

**Course Syllabus**  
**Introduction to Geographic Information Systems (GIS)**  
**ENV K146 / GIS K146**

Instructor: Kevin D. Franklin, MS, PLS

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Class Location: D 230

Class Time: Thursdays 5:30 – 9:50

Office Hours: By appointment

**Registrar's Course Descriptions:**

*Students will learn the basic principles of Geographic Information Systems and explore and evaluate the various data models and structures used in the input management, analysis and output of geographic data. Students will develop hands-on experience through the use of a microcomputer based vector system (ArcView GIS), and examine how the nature and character of spatial data can be used in studies of natural and socio-economic environments. This course is equivalent to GIS K146.*

*This course introduces students to the basic principles, techniques, and applications of GIS (Geographic Information Systems), as a computer-based tool that utilizes spatial (geographic) data to analyze and solve multi-disciplinary problems. Students will understand methods of data capture and sources of data, characteristics of spatial data and objects, and demonstrate application through executing typical operations. The lab component will emphasize GIS data collection, entry, storage, analysis, and output using the industry standard applications, ESRI ArcGIS. Students will become familiar with products/applications, various database models, and raster and vector systems. This course is equivalent to ENV K146.*

**Required Materials:**

- Textbook – Getting to Know ArcGIS Desktop, 3<sup>rd</sup> ed., for ArcGIS 10.1, ESRI Press (additional readings will be distributed on an ad hoc basis)
- External hard drive or flash drive

**Grading:**

- 3 midterm exams, 10% each
- Assignments, 50% total
- Final Project, 20%

**Attendance:** Attendance is mandatory. If you need to miss a class, you are still responsible for the content and the assignments. Given the once-per-week meeting schedule, missing multiple (2 or more) class sessions makes it extremely difficult to successfully complete the course.

**Late Work:** Late work is not accepted without prior approval from the instructor. Students are expected to immediately contact the instructor if they cannot attend an exam or will not be able to turn in an assignment on time to avoid getting a “0”.

**Academic Integrity:** Students will be responsible for submitting all assignments and completing all exams independently. Using the work of others without giving proper credit (plagiarism), or academic dishonesty (as defined by the Student Handbook) is unacceptable. After evaluation of the infraction(s) in a manner consistent with the Student Handbook, a grade of “0” may be assigned.

**Lab Policies:** Cell phones and other electronic devices must be kept off and out of sight. No texting is permitted. Students are expected to have a calculator separate from their cell phone. Language and behavior that is disrespectful or disruptive to others is unacceptable. Students should refer to the Student Handbook for additional important school policies.

**Disabilities** – If you have a visible or hidden disability that may require classroom or test taking modifications you are encouraged to contact Student Services for assessment.

**Digication Statement:** All students are required to maintain a learning portfolio in Digication that uses the Three Rivers Template. Through this electronic tool, students can see their own growth in college-wide learning. The student can keep and continue to use the Digication account after graduation. A Three Rivers General Education Assessment Team will select random works to improve the college experience for all. No names will be attached to the assessment work; it will remain **private and anonymous** for college improvement purposes. The instructor will indicate recommended Digication assignments.

**BOARD OF REGENTS FOR HIGHTER EDUCATION AND CONNECTICUT STATE COLLEGES AND UNIVERSITIES POLICY REGARDING SEXUAL MISCONDUCT REPORTING, SUPPORT SERVICES AND PROCESSES POLICY: Statement of Policy for Public Act No. 14-11: An Act Concerning Sexual Assault, Stalking and Intimate Partner Violence on Campus:** “The Board of Regents for Higher Education (BOR) in conjunction with the Connecticut State Colleges and Universities (CSCU) is committed to insuring that each member of every BOR governed college and university community has the opportunity to participate fully in the process of education free from acts of sexual misconduct, intimate partner violence and stalking. It is the intent of the BOR and each of its colleges or universities to provide safety, privacy and support to victims of sexual misconduct and intimate partner violence.”

**UNITED STATES DEPARTMENT OF EDUCATION AND OFFICE OF CIVIL RIGHTS TITLE IX STATEMENT OF POLICY:** “Title IX of the Education Amendments of 1972 (Title IX) prohibits discrimination based on sex in education programs and activities in federally funded schools at all levels. If any part of a school district or college receives any Federal funds for any purpose, all of the operations of the district or college are covered by Title IX.

Title IX protects students, employees, applicants for admission and employment, and other persons from all forms of sex discrimination, including discrimination based on gender identity or failure to conform to stereotypical notions of masculinity or femininity. All students (as well as other persons) at recipient institutions are protected by Title IX – regardless of their sex, sexual orientation, gender identity, part-or full-time status, disability, race, or national origin-in all aspects of a recipient’s educational programs and activities.”

If any student experiences sexual misconduct or harassment, and/or racial or ethnic discrimination on Three Rivers Community College Campus, or fears for their safety from a threat while on campus, please contact Edward A. Derr, the Diversity Officer and Title IX Coordinator:

Edward A. Derr  
Title IX Coordinator and Diversity Officer  
Admissions Welcome Center \* Office A116  
574 New London Turnpike, Norwich CT 06360  
860.215.9255 \* [EDerr@trcc.comnet.edu](mailto:EDerr@trcc.comnet.edu)

**Tentative Schedule:**

<i>August 31, 2017</i>	Course goals and outcomes, review syllabus, history and origins of GIS and ESRI, data mining assignment
<i>September 7, 2017</i>	Fundamental cartographic concepts, map projections Arc Desktop: First Contact
<i>September 14, 2017</i>	Units, significant figures, and coordinate systems, inversing exercise
<i>September 21, 2017</i>	GIS concepts, data structures (raster vs. vector), layers, geodatabases, Organize exercise
<i>September 28, 2017</i>	Exam I, Introduction to Relational Database Management Systems (RDBMS)
<i>October 5, 2017</i>	Symbolizing features and rasters, Layout view
<i>October 12, 2017</i>	Spatial data modeling with relational databases, Spatial Joins exercise
<i>October 19, 2017</i>	Global navigation satellite systems (GNSS): basic working principles, system architecture, export of GNSS data into a GIS
<i>October 26, 2017</i>	Remote sensing methods: Lidar, orthophotography, electronic distance measurement, data collection exercise
<i>November 2, 2017</i>	Exam II, Classifying features and rasters, labeling feaures, ArcMap Query Builder
<i>November 9, 2017</i>	Preparing spatial data for analysis and analyzing spatial data
<i>November 16, 2017</i>	Making maps from templates and making maps for presentation
<i>November 23, 2017</i>	Thanksgiving - college closed
<i>November 30, 2017</i>	Data interpolation methods, generating topographic contour maps with Connecticut's Digital Elevation Model (DEM)
<i>December 7, 2017</i>	Emerging technologies, professional ethics, licensure and/or certification requirements, final project lab
<i>December 14, 2017</i>	Exam III, Final Project Presentations