ECU COURSE CATALOG

2025-2026 GEOGRAPHIC INFO. SYS. COURSES

GIS-2253 Initial Concepts in GIS 3 Credits
AN INTRODUCTION TO THE CONCEPTS, PRINCIPLES, AND THEORIES OF GIS, WITH EMPHASIS ON THE NATURE AND COMMUNICATION OF GEOGRAPHIC INFORMATION. DATA COLLECTION, STORAGE, MANIPULATION AND BASIC SPATIAL ANALYSIS METHODS ARE COVERED.

GIS-3613 Digital Mapping 3 Credits
APPLICATION OF CARTOGRAPHIC PRINCIPLES FOR COMPLEX AND EFFICIENT MAPPING TASKS INCLUDING ATLAS PRODUCTION, CREATION OF ONLINE AND INTERACTIVE MAPS, ANIMATED MAPPING, TERRAIN MAPPING, AND PERSPECTIVE GRAPHICS. Required Previous: GIS-2253

GIS-3953 Spatial Analysis 3 Credits
METHODS TO SPATIAL PROBLEMS WITH AN EMPHASIS ON GEOSPATIAL DATASET MANAGEMENT AND CONTROL. EXPLORATION OF HOW TO IDENTIFY CHANGE, DISTANCE, DENSITY, AND DISTRIBUTION, OF GEOSPATIAL DATA. Required Previous: GIS-2253 or Departmental Approval

GIS-4753 Spatial Programming 3 Credits
AN INTRODUCTION TO COMMON PROGRAMMING AND DATABASE LANGUAGES. TOPICS INCLUDE DATA TYPES, CONTROL FLOW, OBJECT-ORIENTED PROGRAMMING, RELATIONAL DATABASES, THE DEFINITION, MANIPULATION, AND RETRIEVAL OF DATA, AND GRAPHICAL USER INTERFACE-DRIVEN APPLICATIONS. Required Previous or Concurrent: CMPSC-1113

GIS-4953 Automating GIS Workflows 3 Credits
PRESENTATION ON ADVANCED DIGITAL DATA STRUCTURES AND THE USE OF SOFTWARE APPLICATIONS FOR MAINTAINING AND UTILIZING GEOGRAPHIC INFORMATION. EACH STUDENT WILL DEVELOP AND IMPLEMENT A GIS ANALYSIS MODEL. Required Previous: GIS-4753

GIS-5613 Digital Mapping 3 Credits
ADVANCED GRADUATE STUDY OF THE APPLICATIONS OF CARTOGRAPHIC PRINCIPLES FOR COMPLEX AND EFFICIENT MAPPING TASKS INCLUDING ATLAS PRODUCTION, CREATION OF ONLINE AND INTERACTIVE MAPS, ANIMATED MAPPING, TERRAIN MAPPING, AND PERSPECTIVE GRAPHICS.

GIS-5753 Spatial Programming 3 Credits
ADVANCED GRADUATE STUDY OF PROGRAMMING AND DATABASE LANGUAGES. TOPICS INCLUDE DATA TYPES, CONTROL FLOW, OBJECT-ORIENTED PROGRAMMING, RELATIONAL DATABASES, THE DEFINITION, MANIPULATION, AND RETRIEVAL OF DATA, AND GRAPHICAL USER INTERFACE-DRIVEN APPLICATIONS. Required Previous or Concurrent: Take GIS-5613

GIS-5913 Spatial Analysis 3 Credits
ADVANCED GRADUATE STUDY OF THE METHODS TO SPATIAL PROBLEMS WITH AN EMPHASIS ON GEOSPATIAL DATASET MANAGEMENT AND CONTROL. EXPLORATION OF HOW TO IDENTIFY CHANGE, DISTANCE, DENSITY, AND DISTRIBUTION, OF GEOSPATIAL DATA. Required Previous or Concurrent: Take GIS-5613

GIS-5953 GIS Workflows 3 Credits
GRADUATE STUDY AND ADVANCED PRESENTATION ON DIGITAL DATA STRUCTURES AND THE USE OF SOFTWARE APPLICATIONS FOR MAINTAINING AND UTILIZING GEOGRAPHIC INFORMATION. EACH GRADUATE STUDENT WILL DEVELOP AND IMPLEMENT A ADVANCED GIS AND ANALYSIS MODEL. Required Previous or Concurrent: Take GIS-5613 or GIS-5753