Experiential Learning Portfolio for 32451359 Geographic Information Systems

Student Contact Information:

Name: _____Student ID#_____

Email: _____Phone:_____

It is highly recommended that you speak with the Academic Dean or instructor who teaches this course prior to completing a portfolio.

Directions

Consider your prior work, military, volunteer, education, training and/or other life experiences as they relate to each competency and its learning objectives. Courses with competencies that include speeches, oral presentations, or skill demonstrations may require scheduling face-to-face sessions. You can complete all of your work within this document using the same font, following the template format.

1. Complete the Student Contact Information at the top of this page.
2. Write an Introduction to the portfolio. Briefly introduce yourself to the reviewer summarizing your experiences related to this course and your future goals.
3. Complete each "Describe your learning and experience with this competency" section in the space below each competency and its criteria and learning objectives. Focus on the following:
   - What did you learn?
   - How did you learn through your experience?
   - How has that learning impacted your work and/or life?
4. Compile all required and any suggested artifacts (documents and other products that demonstrate learning).
   - Label artifacts as noted in the competency
   - Scan paper artifacts
   - Provide links to video artifacts
   - Attach all artifacts to the end of the portfolio
5. Write a Conclusion for your portfolio. Briefly summarize how you have met the competencies.
6. Proofread. Overall appearance, organization, spelling, and grammar will be considered in the review of the portfolio.
7. Complete the Learning Source Table. Provide additional information on the business and industry, military, and/or volunteer experiences, training, and/or education or other prior learning you mentioned in your narrative for each competency on the Learning Source Table at the end of the portfolio. Complete this table as completely and accurately as possible.

The portfolio review process will begin when your completed portfolio and Credit for Prior Learning Form are submitted and nonrefundable processing fees are paid to your local Credit for Prior Learning contact. Contact Student Services for additional information.

Your portfolio will usually be evaluated within two weeks during the academic year; summer months may be an exception. You will receive an e-mail notification regarding the outcome of the portfolio review from the Credit for Prior Learning contact. NOTE: Submission of a portfolio does not guarantee that credit will be awarded.

You have 6 weeks to appeal any academic decision. See your student handbook for the complete process to appeal.

To receive credit for this course, you must receive "Met" on 6 of the 8 competencies.

32451359 Geographic Information Systems, 2 Technical Diploma Credits

Course Description: Geographical Informational Systems (GIS) provides broadband businesses with many solutions such as analyzing relationships among signal coverage, test results, trouble tickets, customer inquiries, revenues, and gap analysis. Broadband companies use GIS for geocoding antennas, analyzing service areas, geocoding clients, and correlating equipment requirements to service area demand. Students will learn the fundamental concepts and basic functions of a GIS, the properties of GIS maps, and the structure of a GIS database. In course exercises, you will develop basic software skills by working with tools to visualize geographic data, create maps, query a GIS database, and analyze data using common analysis tools.

Introduction: **Briefly introduce yourself to the reviewer summarizing your experiences related to this course and your future goals.**

Competency 1: Compare and contrast conventional mapping technology with GIS automated technology

Criteria: Performance will be satisfactory when:
- presentation describes the components involved in GIS system
- presentation relates functions of a properly designed system
- presentation lists several uses for the conventional and automated GIS systems

Learning Objectives:
a. Describe the history of early map making
b. Identify GIS terminology and concepts
c. Identify map features
d. Describe map making and Geographic Information Systems

Required Artifacts: None
Suggested Artifacts: None

Describe your learning and experience with this competency:

Met/ Not Met Evaluator Feedback:

Competency 2: Explain how different types of GIS applications are managed in science, business and government

Criteria: Performance will be satisfactory when:

- presentation explains different types of GIS systems using reference manual's function
- presentation analyzes types of GIS transports using reference manual information

Learning Objectives:

a. Describe how GIS is used in science, health and business
b. Identify how GIS is used in local and global government and protective services
c. Explain how GIS is used in the transportation, communication and utility industries
d. Identify how GIS is used in natural resource management
e. Describe how GIS is used in conservation and environmental modeling

Required Artifacts: None
Suggested Artifacts: None

Describe your learning and experience with this competency:

Met/ Not Met Evaluator Feedback:

Competency 3: Identify the basic hardware and software requirements for GIS applications

Criteria: Performance will be satisfactory when:
- presentation identifies the hardware and software specifications of GIS applications
- presentation explains the different elements and components needed for GIS requirements

Learning Objectives:
a. Classify GIS applications
b. Identify the necessary peripheral devices
c. Identify software and hardware specifications and requirements

Required Artifacts: None
Suggested Artifacts: None

Describe your learning and experience with this competency:

Met/ Not Met Evaluator Feedback:

Competency 4: Apply basic cartographic principles to produce a map

Criteria: Performance will be satisfactory when:

- presentation describes all elements to lay out GIS map
- presentation lists benefits and downfalls of cartographic principles

Learning Objectives:

a. Define what constitutes a map
b. Distinguish basic cartographic principles
c. Identify the basic elements of a map layout
d. Identify coordinate systems used in map layout such as UTM and plane
e. Define a map scale
f. Identify map projections
g. Compare and contrast manual and automated mapping techniques

Required Artifacts: None
Suggested Artifacts: None

Describe your learning and experience with this competency:

Met/ Not Met Evaluator Feedback:

Competency 5: Interpret geographically referenced material

Criteria: Performance will be satisfactory when:

- presentation describes vector data, points, lines, curves and polygons
- presentation identifies method for data acquisition and describe difficulties with data accuracy
- presentation demonstrates data structure and what is best for each situation

Learning Objectives:

a. Define raster data including grid and pixels
b. Describe vector data including points, lines, areas, curves and polygons
c. Explain how metadata is used to facilitate the use and management of data
d. Identify methods for data acquisition and describe the difficulties with data accuracy
e. Differentiate which data structure is best suited for specific applications

Required Artifacts: None
Suggested Artifacts: None

Describe your learning and experience with this competency:

Met/ Not Met Evaluator Feedback:

Competency 6: Describe how GIS can be used in scientific, business and government applications

Criteria: Performance will be satisfactory when:
- presentation explains single and multiple layer operations
- presentation applies spatial data to measure distance, area and set map projections
- presentation utilizes appropriate reference manual information for network design
- presentation utilizes correct standards and specifications for network design
- presentation lists functions used to complete the design

Learning Objectives:
a. Define spatial analysis
b. Define spatial data
c. Identify challenges to gaining access to spatial data
d. Describe single and multiple layer operations
e. Utilize strategies to minimize error propagation
f. Define containment, proximity, adjacency, terrain analysis, buffers and networks
g. Apply spatial data to measure distance, area and set map projections
h. Select the data structure best suited to a specific GIS application

Required Artifacts: None
Suggested Artifacts: None

Describe your learning and experience with this competency:

Met/ Not Met Evaluator Feedback:

Competency 7: Analyze GIS for efficiency and cost effectiveness in an organizational setting

Criteria: Performance will be satisfactory when:
- report/presentation identifies a specific business issue or concern
- report/presentation explains the issue/concern
- report/presentation proposes a solution to the issue/concern
- report/presentation identifies costs
- report/presentation identifies demand issues
- report/presentation identifies expansion reliability
- report/presentation identifies protocol
- report/presentation identifies subscriber expectations
- written report follows common conventions of English
- oral presentation includes at least one visual aid

Learning Objectives:
a. Develop a GIS needs assessment for an organization
b. Develop a planning process for an organization to implement a GIS program
c. Identify how an organization can utilize a GIS program to enhance their decision making processes and strategic planning

Required Artifacts: None
Suggested Artifacts: None

Describe your learning and experience with this competency:

Met/ Not Met Evaluator Feedback:

Competency 8: Produce a professional quality map layout for use in a sample GIS application

Criteria: Performance will be satisfactory when:

- map uses all data tabulated, correct map coordinate systems, and map scales
- map interprets geographically referenced material

Learning Objectives:

a. Utilize basic functions of GIS software to input data
b. Demonstrate basic concepts used in GIS database manipulation
c. Describe and demonstrate how raster and vector data structures are manipulated
d. Construct, analyze and manipulate tabular data using GIS software
e. Construct charts and graphs from analyzed tabular data using GIS software
f. Produce maps using correct map coordinate systems and map scales
g. Produce maps to interpret geographically referenced material

Required Artifacts: None
Suggested Artifacts: None

Describe your learning and experience with this competency:

Met/ Not Met Evaluator Feedback:

Conclusion: Summarize how you have met the competencies of the course.

Learning Source Table

Learning Source (name of employer, training, military, volunteer organization, etc.)	Supervisor	Start-End Date	Total Hours	Related Competencies
Ex: XYZ Corporation	Bucky Badger	8/2012-9/2014	2000	#1, 2, 3, and 7