



# **ISD731 Geographic Information System (GIS) Data Management**

## **01 Introduction to ArcGIS**

# Course Details

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- ◆ **This is an elective course of the Information Systems Department (ISD)**
- ◆ **Students start with GIS concepts, continue to GIS use and finish by GIS data management**
- ◆ **A proceeding GIS course focusing on the use of this technology on the Web completes series of GIS technology courses in the ISD**

# Course Details

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## ◆ Materials Used:

- ◆ What is ArcGIS. by ESRI. 2004
- ◆ Introduction to GIS Using ArcGIS Desktop 10. University of Maryland. 2012
- ◆ Data Management in the GIS Environment. University of Maryland. 2012
- ◆ Building Geodatabases Tutorial. by ESRI. 2006

# Course Details

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## ◆ Instructor (Spring 1395)

◆ Pohanmal M Shuaib Zarinkhail

◆ [szarinkhail@ku.edu.af](mailto:szarinkhail@ku.edu.af) or [zarinkhail@gmail.com](mailto:zarinkhail@gmail.com)

## ◆ Schedule:

◆ Saturdays & Mondays (Theory & Practical)

## ◆ Classroom:

◆ Class Room #2 and Lab #2 in the second floor, Computer Science Building, Kabul University

# Course materials

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## ◆ Books

- ◆ Lecture
- ◆ Exercise

## ◆ CDs

- ◆ Course data

## ◆ Online course evaluation

- ◆ <http://surveys2.esri.com/s3/Esri-Training-Course-Evaluation-v2>

- ◆ Requires Course Identification Number

## ◆ Software evaluation

- ◆ E-mail enhancement requests to product teams
  - ◆ [desktop\\_comments@esri.com](mailto:desktop_comments@esri.com)



# Course objectives

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- ◆ Display spatial and tabular data
- ◆ Query data using
  - ◆ Attributes
  - ◆ Spatial relationships
- ◆ Edit spatial and attribute data
- ◆ Produce maps, reports, and graphs
- ◆ Ask questions and participate in discussions

# **Upon Completion of this Course Students will:**

- ◆ **Describe what GIS is**
- ◆ **Know the major GIS software available**
- ◆ **Understand where to find more information**
- ◆ **Explain the components and functionality of a GIS**
- ◆ **Understand the differences between GIS and other information systems**

# **Upon Completion of this Course Students will:**

- ◆ **Understand the nature of geographic information and explain how it is stored in a computer**
- ◆ **Know map projection and the types of GIS data structure**
- ◆ **Store, manage and use GIS data**
- ◆ **Conduct simple spatial analysis using GIS software**
- ◆ **Design and complete a GIS project from start to finish**



# Course timeline

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## Day 1

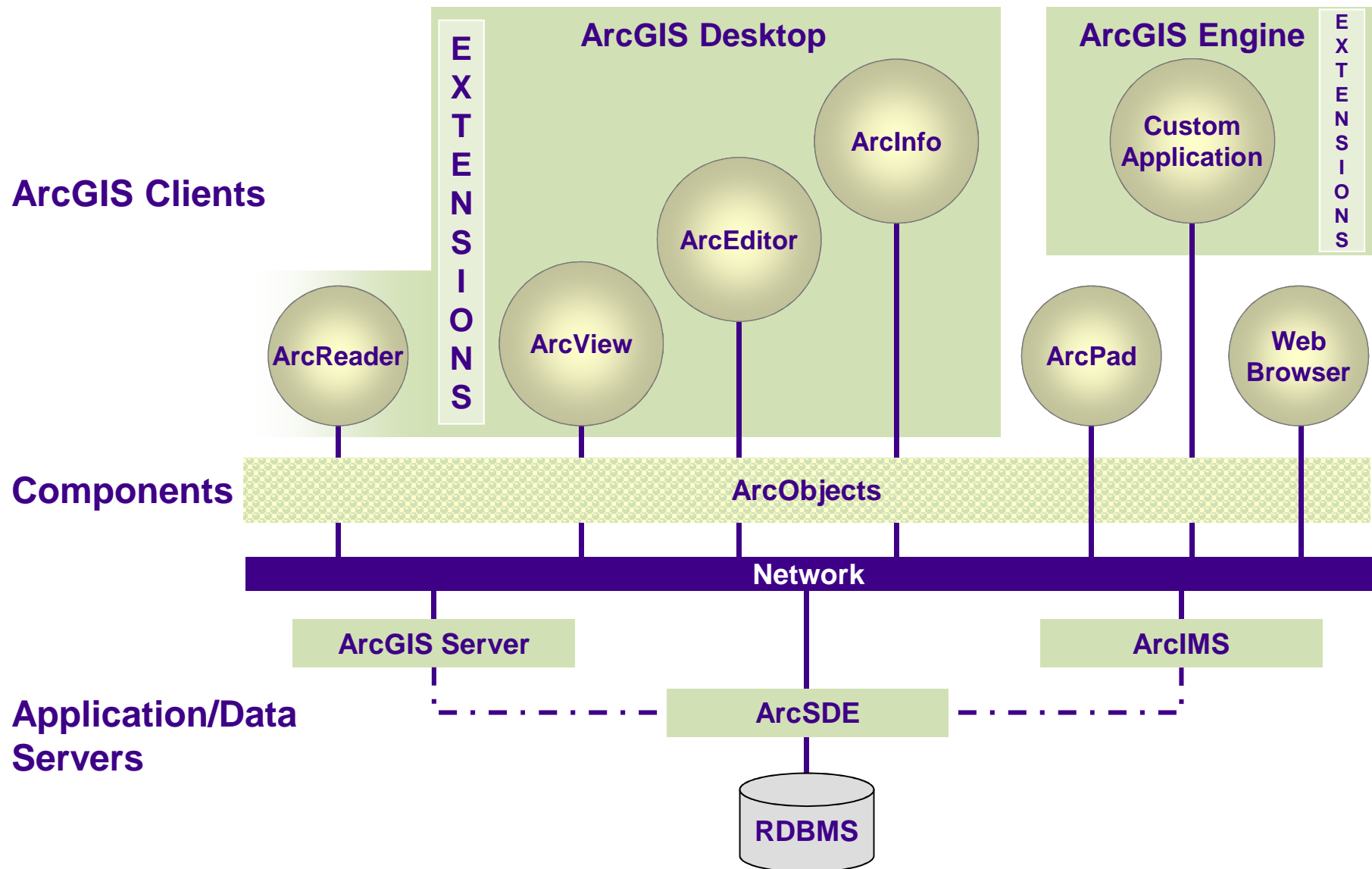
- ◆ Explore GIS concepts
- ◆ Display data
- ◆ Query your database
- ◆ Work with spatial data

## Day 2

- ◆ Work with tables
- ◆ Edit data
- ◆ Work with georeferenced data
- ◆ Present data



# What is ArcGIS?



# Learning paths

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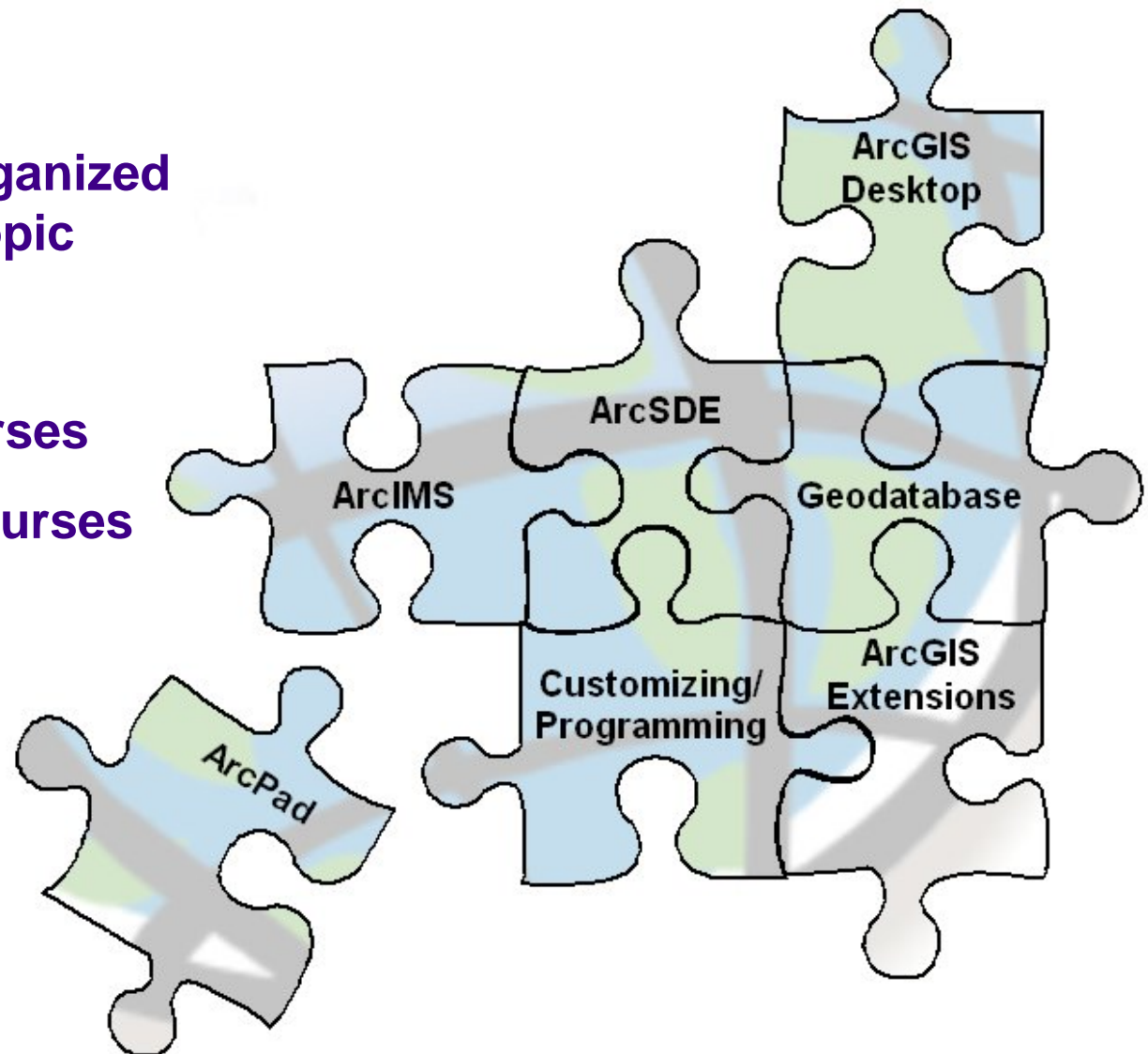
<http://www.esri.com/training/main/training-catalog>

## ◆ Learning Guide

- ◆ Learning paths organized by software and topic

## ◆ Learning options

- ◆ Instructor-led courses
- ◆ Virtual Campus courses
- ◆ Training seminars
- ◆ Web workshops



# Software support resources

- ◆ **ESRI Support Center**  
a gateway to resources

<http://support.esri.com>

- ◆ **Knowledge Base**

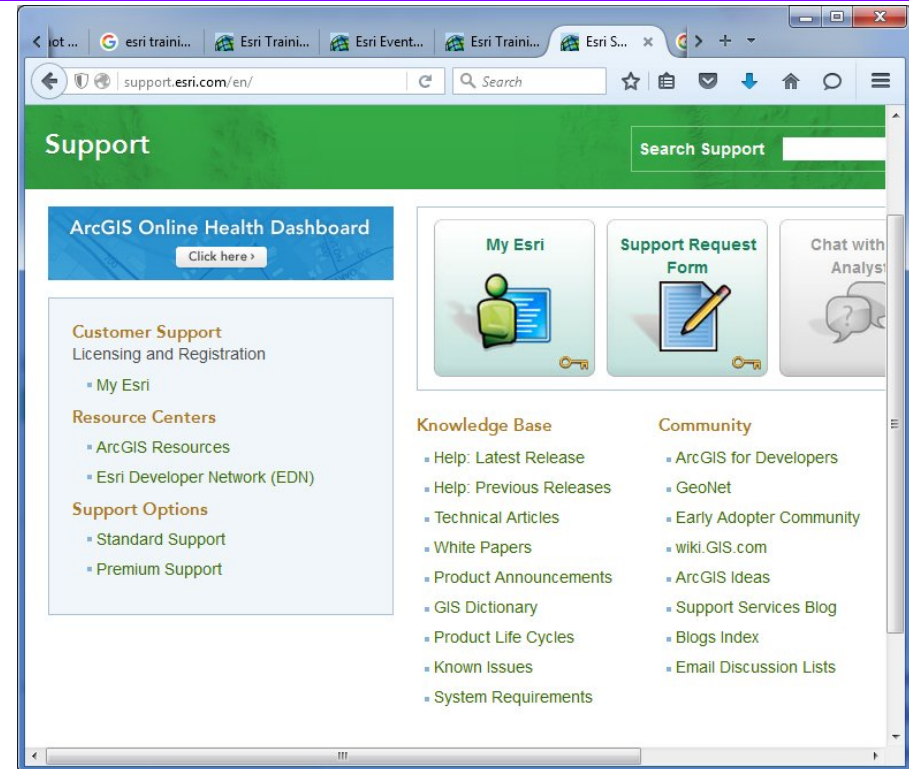
- ◆ Technical articles
- ◆ White papers
- ◆ System requirements

- ◆ **Downloads**

- ◆ Patches and service packs
- ◆ Data models
- ◆ ArcScripts

- ◆ **User Forums**

- ◆ Discussion groups
- ◆ E-mail lists



- ◆ **For Developers**

- ◆ Developer resources

- ◆ **Request ESRI Technical Support**

- ◆ Available to support subscribers

# Exercise typographic conventions

**Action**

**Descriptive text**

**Control name**

**Keyboard input**

**Warning**

**Question with hint**

**Note**

**STEP 1: CREATE A MAP IN ARCMAP**

ArcMap is the data visualization and analysis application for the ArcGIS Desktop software. In this step you will create a simple map of vector and raster data.

☒ Click *Start > Programs > ArcGIS > ArcMap*.

☒ In the *ArcMap* dialog, click *An existing map*.

**NOTE:** If you prefer ArcMap to automatically open a new, blank map when you start the application, check the *Do not show this dialog again* check box.

☐ Click *OK*.

**!** If you installed your class data to a location other than *c:\student*, use that path in the action below.

☐ In the *Open* dialog, for *File name*, type *c:\student\ex2.mxd*

Question 1: What other file types are available in the *Files of Type* dropdown list?  
Hint: Click the arrow to the right of the dropdown list to display its contents.

# Exercise 1 overview

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- ◆ Install the ArcGIS software to your computer
- ◆ Install the class database:
  - ◆ Create a folder named “Student” in drive C of your computer
  - ◆ Copy data to:
    - ◆ C:\Student\igis1\