#### **APTECH 54B Course Outline as of Summer 2003**

## **CATALOG INFORMATION**

Dept and Nbr: APTECH 54B Title: ADVANCED ARCVIEW

Full Title: Advanced ArcView Last Reviewed: 10/7/2002

Units		Course Hours per Week		Nbr of Weeks	<b>Course Hours Total</b>	
Maximum	2.00	Lecture Scheduled	1.00	17	Lecture Scheduled	17.00
Minimum	2.00	Lab Scheduled	3.00	16	Lab Scheduled	51.00
		Contact DHR	0		Contact DHR	0
		Contact Total	4.00		Contact Total	68.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 34.00 Total Student Learning Hours: 102.00

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly: CEST399.54

#### **Catalog Description:**

An advanced course in the uses of Geographic Information Systems (GIS) using ArcView software. Topics covered are geo-coding, creating and editing shape files, customizing ArcView and Avenue, geo-processing and spatial analysis, tabular database management and advanced layout techniques.

#### **Prerequisites/Corequisites:**

Course Completion of APTECH 54A (or APTECH 54) OR Course Completion of GIS 40 (or GIS 50)

#### **Recommended Preparation:**

#### **Limits on Enrollment:**

#### **Schedule of Classes Information:**

Description: An advanced course in the use of Geographic Information Systems (GIS) using ArcView software. (Grade Only)

Prerequisites/Corequisites: Course Completion of APTECH 54A ( or APTECH 54) OR Course Completion of GIS 40 ( or GIS 50)

Recommended:

Limits on Enrollment:

Transfer Credit: CSU;

Repeatability: Two Repeats if Grade was D, F, NC, or NP

# **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

AS Degree: Area Effective: Inactive: CSU GE: Transfer Area Effective: Inactive:

**IGETC:** Transfer Area Effective: Inactive:

**CSU Transfer:** Transferable Effective: Summer 2003 Inactive: Fall 2011

**UC Transfer:** Effective: Inactive:

CID:

# Certificate/Major Applicable:

Not Certificate/Major Applicable

# **COURSE CONTENT**

# **Outcomes and Objectives:**

Upon completion of this course, students will be able to:

- 1. Create displays and query information using Avenue program language.
- 2. Edit, query, and analyze geographic and tabular data using advanced software techniques.
- 3. Create quality maps and charts using Seagate Crystal Reports.
- 4. Customize the software program language, for the needs of the user, using Avenue programming.
- 5. Identify the advanced skills needed to increase their hit rate while geo-coding.
- 6. Perform advanced spatial analysis using geoprocessing wizard.

## **Topics and Scope:**

- 1. Creating and editing shape files for different GIS projects.
- 2. Migrating different feature data from outside sources into ArcView for inclusion in GIS projects.
- 3. Applying different map projections to use in different GIS projects. Understand the distortion that each projection applies to maps.
- 4. Migrate different image data from outside sources into ArcView. Experiment with image data to obtain desired outcome.
- 5. Develop an understanding of ArcView extensions and spatial modeling using Avenue programming language.6. Perform Geo-processing on feature data in project. Query processed
- 6. Perform Geo-processing on feature data in project. Query processed data for information and location.
- 7. Advanced layout and chart building techniques
- 8. Connecting external database information to spatial data.
- 9. Customizing software using Avenue program language.

- 10. Adding scripts to software for spatial analysis problem solving.
- 11. Using GPS data in GIS project. Import GPS data into project.
- 12. Develop reports from project data and analysis.
- 13. Project presentations.

## **Assignment:**

- 1. Software review and help options.
- 2. Create and edit shape files.
- 3. Migrating feature data from outside sources into GIS projects.
- 4. Migrating image data from outside sources into GIS projects.
- 5. Use of Avenue programming language to develop extensions and spatial analysis applications.
- 6. Geo-processing use and applications.
- 7. Performing spatial analysis.
- 8. Connecting external data to project.
- 9. Customizing software.
- 10. Adding scripts to projects.
- 11. GPS and importing data into projects.
- 12. Developing reports from project data.
- 13. Producing quality layouts for presentation.
- 14. Project presentations.

#### Methods of Evaluation/Basis of Grade:

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Written homework, Description of individual projects

Writing 5 - 10%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Exams, Individual Projects, Creating maps & charts

Problem solving 10 - 20%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Customizing software;

Skill Demonstrations 20 - 40%

**Exams:** All forms of formal testing, other than skill performance exams.

Multiple choice, True/false, Matching items, Completion, Topical Quizzes; essay and final exams

Exams 30 - 50%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

Attendance, Group Evaluations, Discussion Participation

Other Category 5 - 10%

- Representative Textbooks and Materials:
  1. Getting to know ArcView, ESRI 2000
  2. ArcView Concepts and Methods,2000 David Theobold, Colorado State Univ.
  3. College shall provide all spatial and tabular data, software, hardware, facility and equipment.