**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 | Course Hours Total | |
|---|---|---|---|---|---|---|
| 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

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| 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:

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|---|---|---|---|---|---|
| **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 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.

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| Written homework, Description of individual projects | Writing<br>5 - 10% |

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

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| Exams, Individual Projects, Creating maps & charts | Problem solving<br>10 - 20% |

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

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| Customizing software; | Skill Demonstrations<br>20 - 40% |

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

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| Multiple choice, True/false, Matching items, Completion, Topical Quizzes;essay and final exams | Exams<br>30 - 50% |

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

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| Attendance, Group Evaluations, Discussion Participation | Other Category<br>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.