# Syllabus

| Course Title: Cartographic Design | Course Number (If applicable): GST 104 |
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**COURSE DESCRIPTION:** This course introduces fundamental cartographic concepts. Successful students will be able to employ design principles to create and edit effective visual representations of data in different formats.   Specific topics include the ethical and appropriate application of map scale, map projections, generalization, and symbolization.

**PREREQUISITES:** GST 101. Recommended: GST 102; GST 103; basic statistics course.

**REQUIRED MATERIALS:** ArcGIS Desktop 10.1, Microsoft Excel Viewer.

**ADDITIONAL RESOURCES** (if applicable):

Dent, B. Torguson, J., and Hodler, T. "Cartography: Thematic Map Design". 6th Edition. McGraw-Hill.

**LEARNING OUTCOMES/COMPETENCIES:**

1. Categorize and describe different types of maps (thematic, reference, etc.) and be able to give examples of how each is used.
2. Describe the components of a map (map elements).
3. Employ an appropriate geographic referencing system (datum, projection, coordinate system) for a given purpose.
4. Select and apply ethical and appropriate data model, map scale, map elements, symbolization and color to produce maps that effectively communicate quantitative and qualitative geographic data.
5. Design professional quality maps employing cartographic principles.
6. Critique maps for appropriate use of cartographic design principles.
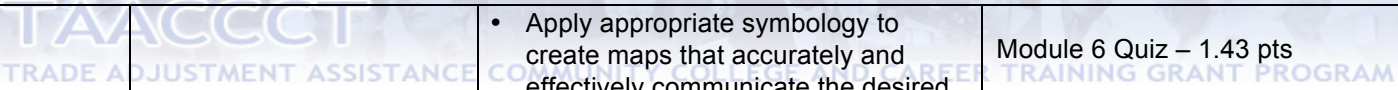
## COURSE ASSESSMENT:

**Grading Scale**

| Category | Weight |
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| Laboratories | 50% |
| Quizzes | 10% |
| Examinations | 40% |
| **Final Grade** | **100%** |

| Total Points | Percentage | Grade |
|---|---|---|
| | 90% – 100% | A |
| | 80% - 89% | B |
| | 70% – 79% | C |
| | 65% - 69% | D |
| | 0% - 64% | F |

**COURSE SCHEDULE:**

**Note:** This partial example shows a course that combines lecture and lab components.

| Module/ Lesson | Module/Lesson Title & description (if applicable) | Lesson Objectives | Assignment (w/category & point value) |
|---|---|---|---|
| 1. | Introduction to Cartographic Design | • Identify basic elements of cartographic design. <br>• Describe different types of maps and their uses. <br>• Create a map. <br>• Explain design decisions used to create a map. | Module 1 Lab – 7 pts. <br><br> Module 1 Quiz – 1.43 pts |
| 2. | Geographic Referencing Systems and Map Projections | • Identify elements of geographic referencing systems and map projections. <br>• Employ appropriate geographic referencing system parameters and base maps. <br>• Explain how different projections, coordinate systems and datums can affect map design and accuracy of map products. | Module 2 Lab – 7 pts. <br><br> Module 2 Quiz – 1.43 pts |
| 3. | Map Elements and Design Principles | • Identify map elements and design principles. <br><br>• Employ appropriate map elements and design principles for different types of maps and audiences. | Module 3 Lab – 7 pts. <br><br> Module 3 Quiz – 1.43 pts |
| 4. | Types of Maps | • Identify appropriate and inappropriate data, symbology, and legend design for thematic map types. <br>• Create three common types of thematic maps: choropleth, dot density, and proportional symbol. | Module 4 Lab – 7 pts. <br><br> Module 4 Quiz – 1.43 pts <br><br> Exam 1 – 20% |
| 5. | Data for a Map | • Identify data elements of a map. <br>• Compare data classification methods. <br>• Create maps using different data classifications. <br>• Manage different types of data (vector, raster, and imagery), databases, and metadata to create different types of maps and map scales. | Module 5 Lab – 7 pts. <br><br> Module 5 Quiz – 1.43 pts |
| 6. | Map Symbols, Visual Variables, and Color | • Identify characteristics of the following map elements: map symbols, visual variables, and color. | Module 6 Lab – 7 pts. |

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| | | • Apply appropriate symbology to create maps that accurately and effectively communicate the desired information for different map types and output formats.<br>• Apply appropriate colors and patterns to create effective communication of data for different map types and output formats. | Module 6 Quiz – 1.43 pts |
| 7. | Typography | • Identify basic elements of typography.<br>• Create maps using topography basics to consider the design and placement of type, characteristics of type and the use of type on am map. | Module 7 Lab – 7 pts.<br><br>Module 7 Quiz – 1.43 pts<br><br>Exam 2 – 20% |