CITY OF RAPID CITY

Growth Management Department
300 Sixth Street
Rapid City, South Dakota 57701-2724

Marcia Elkins, Director
Growth Management Director
city web: www.rcgov.org

Phone: 605-394-4120
Fax: 605-394-6636
e-mail: marcia.elkins@rcgov.org

MEMORANDUM

TO: Mayor Shaw
Rapid City Council

FROM: Marcia Elkins, Director
Growth Management Department

DATE: August 11, 2004

RE: Travel Request for Don Jarvinen
Introduction to Programming ArcObjects with VBA

The GIS Division, Growth Management Department, is requesting approval of the Travel Request for Don Jarvinen, GIS Analysis, to attend the ESRI training on Introduction to Programming ArcObjects with VBA in Broomfield, CO, September 20-24, 2004.

The training will provide instruction on the fundamentals of Visual Basic for Applications application development and the specifics of working with ArcObjects. The training will provide staff with the education necessary to continue support of the City-County wide Geographical Data Base.

Travel and training expenses for staff to attend the Introduction to Programming ArcObjects with VBA is not to exceed $2,957.25.

CITY OF RAPID CITY
TRAVEL REQUEST

Person requesting travel __Don Jarvinen__   Department __Growth Management #105__

I hereby request permission to travel for the following purpose: (Give specific nature of business and interest of the City to justify cost involved.)
   __Introduction to Programming ArcObjects with VBA__

List all other City employees, if any, making the trip for the same purpose: ___na___

Place of meeting or destination: __Broomfield CO__
Date of meeting __9/20/04 to 9/24/04__
Date trip to begin __9/19/04__   Date trip will end __9/25/04__
Method of transportation requested __city vehicle__

Estimated transportation cost 399.33x2.17¢ 4.99x2x5x.17¢	$ __144.25__
Meals	208.00
Lodging ___6___ days x $80	480.00
Other costs – description __Registration__	2125.00
Total estimated cost of trip	$ __2957.25__

Signed _____   Date __Marcm E__   Date __8/3/04__
     (person requesting travel)   (Department Head)

- -

When the cost of the trip will exceed $500, per employee, this section must be signed.

In accordance with the provisions of Rapid City ordinances and travel regulations, consent is hereby given for travel as requested in the foregoing application. Maximum cost of trip authorized is $ _____

Approved: _____ Date _____
                             Mayor

- -

When the cost of the trip will exceed $1,500, per event, Council approval is required.

Approved by Common Council on_____ (Date)

White copy – Mayor   **Yellow copy – Finance**   **Gold copy – Department copy**

Store | Contact Us | Careers

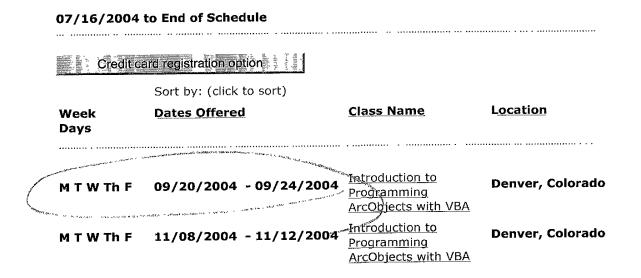| Home | Products | Services | Industries | User Showcase | Training & Events | Support | About ESRI |

ESRI Instructor-Led Training

How to Register

- Maps to Training Facilities
- Search for Another Course
- Training Main Page

Introduction to Programming ArcObjects with VBA

Denver, Colorado

07/16/2004 to End of Schedule

Credit card registration option

Sort by: (click to sort)

Week Days	Dates Offered	Class Name	Location
M T W Th F	09/20/2004 - 09/24/2004	Introduction to Programming ArcObjects with VBA	Denver, Colorado
M T W Th F	11/08/2004 - 11/12/2004	Introduction to Programming ArcObjects with VBA	Denver, Colorado

ESRI Web Sites: ☐ESRI Business Information Solutions ☐Geography Network ☐Distributors Worldwide

Home | Products | Services | Industries | User Showcase | Training & Events | Support | About ESRI

Contact Us | Site Map | PRIVACY | Copyright © ESRI
Send comments to: Site Manager. Last Updated: Friday, July 16, 2004

Goog

| Home | Products | Services | Industries | User Showcase | Training & Events | Support | About ESRI |

ESRI Instructor-Led Training

Introduction to Programming ArcObjects with VBA

Five days

Overview

Learn the fundamentals of Visual Basic for Applications (VBA) application development and the specifics of working with ArcObjects™. This course employs hands-on programming exercises to create usable code for many typical GIS programming tasks using the most commonly used ArcObjects classes. Participants learn to use VBA development tools including the Visual Basic (VBA) Editor, customize dialog box, and online help resources. Upon finishing the course, participants will have plenty of sample code from which they can build their own applications.

Audience

This course is for those who work with ArcGIS on a technical level but may be new to programming with VBA. It is ideal for users who want to increase productivity by extending ArcGIS applications and for developers who want to create custom applications using VBA.

Goals

- Customize the graphical user interface (GUI)
- Learn VBA fundamentals
- Learn OOP concepts
- Get help for writing code
- Navigate the ArcObjects OMD
- Program with ArcMap objects
- Program with ArcCatalog objects
- Program with geographic data, display, and geometry objects

Topics covered

VBA development environment: Customizing the user interface; Writing and debugging code

VB language fundamentals: VB syntax; Code storage; VB functions; Branching and looping; Creating user forms

OOP (Object Oriented Programming) concepts: Objects and classes; Class libraries; Methods, properties, and events

COM: Advantages of COM; Defining a COM class; Interface programming

Reading OMDs: Class relationships; Class types; Using diagrams to write code

Maps and layers: Accessing maps and layers; Adding a layer to ArcMap; Classifying and symbolizing layers

Working with data: Accessing data sets on disk; Creating new data; Editing data; Applying a domain to a geodatabase field

Geometry: Creating various types of geometry; Displaying geometry on the display; Storing geometry; Spatial operations; Spatial reference

Spatial and attribute selections: Accessing a user selection; Defining an attribute or spatial query; Processing a subset of records

Symbology and layer rendering: Creating new symbols and modifying their characteristics; Accessing different types of renderers; Applying custom symbols to a renderer

Layouts: Programmatically formatting a map layout; Adding elements; Defining symbols and colors for map elements; Accessing items from the ArcMap style gallery; Printing a layout

Creating tools: Getting user input; Transforming mouse input to map unit; Working with the display

Programming ArcObjects events: Outbound vs. inbound interfaces; Finding events on OMDs; Accessing an object's outbound interface

Using ArcObjects beyond VBA: An overview of creating your own custom components in VB; What the ArcGIS Engine Developer Kit and ArcGIS Server products can be used for

Prerequisites and recommendations

Participants should have taken *Introduction to ArcGIS I* or *What's New in ArcInfo 8.3*, or have equivalent knowledge. The previously offered course, *Introduction to ArcInfo using ArcMap, ArcCatalog, and ArcToolbox*, is also an adequate prerequisite. Participants must have a working knowledge of ArcMap and ArcCatalog.

It is mandatory that participants gain basic proficiency with VB/VBA before taking this course. Participants in this course should already know how to

- Declare and use variables
- Write function and sub-procedures
- Use conditional statements (If Then Else, Select Case)
- Work with loops (Do and While loops)
- Create forms, add controls, and write event procedures

Those without the requisite VB/VBA experience can gain proficiency before taking this

course in one of the following ways:

- Read and complete the exercises in an introductory VB/VBA text
- Take *Introduction to Visual Basic for ESRI Software* (Web-based course)
- Take a third party introductory VB/VBA course
- Read the first four chapters of the *Getting to Know ArcObjects* book by ESRI

Note: This course was formerly titled *Programming ArcInfo with Visual Basic for Applications*. Participants who took that course do not need to take this updated version.

Price

ESRI Site: $2,125 (per seat)
Client Site: $16,625 (per class; up to 12 participants)

When clients attend classes at our ESRI facilities, special pricing is available to the United States federal government and to qualifying educational institutions, libraries, and museums. Contact the ESRI Learning Center for eligibility requirements. Clients of the United States federal government are entitled to special pricing for onsite training classes.

View Schedule of Classes and Register

Outline of Topics
(click to expand) Show/Hide All

The VBA development environment
Visual Basic code: How, where, and when?
Using variables
Programming with class
COM before the storm
Understanding object model diagrams
Maps and layers
Data access and creation
Geometry and geoprocessing
Working with subsets and selections
Symbolizing elements and layers
Working with layout elements (optional)
Using tools
Data management
Application framework and events
ArcObjects beyond VBA