

Geographical Information Systems II STUDENT PROFILE

DIRECTIONS:

Evaluate the student using the applicable rating scales below and check the appropriate box to indicate the degree of competency. The ratings 3, 2, 1, and N are not intended to represent the traditional school grading system of A, B, C, and D. The description associated with each of the ratings focuses on the level of student performance or cognition for each of the competencies listed below.

PERFORMANCE RATING

- 3 - Skilled--can perform task independently with no supervision
 2 - Moderately skilled--can perform task completely with limited supervision
 1 - Limitedly skilled--requires instruction and close supervision
 N - No exposure--has no experience or knowledge of this task

COGNITIVE RATING

- 3 - Knowledgeable--can apply the concept to solve problems
 2 - Moderately knowledgeable--understands the concept
 1 - Limitedly knowledgeable--requires additional instruction
 N - No exposure--has not received instruction in this area

A. Safety and Ethics

- 3 2 1 N
 ___ ___ ___ ___ 1. Identify major causes of work-related accidents in offices.
 ___ ___ ___ ___ 2. Describe the threats to a computer network, methods of avoiding attacks, and options in dealing with virus attacks.
 ___ ___ ___ ___ 3. Identify potential abuse and unethical uses of computers and networks.
 ___ ___ ___ ___ 4. Explain the consequences of illegal, social, and unethical uses of information technologies, e.g., piracy; illegal downloading; licensing infringement; and inappropriate uses of software, hardware, and mobile devices.
 ___ ___ ___ ___ 5. Differentiate between freeware, shareware, and public domain software copyrights.
 ___ ___ ___ ___ 6. Discuss computer crimes, terms of use, and legal issues such as copyright laws, fair use laws, and ethics pertaining to scanned and downloaded clip art images, photographs, documents, video recorded sounds and music, trademarks, and other elements for use in Web publications.
 ___ ___ ___ ___ 7. Identify netiquette including the use of email, social networking, blogs, texting, and chatting.

- ___ ___ ___ ___ 8. Describe ethical and legal practices in business professions such as safeguarding the confidentiality of business-related information.

B. Employability Skills

- 3 2 1 N
 ___ ___ ___ ___ 1. Identify positive work practices, e.g., appropriate dress code for the workplace, personal grooming, punctuality, time management, and organization.
 ___ ___ ___ ___ 2. Demonstrate positive interpersonal skills, e.g., communication, respect, and teamwork.

C. Student Organizations

- 3 2 1 N
 ___ ___ ___ ___ 1. Explain how related student organizations are integral parts of career and technology education courses.
 ___ ___ ___ ___ 2. Explain the goals and objectives of related student organizations.
 ___ ___ ___ ___ 3. List opportunities available to students through participation in related student organization conferences/competitions, community service, philanthropy, and other activities.

- ___ ___ ___ ___ 4. Explain how participation in career and technology education student organizations can promote lifelong responsibility for community service and professional development.

D. Customize the Display of Geospatial Data

- 3 2 1 N
 ___ ___ ___ ___ 1. Edit Layer Properties.
 ___ ___ ___ ___ 2. Create Layer Files.
 ___ ___ ___ ___ 3. Edit an attribute table by adding a new field with calculating values.
 ___ ___ ___ ___ 4. Perform relates and joins with data tables.

E. Manage, Query, and Symbolize Geospatial Data

- 3 2 1 N
 ___ ___ ___ ___ 1. Label features.
 ___ ___ ___ ___ 2. Insert, copy, and paste data into new data frames.
 ___ ___ ___ ___ 3. Create graphs and reports from data.
 ___ ___ ___ ___ 4. Demonstrate how to analyze land use, population, and flood zone data.
 ___ ___ ___ ___ 5. Create geospatial data.
 ___ ___ ___ ___ 6. Symbolize a raster layer.
 ___ ___ ___ ___ 7. Resolve unmatched addresses while geocoding addresses.

___ ___ ___ ___8. Use dissolve features, hyperlink, spatially join data, and create buffer functions.

F. Create a Geospatial Model

3 2 1 N
___ ___ ___ ___1. Create a geodatabase, import existing feature classes into a geodatabase, and import multiple feature classes to a geodatabase.
___ ___ ___ ___2. Plan and build a local data inventory.

G. Create, Change, and Manipulate Remotely Sensed Image Data

3 2 1 N
___ ___ ___ ___1. View single band and multispectral images.
___ ___ ___ ___2. Perform various manipulations to an image including creating a subset of an image, mosaic two georeferenced images, and orthorectification.
___ ___ ___ ___4. Use various tools in image analysis to extract land features from imagery data.
___ ___ ___ ___5. Categorize land cover types using image analysis tools.
___ ___ ___ ___6. Conduct vegetation analysis on imagery using image analysis tools
___ ___ ___ ___7. Evaluate area of change in images.
___ ___ ___ ___8. Enhance an image by adjusting the brightness and contrast, adjusting the histogram, applying custom histogram stretches, sharpening and smoothing its appearance.
___ ___ ___ ___9. Convert an image from color IR to natural color by performing a resolution merge.

H. Technical Writing Skills

3 2 1 N
___ ___ ___ ___1. Obtain technical information on a specified topic.

___ ___ ___ ___2. Identify graphic support documents needed for a specified technical report.

I. Create Technical Reports

3 2 1 N
___ ___ ___ ___1. Develop an informative report.
___ ___ ___ ___2. Produce a progress report.
___ ___ ___ ___3. Develop a summary report.
___ ___ ___ ___4. Formulate technical instructions.
___ ___ ___ ___5. Prepare a news release.
___ ___ ___ ___6. Generate a business proposal.