

**Course number and name:** 470 CIS-3 Geographical Information System

**Credits and contact hours:** 3 crs.; 5hrs (2hrs theory, 2hrs Lab and 1 hr. Tutorial)

**Instructor's Name:** Dr. Mohd Khairi

**Text book, Title, Author, and Year:** Getting to know ArcGIS desktop by Ormsby, Napoleon, Burke, Groessler, and Bowden; 2010 ESRI PRESS

**a. Supplemental Materials:**

- Pete Bettinger, Michael G Wing, latest edition, Geographic Information Systems: Applications in Forestry and Natural Resources Management, McGraw-Hill Science/Engineering/Math
- Michael Zeiler, Modelling our world, ESRI print, 1999.
- <http://www.gis.com>
- <http://www.esri.com/industries/libraries/index.html>
- <http://www.gisportal.com>
- <http://www.giscafe.com>
- <http://www.openstreetmap.org>

**Specific Course Information**

- a. Catalog Description:** We begin by introducing the use of GIS, explain the use of current software & hardware. How to use the real-world geographical data (Spatial) sets and understanding of GIS data sets. Then student will learn how to analyze the GIS data. Student will be able to solve problems using GIS. In the lab students will practice adding elements to maps using GIS software.
- b. Pre-requisites or Co-requisites:** None
- c. Required, Elective, or Selected elective:** Required

**Specific Goals for the Course**

- a. Specific Outcomes of the Instruction:**
- Explain the general concepts of GIS, ArcGIS, "ArcMap" and "Openstreetmap"
  - Use Projections & Coordinate Systems
  - Analyze Vector and Mapping
  - Design Map Layouts and 3D Models
  - Create Feature Datasets
  - Create and Modify Tables
- b. Students Outcomes Addressed by the Course:** a, b, c, i

**Brief List of Topics to be Covered**

- Introduction to GIS
- Introduction to ArcGIS 10
- ArcMap Basics
- Projections & Coordinate Systems
- Creating Feature Datasets
- Working with tables
- Vector Analysis 1
- Vector Analysis 2

- Raster Analysis
- 3-d Modeling & Display
- Map Layouts