only the accommodations requested by the Disability Support Services Office. The Southwest College Disability Services Office phone number is 713-718-7909.

Course Content

The student will be able to:

- Explain basic concepts of GIS and GPS including positioning on the earth, mapping the earth in spatial terms, and populating the GIS to access data
- Create and access data in the GIS using an appropriate software package; and develop and print maps with industry standard legends.
- Operate industry standard GIS packages on a personal computer
- Capture positional and attribute information with correct and accurate geographic referencing
- Convert geographic information among several coordinate systems
- Acquire GIS information from databases, existing maps, and the Internet
- Annotate output for finished maps, documents, and reports.

Student Assessment

Students will be assigned various homework and lab projects and, using GIS technology, should be able to complete them with an average of 80% competency.