**Master Syllabus**

**Introduction to Raster-Based Geographic Information Systems (GIS)**

**GISC 1421**

All GIS instructors teaching this course are expected to include the following items in their course syllabus. The order that they are included is up to each instructor, and instructors may include additional items. All text in underlined print below must be included in every instructor’s syllabus exactly as stated. *It is up to each instructor to compose those parts of the master syllabus below that are in italicized print*. Your individual policies are up to you, but you must include clearly stated policies as required below.

1. Heading  
   *The instructor will give the following information to students:*
   1. *Instructor’s name*
   2. *Course name and number:*Introduction to Raster-Based Geographic Information Systems (GIS) GISC 1421
   3. *Section number and synonym*
   4. *Course time and location*
2. How to Reach the Instructor
   1. *Office hours*
   2. *Office location and number*
   3. *Phone, email, website, etc.*
   4. *Arranging conference/appointments*
3. Course Description
   1. *Catalog Description:* Instruction in GIS data sets including raster-based information such as images or photographs, acquisition of such data, and processing and merging with vector data.
   2. Course Prerequisite(s)/Corequisite(s): Introduction to GIS (GEOG 2470)
4. Course Rationale/Objectives
   1. Introduction to Raster-Based Geographic Information Systems (GIS) is designed to provide the students with an understanding of the methods and theories of spatial analysis that will allow students to apply GIS knowledge and skills to everyday life and their chosen careers, and to apply the course towards a certificate or an associate’s degree at Austin Community College (ACC).
5. Student Learning Outcomes
   1. WECM Student Learning Outcomes  
      The Workforce Education Course Manual (WECM) is a web-based inventory of current workforce education courses and outcomes published by the Texas Higher Education Coordinating Board for Texas public two-year colleges. WECM courses are created and maintained by teams of instructional specialists from Texas college with expertise in the subject areas. By the end of this course, the student will be able to:
      1. Relate current capabilities of satellites for collecting images and photographs;
      2. Summarize processing of imagery to produce a thematic map;
      3. Explain georeferencing of photos or images to maps;
      4. Operate effectively one or more image processing software packages;
      5. Interpret photos and images to produce map data;
      6. Analyze geographic information collected in raster format; and
      7. Merge photographic information correctly in existing raster formats.
   2. GTCM Student Learning Outcomes  
      The Geospatial Technology Competency Model (GTCM) is an industry model framework published by the US Department of Labor Employment and Training Administration (ETA) to identify industry-specific technical competencies. By the end of this course, the student will be able to:
      1. Select, evaluate, and document primary and secondary data according to original scale, coordinate system, precision, accuracy, completeness, currency, source, and fitness for use;
      2. Identify, create, and assimilate sources of primary data, such as: GPS, imagery, and field data into a GIS;
      3. Edit, query, convert, rectify, georeference, project, transform, geoprocess, validate, import, export, backup, and archive data while utilizing file and data standards and assuring quality;
      4. Query spatial and attribute data by location and utilizing query languages;
      5. Perform proximity, overlay, density, surface, 3D, network, image, and geostatistical analyses on spatial data;
      6. Interpret user requirements to select, install, maintain, and license desktop GIS and GIS-related software;
      7. Implement a GIS project by collecting, creating, assimilating, analyzing, synthesizing, and presenting data and results that satisfy the project goal;
      8. Interpret user needs to generate GIS products with a defined purpose, target audience, and appropriate medium;
      9. Create data, maps, and reports with GIS-industry recognized data standards, cartographic conventions, and reporting methods; and
      10. Practice continuing GIS education utilizing formal instruction; academic, professional, and industry publications; software documentation; online resources; peer professionals; on-the-job experiences; and professional certifications.
   3. *Additional Student Learning Outcomes*
   4. SCANS Competencies  
      The Secretary Commission on Achieving Necessary Skills (SCANS) is a commission appointed in 1990 by the Secretary of the US Department of Labor Lynn Martin to develop a list of skills "that high-performance workplaces require and that high-performance schools should produce." By the end of this course, the student will demonstrate the following workplace competencies and foundation skills:
      1. Workplace Competencies - Effective workers can productively use:
         1. Resources – They know how to allocate (C1) time, (C2) money, (C3), materials, and (C4) staff
         2. Information – They can (C5) acquire and evaluate data, (C6) organize and maintain files, (C7) interprets and communicate, and (C8) use computers to process information.
         3. Interpersonal skills – They can (C9) work on teams, (C10) teach others, (C11) serve customers, (C12) lead, (C13) negotiate, and (C14) work well with people from culturally diverse backgrounds,
         4. Systems – They (C15) understand social, organizational, and technological systems, (C16) they can monitor and correct performance; and (C17) they can design or improve systems.
         5. Technology – They can (C18) select equipment and tools, (C19) apply technology to specific tasks and (C20) maintain and troubleshoot equipment.
      2. Foundation Skills - Competent workers in the high-performance workplace need:
         1. Basic Skills – (F1) reading, (F2) writing, (F3) arithmetic and (F4) mathematics, (F5) listening and (F6) speaking.
         2. Thinking skills – (F7) to think creatively, (F8) to make decisions, (F9) to solve problems, (F10) to visualize, (F11) the ability to learn, and (F12) to reason.
         3. Personal Qualities – (F13) individual responsibility, (F14) self-esteem, (F15) sociability, (F16) self-management, and (F17) integrity.
6. Required Texts/Materials
   1. *List all texts/materials that students will need for the course. For each textbook include the title, author, edition, date published, publisher, and International Standard Book Number (ISBN) if available.*
7. Instructional Methodology
   1. *The instructor will describe the methodology (lecture, group discussion, group projects, video-based, etc.) that will be used to teach the course.*
8. Grading System
   1. *Although there are no discipline-wide policies regarding grading, the instructor will explain to students how they will be graded in this course.*
9. Course Policies
   1. Attendance/Participation: *The instructor will explain to students their policy on attendance/participation relative to this course. Suggested wording - “Regular and punctual class and laboratory attendance is expected of all students. If attendance or compliance with other course policies is unsatisfactory, the instructor may withdraw students from the class.”*
   2. Withdrawal: *The instructor will explain to students their policy on withdrawal relative to this course. Suggested wording - “It is the responsibility of each student to ensure that his or her name is removed from the roll should they decide to withdraw from the class. The instructor does, however, reserve the right to drop a student should they feel it is necessary. If a student decides to withdraw, they should also verify that the withdrawal is submitted before the Final Withdrawal Date. Students are also strongly encouraged to retain a copy of the withdrawal form for their records.  
        
      Students who enroll for the third or subsequent time in a course taken since Fall 2002, may be charged a higher tuition rate for that course.  
        
      State law permits students to withdraw from no more than six courses during their entire undergraduate career at Texas public colleges or universities without penalty. With certain exceptions, all course withdrawals automatically count toward this limit. Details regarding this policy can be found in the ACC college catalog.”*
   3. Missed or Late Work: *The instructor will explain to students their policy on missed or late work relative to this course.*
   4. Incomplete: *The instructor will explain to students their policy on Incomplete course grades relative to this course. Suggested wording - “An instructor may award a grade of “I” (Incomplete) if a student is unable to complete all of the requirements for a course. An incomplete grade cannot be carried beyond the established date in the following semester. The completion date is determined by the instructor but may not be later than the final deadline for withdrawal in the subsequent semester.”*
   5. Scholastic Dishonesty: A student attending ACC assumes responsibility for conduct compatible with the mission of the college as an educational institution. Students have the responsibility to submit coursework that is the result of their own thought, research, or self-expression. Students must follow all instructions given by faculty or designated college representatives when taking examinations, placement assessments, tests, quizzes, and evaluations. Actions constituting scholastic dishonesty include, but are not limited to, plagiarism, cheating, fabrication, collusion, and falsifying documents. Penalties for scholastic dishonesty will depend upon the nature of the violation and may range from lowering a grade on one assignment to an “F” in the course and/or expulsion from the college. See the Student Standards of Conduct and Disciplinary Process and other policies at <http://www.austincc.edu/current/needtoknow>.
   6. Student Rights and Responsibilities: Students at the college have the rights accorded by the U.S. Constitution to freedom of speech, peaceful assembly, petition, and association. These rights carry with them the responsibility to accord the same rights to others in the college community and not to interfere with or disrupt the educational process. Opportunity for students to examine and question pertinent data and assumptions of a given discipline, guided by the evidence of scholarly research, is appropriate in a learning environment. This concept is accompanied by an equally demanding concept of responsibility on the part of the student. As willing partners in learning, students must comply with college rules and procedures.
   7. Students with Disabilities: Each ACC campus offers support services for students with documented disabilities. Students with disabilities who need classroom, academic or other accommodations must request them through the Office for Students with Disabilities (OSD). Students are encouraged to request accommodations when they register for courses or at least three weeks before the start of the semester, otherwise the provision of accommodations may be delayed.  
        
      Students who have received approval for accommodations from OSD for this course must provide the instructor with the ‘Notice of Approved Accommodations’ from OSD before accommodations will be provided. Arrangements for academic accommodations can only be made after the instructor receives the ‘Notice of Approved Accommodations’ from the student.  
        
      Students with approved accommodations are encouraged to submit the ‘Notice of Approved Accommodations’ to the instructor at the beginning of the semester because a reasonable amount of time may be needed to prepare and arrange for the accommodations.  
        
      Additional information about the Office for Students with Disabilities is available at <http://www.austincc.edu/support/osd/>.
   8. Safety Statement: ACC is committed to providing a safe and healthy environment for study and work. Students are expected to learn and comply with ACC environmental, health and safety procedures and to agree to follow ACC safety policies. Additional information on these can be found at <http://www.austincc.edu/ehs>. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the Emergency Procedures poster and Campus Safety Plan map in each classroom. Additional information about emergency procedures and how to sign up for ACC Emergency Alerts to be notified in the event of a serious emergency can be found at <http://www.austincc.edu/emergency/>.   
        
      Please note that students are expected to conduct themselves professionally, with respect and courtesy to all. Anyone who thoughtlessly or intentionally jeopardizes the health or safety of another individual will be dismissed from the day’s class activity, may be withdrawn from the class, and/or barred from attending future activities.
   9. Use of ACC Email Communication: All College e-mail communication to students will be sent solely to the student’s ACCmail account, with the expectation that such communications will be read in a timely fashion. ACC will send important information and will notify you of any college related emergencies using this account. Students should only expect to receive email communication from their instructor using this account. Likewise, students should use their ACCmail account when communicating with instructors and staff. Instructions for activating an ACCmail account can be found at <http://www.austincc.edu/accmail/index.php>.
10. Testing Center Policy: Under certain circumstances, an instructor may have students take an examination in a testing center. Students using the Academic Testing Center must govern themselves according to the Student Guide for Use of ACC Testing Centers and should read the entire guide before going to take the exam. To request an exam, one must have:  
    * 1. ACC Photo ID
      2. Course Abbreviation (e.g., ENGL)
      3. Course Number (e.g.,1301)
      4. Course Synonym (e.g., 10123)
      5. Course Section (e.g., 005)
      6. Instructor's Name

Do NOT bring cell phones to the Testing Center. Having your cell phone in the testing room, regardless of whether it is on or off, will revoke your testing privileges for the remainder of the semester. ACC Testing Center policies can be found at <http://www.austincc.edu/testctr/>.

1. Students and Instructional Services: ACC strives to provide exemplary support to its students and offers a broad variety of opportunities and services. Information on these services and support systems is available at: <http://www.austincc.edu/s4/>.  
     
   Links to many student services and other information can be found at: <http://www.austincc.edu/current/>.   
     
   ACC Learning Labs provide free tutoring services to all ACC students currently enrolled in the course to be tutored. The tutor schedule for each Learning Lab may be found at: <http://www.autincc.edu/tutor/students/tutoring.php>.   
     
   For help setting up your ACCeID, ACC Gmail, or ACC Blackboard, see a Learning Lab Technician at any ACC Learning Lab.
2. Course Outline/Calendar
   1. *This will be instructor specific. Students need to have some idea of what they will be doing when, particular test dates, and other due dates. If dates are tentative and subject to change, then a statement to that effect will be included on the syllabus.*