



## MASTER COURSE OUTLINE

Prepared By: Ethan Tonnemaker

Date: December 2020

## COURSE TITLE

Geographic Information Systems (GIS) I

## GENERAL COURSE INFORMATION

Dept.: GIS

Course Num: 110

(Formerly: )

CIP Code: 15.0405

Intent Code: 21

Program Code: 640

Credits: 4

Total Contact Hrs Per Qtr.: 49.5

Lecture Hrs: 38.5

Lab Hrs: 11

Other Hrs:

Distribution Designation:

## COURSE DESCRIPTION (as it will appear in the catalog)

Using basic capabilities of ArcGIS software tools, students are introduced to geographic information systems (GIS) concepts, including coordinate systems, spatial data analysis, data editing, data queries, database development, map creation, and report generation.

## PREREQUISITES

MAP 119, or any math course equivalent or higher in level than MAP 119, or instructor permission.

## TEXTBOOK GUIDELINES

A Introductory textbook determined by unmanned systems faculty (Example: Chang, K.T., 2012. Introduction to Geographic Information Systems (Sixth Edition). McGraw Hill).

## COURSE LEARNING OUTCOMES

*Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills.*

1. Identify key GIS components and applications
2. Describe GIS coordinate systems
3. Compare and contrast various remote sensing system capabilities
4. State the primary elements and capabilities of the global positioning system (GPS)
5. Demonstrate GIS data queries and data editing (using ArcGIS)
6. Generate a completed GIS map and associated data report (using ArcGIS)

## INSTITUTIONAL OUTCOMES

IO3 **Human Relations/Workplace Skills:** Students will be able to demonstrate teamwork, ethics, appropriate safety awareness and/or workplace specific skills

## COURSE CONTENT OUTLINE

1. GIS basic definitions, components, applications
2. ArcGIS
3. Coordinate systems
4. Data sources, data entry, and digitizing

5. GPS and remote sensing systems
6. Data queries
7. Data editing
8. Map creation
9. Report generation

**DEPARTMENTAL GUIDELINES** *(optional)*

The syllabus must contain evaluation/grading guidelines, class environment/expectations/rules, course learning outcomes, and a disability services statement. A schedule must be provided to students that contains content covered (text chapters, topics, etc.), tentative test dates (to include final date/time).

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**DIVISION CHAIR APPROVAL**

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**DATE**