J. Sargeant Reynolds Community College
Course Content Summary

Course Prefix and Number: GIS 200   **Credits:** *3*

Course Title: Geographical Information Systems I

Course Description: Provides hands-on introduction to a dynamic desktop GIS (Geographic Information System). Introduces the components of a desktop GIS and their functionality. Emphasizes manipulation of data for the purpose of analysis, presentation, and decision-making. Prerequisite: ITE 115 or equivalent. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week.

General Course Purpose: This course is a requirement for students pursuing the Geospatial Information and Positioning Specialist Career Studies Certificate and students pursuing the Geospatial and Environmental Engineering Technologies specialization of the Architectural and Engineering Technology AAS degree. The course also serves as a technical elective for the Architectural/Industrial Design and Building Construction Management specializations of the Architectural and Engineering Technology AAS degree.

Course Prerequisites and Co-requisites:
Prerequisite: ITE 115 or equivalent

Course Objectives:
Upon completing the course, the student will be able to
a. Demonstrate why "spatial is special" (i.e., demonstrate a basic understanding of the inter-relationship of cartography, database management, data sources, and types);
b. Locate or collect, manipulate, and analyze spatial data;
c. Describe GIS trends in the broader context of information technology; and
d. Synthesize theory and skills of spatial analysis to inform a managerial decision.

Major Topics to Be Included:
a. Scale
b. Coordinate Systems and Projections
c. Datums
d. Thematic Mapping
e. Raster and Vector Data Models
f. Geodatabases
g. Basic Spatial Analysis
h. Geovisualization
i. Cartography
j. Digitization

Effective Date of Course Content Summary: August 13, 2013