SYLLABUS

DATE OF LAST REVIEW:	03/2017
CIP CODE:	15.1302
SEMESTER:	Departmental Syllabus
COURSE TITLE:	Fundamentals of ArcView GIS
COURSE NUMBER:	ENGR-0195
CREDIT HOURS:	4
INSTRUCTOR:	Departmental Syllabus
OFFICE LOCATION:	Departmental Syllabus
OFFICE HOURS:	Departmental Syllabus
TELEPHONE:	Departmental Syllabus
EMAIL:	KCKCC-issued email accounts are the official means for electronically communicating with our students.
PREREQUISITE(S):	None
REQUIRED TEXT:	Please check with the KCKCC bookstore, http://www.kckccbookstore.com for the required text for your particular class.

COURSE DESCRIPTION:
This course is designed to present the concepts upon which GIS technology is based, what it does, and how it works. ESRI ArcView Software will be used which will allow the student to become familiar with the most widely used GIS Software in the world. It will further allow students to visualize information in new ways revealing relationships, trends, and patterns that are not visible in other systems. The student will learn how to use ArcView Software to answer a variety of questions.

METHOD OF INSTRUCTION:
A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE:

I. Getting Started in ArcView

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A. Getting into ArcView
   1. Getting Started with ArcView
   2. ArcView Shortcuts

B. Examples in ArcView
   1. Making and Printing a Map
   2. Finding the Best Site for a Business
   3. Finding Where Customers are Located

II. Displaying Data

A. Creating Maps
   1. Creating a Map with ArcView
   2. Spatial Data Formats used in ArcView
   3. Finding External Data to use in ArcView
   4. Importing External Data into ArcView

B. Adding Tabular Data Related to Features to Maps
   1. Adding Data to a Theme's Attribute Table
   2. Loading Existing Data into ArcView
   3. Creating a New Table in ArcView

C. Adding Street Addresses and Other Locations to Maps
   1. Adding Points Defined by x,y Coordinates to a Map
   2. Geocoding Addresses
   3. Adding Features Defined by Measurements Along Routes to a Map

D. Symbolizing Data
   1. Using a Legend Editor to Symbolize Data
   2. Selecting a Classification Method
   3. Making Points and Line Symbols Scaleable
   4. Adding Additional Symbols to ArcView Palettes

E. Labeling Maps and Text and Graphics
   1. Adding Text and Graphics to a Map
   2. Labeling a Theme's Features
   3. Setting and Using Hot Links

F. Charting Data
   1. Creating a Chart
   2. Changing Chart Types
   3. Changing Chart Elements

G. Choosing Map Projections
   1. Selecting Map Projections
   2. Specifying Map Projections for a View.

H. Laying Out Maps
   1. Creating a Layout
   2. Displaying Views on a Layout
   3. Editing and Rearranging a Layout
   4. Saving a Layout as a Template

III. Querying Data

A. Selecting Attributes of Features
   1. Identifying Features
   2. Selecting Attributes of Selected Features
   3. Controlling how Attributes are Displayed

B. Finding Features with Specific Attributes
   1. Locating Individual Features on a Map
   2. Locating Features by Sorting Attributes
   3. Locating Features by developing a Query Expression
   4. Locating Features by using a Chart

C. Locating Features Near other Features
   1. Locating Features within a Specified Distance of a Point
   2. Locating Features within a Specified Distance of other Features
   3. Locating Features nearest to other Features using Spatial Join

D. Locating Features that Fall inside Polygons
   1. Locating Features that Fall inside Polygons in other themes
   2. Locating Polygon Features based on which Features they contain
   3. Joining Attributes of Polygon Features to Features located inside them.

E. Locating Features that Intersect other Features
   1. Locating Features intersected by a line or polygon
   2. Locating Features intersected by all Features in another theme

F. Aggregating Data
   1. Aggregating Attributes of Features based on which Polygons they fall inside
   2. Aggregating Features by merging them together

IV. Creating Data

A. Creating and Editing Spatial Data
   1. Creating a Point Theme
   2. Creating a Line Theme
   3. Creating a Polygon Theme

4. Editing Existing Themes

B. Working with Images
   1. Adding an Image to a View
   2. Changing the way an Image is Displayed
   3. Aligning Themes with Images
   4. Adding an Image Catalog to a View

EXPECTED LEARNER OUTCOMES:

A. Upon completion of the course the student will be able to log onto the computer and activate the ArcView software.
B. Upon completion of the course the student will be able to display different kinds of data to analyze and present information using ArcView software.
C. Upon completion of the course the student will be able to compare different methods of querying data to analyze and present specific solutions to different GIS problems.
D. Upon completion of the course the student will be able to design and assemble a plan for creating data.

COURSE COMPETENCIES:

Upon completion of the course the student will be able to log onto the computer and activate the ArcView software.
1. Upon completion of the course the student will be able to activate the ArcView software.
2. Upon completion of the course the student will be able to identify and use ArcView Shortcuts.
3. Upon completion of the course the student will be able to discuss the process of making and printing a map using the ArcView software.

Upon completion of the course the student will be able to display different kinds of data to analyze and present information using ArcView software.
4. Upon completion of the course the student, with the use of ArcView software, will be able to create a map.
5. Upon completion of the course the student, will be able to identify four spatial data formats used in ArcView.
6. Upon completion of the course the student, with the use of ArcView software, will be able to import external data.
7. Upon completion of the course the student, with the use of ArcView software, will be able to add data to a theme's attribute table.
8. Upon completion of the course the student, with the use of ArcView software, will be able to join a table to a theme's attribute table.
9. Upon completion of the course the student, with the use of ArcView software, will be able to create new tables.
10. Upon completion of the course the student, with the use of ArcView software, will be able to add points defined by the x,y coordinates to a map.
11. Upon completion of the course the student, with the use of ArcView software, will be able to add features defined by measurements along routes to a map.

12. Upon completion of the course the student, with the use of ArcView software, will be able to use a legend editor to symbolize data.
13. Upon completion of the course the student, with the use of ArcView software, will be able to make points and line symbols scaleable.
14. Upon completion of the course the student, with the use of ArcView software, will be able to add additional symbols to ArcView Palettes.
15. Upon completion of the course the student, with the use of ArcView software, will be able to add text and graphics to a map.
16. Upon completion of the course the student, with the use of ArcView software, will be able to label a theme's features.
17. Upon completion of the course the student, with the use of ArcView software, will be able to choose appropriate settings and use Hot Links.
18. Upon completion of the course the student, with the use of Arc View software, will be able to change chart types and elements.
19. Upon completion of the course the student, with the use of Arc View software, will be able to specify map projections for a view.
20. Upon completion of the course the student, with the use of Arc View software, will be able to create a layout.
21. Upon completion of the course the student, with the use of Arc View software, will be able to display views on a layout.
22. Upon completion of the course the student, with the use of Arc View software, will be able to add edit and rearrange a layout.
23. Upon completion of the course the student, with the use of Arc View software, will be able to save a layout as a template.

Upon completion of the course the student will be able to compare different methods of querying data to analyze and present specific solutions to different GIS problems.

24. Upon completion of the course the student, with the use of Arc View software, will be able to add and identify features.
25. Upon completion of the course the student, with the use of Arc View software, will be able to Analyze and select attributes of selected features.
26. Upon completion of the course the student, with the use of Arc View software, will be able to
locate individual features on a map.
27. Upon completion of the course the student, with the use of Arc View software, will be able to identify and sort features by attributes.
28. Upon completion of the course the student, with the use of Arc View software, will be able to identify and locate features using a query expression.
29. Upon completion of the course the student, with the use of Arc View software, will be able to identify and locate features within a specified distance of a point.
30. Upon completion of the course the student, with the use of Arc View software, will be able to identify and locate features within a specified distance of other features.
31. Upon completion of the course the student, with the use of Arc View software, will be able to locate features intersected by a line or polygon.
32. Upon completion of the course the student, with the use of Arc View software, will be able to identify and locate features intersected by all features in another themes.

33. Upon completion of the course the student, with the use of Arc View software, will be able to aggregate features by merging them together.

Upon completion of the course the student will be able to design and assemble a plan for creating data.
34. Upon completion of the course the student, with the use of Arc View software, will be able to create a point theme in an Arc View presentation.
35. Upon completion of the course the student, with the use of Arc View software, will be able to analyze data and create a line theme in an Arc View presentation.
36. Upon completion of the course the student, with the use of Arc View software, will be able to analyze data and create a polygon theme in an Arc View presentation.
37.Upon completion of the course the student, with the use of Arc View software, will be able to analyze data and edit existing themes in an Arc View presentation.

ASSESSMENT OF LEARNER OUTCOMES:
Assessment methods may include, but are not limited to, the following: Homework, Assignments, Quizzes, Class Participation, Chapter Tests, and Final Exam. The grading scale and the process for calculating the course grades are to be determined by the individual instructors. This information will be included in each instructor's syllabus.

SPECIAL NOTES:
This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student's progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

Kansas City Kansas Community College is committed to an appreciation of diversity with respect for the differences among the diverse groups comprising our students, faculty, and staff that is free of bigotry and discrimination. Kansas City Kansas Community College is committed to providing a multicultural education and environment that reflects and respects diversity and that seeks to increase understanding.

Kansas City Kansas Community College offers equal educational opportunity to all students as well as serving as an equal opportunity employer for all personnel. Various laws, including Title IX of the Educational Amendments of 1972, require the college's policy on non-discrimination be administered without regard to race, color, age, sex, religion, national origin, physical handicap, or veteran status and that such policy be made known.

Kansas City Kansas Community College complies with the Americans with Disabilities Act. If you need accommodations due to a documented disability, please contact the disabilities services office at (913) 288 -7664.

All enrolled students at Kansas City Kansas Community College are subject to follow all rules, conditions, policies and procedures as described in both the Student Code of Conduct as well as the Student Handbook. All Students are expected to review both of these documents and to understand their

responsibilities with regard to academic conduct and policies. The Student Code of Conduct and the Student Handbook can be found on the KCKCC website.