

North Central Michigan College

NCMC MASTER COURSE SYLLABUS

Last Date Revised ____ 10/06/08 ____

DIVISION/AREA: Liberal Arts

DEPARTMENT: Social Sciences

ASSOCIATE DEAN: Sam McLin

ORIGINATOR: Carla Elenz

DEAN OF INSTRUCTION: Dr. Timothy Dykstra

HOURS OF INSTRUCTION:

Credit hours: 3

Lecture: 2

Lab: 2

Contact hours: 70.4

COURSE TITLE: Introduction to Geographic Information Systems II

COURSE ALPHA: GIS

COURSE NUMBER: 120

CATALOG DESCRIPTION:

A more detailed presentation of the theories and procedures introduced in GIS 1. Emphasis will be on advanced techniques in spatial analysis, database management, and data automation. Students will be exposed to a broad range of advanced techniques in ArcGIS and various extensions.

PREREQUISITE(S): Introduction to Geographic Information Systems I

COREQUISITE(S):

GENERAL EDUCATION DISTRIBUTION AREA: None
(example: Social Science Group B)

GENERAL EDUCATION/PROGRAM OUTCOMES:

Think Critically

COURSE OBJECTIVES AND OUTCOMES:

Students will be able to:

Create, manage and document accurate GIS data.

Think through a spatial problem and select the best way to solve it.

Perform advanced geoprocessing functions.

Work with various types of geodatabases and data formats.

Be a proficient user of ArcGIS and extensions

METHODS OF INSTRUCTION:

Lecture/Lab

METHODS OF EVALUATION: exams, projects, group activities

REQUIRED TEXT AT TIME OF COURSE ADOPTION/REVISION:

TEXTS: A Primer of GIS, Francis Harvey

OPTIONAL SUPPLEMENTARY MATERIALS:

Reasonable accommodations can be provided for students with documented disabilities. Please contact Learning Support Services for assistance: 231/348-6817.

SUGGESTED TIME ALLOWANCE AND SEQUENCE OF INSTRUCTION:

(List general content description of what is being covered each week)

WEEK 1	Data Management
WEEK 2	Geodatabase design, standards and metadata
WEEK 3	Advanced Geoprocessing tools
WEEK 4	Advanced Editing
WEEK 5	Georeferencing and Transformation
WEEK 6	Tables, Joins, Creating Charts and Graphs
WEEK 7	Data automation and scripting
WEEK 8	Topology
WEEK 9	Data Classification and representation
WEEK 10	Address Geocoding
WEEK 11	Raster/Tin data models
WEEK 12	Spatial Interpolation and Surface Analysis
WEEK 13	Extensions: Spatial Analyst
WEEK 14	Extensions: 3-D Analyst
WEEK 15	ArcGIS Server and relational database design
WEEK 16	ArcIMS and Internet Map Design

APPROVED FOR ADOPTION/REVISION BY THE CRD/AP COMMITTEE ON 11/12/08