BSC 417.01E: Geospatial Mapping – Spring 2026

MWF 10:00 – 10:50 AM; STC 210

Instructor Information:
Bjorn Schmidt
Office: STC 212
Email: bjorn.schmidt@tamuc.edu
Preferred contact: email
Office Hours: TR 1:00 pm – 3:00 pm, or by appointment

Textbook & materials (required):

Access to a computer and d2l (myleo online) is required; all course materials will be uploaded through d2l

Computers in STC 210 are available during computer days and outside of classes held in the room during the week; these computers will have the software needed for the course loaded on them, and you do not need to purchase the GIS software independently of the course

Required:

1)Getting to Know ArcGIS Pro 3.2. 2024. Law, Michael and Collins, Amy. ESRI press.
ISBN: 9781589487772

   *This text has the tutorial exercises that we will be using throughout the semester

Not required to purchase, but spatial analysis theory sections (lecture material) will come from this text:

2) The ESRI Guide to GIS Analysis, Volume 1: Geographic Patterns and Relationships (The ESRI Guide to GIS Analysis, 1), second edition. 2020. Mitchell, Andy. ESRI press.
ISBN: 9781589485792

Course Description

The course will provide basic knowledge of the fundamentals of Geographic Information Systems (GIS), including GIS theory and applications. The course will take a hands-on and problem-solving approach to learning GIS and will cover basic GIS skills, including map characteristics and projections, spatial data models, relational databases, and spatial analysis with a focus on natural resource research and management and environmental sciences.

Student Learning Outcomes
- Students will understand components of spatial analysis using GIS software, including common definitions, techniques, and analyses for the field
- Students will understand why GIS is used to create statistical maps, including how to read and create maps, and how to present different kinds of spatial data
- Students will be able to compare and relate different sources of spatial data, exploring geospatial relationships among map components
- Students will understand basics of geospatial model building
- Students will be able to geocode location data, tying specific dataset types to spatial locations in GIS
- Students will learn tools for analyzing patterns in time in space with density kernels and other techniques
- Students will understand the basics of raster data and raster map analysis in GIS
- Students will be able to synthesize and present a specific map in GIS designed to show patterns for a specific data pattern in biology or environmental sciences

Instructional Methods

Instruction will consist of class lectures covering spatial analysis theory, and applied exercises covering specific analysis techniques in GIS software. Material for tests will come from both of these components of the course. Announcements for scheduling or other changes will be announced in d2l course announcements system. Gradebooks will be maintained in d2l.

Course Evaluations

Tests: There will be three tests throughout the semester that will have questions related to both lectures (spatial analysis theory) and exercises (applied GIS skills)

Term map project: students will need to design a map project for the course, presenting specific data related to biology or environmental sciences. They will need to use and document skills from exercises in the course and attach a summary of what was done to create the map with the completed map. This assignment is in place of a final exam for the course, and will be due at the end of finals week. Students will need to select and discuss/refine topics for the map by certain dates of the course as noted in the schedule. More specific instructions will be given later in the course for the assignment

Exercises: There will be nine tutorial style exercises that will need to be completed for the course, which will take up the majority of the instruction time in the course. These will come

from the textbook for the course, and all products from the exercises will need to be turned into d2l by the due dates as noted in the syllabus. In class instructions/overview will be given at the beginning of each exercise section, and class time will be given to work on exercises. Students can help each other with exercises, but each student is responsible for completing tutorials on their own, and information from exercises (prioritizing skills or techniqus) will be on tests during the course.

Evaluation Points
Three tests - 240 points (80 points each)
Term map project (final exam) - 100 points
Nine GIS exercises - 270 points (30 points each)
Attendance and participation – 25 points

Total points = 635

Grading
A: 89.96-100%
B: 79.96-89.95%
C: 69.96-79.95%
D: 59.96-69.95%
F: <59.96%

General Makeup Policy: The student is responsible for requesting a makeup when they are unable to submit the regularly scheduled assessment before the due date and must schedule the makeup by email within **2 days** after the class date. If the assessment is not made-up, the student will receive a zero for that item. Makeup requests based on illness will need documentation of illness. Please do not attend class when sick.

Syllabus Change Policy
The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

Course AI Statement: AI writing tools, including predictive text generators like ChatGPT, are **not allowed** in this course. This statement particularly applies to the assignment/exercise component of the course. Students are responsible for their own written work, and are subject to requirements and consequences of the TAMUC academic dishonesty policy and the student code of conduct for any violations of this policy:

https://inside.tamuc.edu/aboutus/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf

https://www.tamuc.edu/student-life/division-of-student-affairs/office-of-student-rights-and-responsibilities/student-code-of-conduct/

Tentative Course Schedule (subject to change)

Week of	Topics	Notable Assignments
1/12	M: Syllabus, course overview W: **Topic 1** – Introduction to GIS F: *no class, travelling for conference*	
1/19	*Mon: MLK holiday – no class* W, F: Exercise 1	Exercise 1 due 01/23
1/26	M: **Topic 2** – Mapping Where Things Are W, F: Exercise 2 (a,b,c)	
2/02	M: Exercise 2 (a,b,c) W, F: **Topic 3** – Mapping Most and the Least	Exercise 2 (a,b,c) due 02/02
2/09	M,W,F: Exercise 3 (a, b, c, d)	Exercise 3 (a,b,c,d) due 02/13

2/16	M: **Test 1** (Topics 1-3; Exercise 1-3) W,F: **Topic 4** - Mapping Density; **Topic 5** - Finding What's Inside	
2/23	M: **Topic 5** - Finding What's Inside W, F: Exercise 4 (a, b, c)	
3/02	M: Exercise 4 (a, b, c) W, F: Exercise 5 (a, b, c)	Exercise 4 (a,b,c) due 03/02
3/09	***spring break – no class***	
3/16	M: Exercise 5 (a, b, c) W, F: Exercise 6 (a, b, c)	Exercise 5 (a,b,c) due 03/16
3/23	M: Exercise 6 (a, b, c) W: **Test 2** (Topics 4-5; Exercise 4-6) F: **Topic 6** – Finding What's Nearby	Exercise 6 (a,b,c) due 03/23
3/30	M,W: **Topic 6** – Finding What's Nearby **Topic 7** – Mapping Change F: Exercise 7 (a, b, c, d)	
4/06	M,W: Exercise 7 (a, b, c, d) F: Exercise 8 (a, b, c)	Exercise 7 (a,b,c,d) due 04/08
4/13	M,W: Exercise 8 (a, b, c) F: Exercise 9 (a, b, c, d)	Exercise 8 (a,b,c) due 04/15

4/20	M, W: Exercise 9 (a, b, c, d) F: **Test 3** (Topics 6-7; Exercise 7-9)	Exercise 9 (a,b,c, d) due 04/22
4/27	M,W,F: term map project (final exam)	
5/04	**Term map project due on Friday May 8th by 11:59 pm**	

Technology Requirements:

LMS

All course sections offered by East Texas A&M University have a corresponding course shell in the *my*LEO Online Learning Management System (LMS). Below are technical requirements:

LMS Requirements:
https://community.brightspace.com/s/article/Brightspace-Platform-Requirements

LMS Browser Support:
https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

Zoom Video Conferencing Tool:
https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom_Account.aspx?source=universalmenu

Access and Navigation
You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's

home, the local library, office service companies, Starbucks, an ETAMU campus open computer lab, etc.

Communication and Support
If you have any questions or are having difficulties with the course material, please contact your Instructor.

Technical Support

If you are having technical difficulty with any part of *Brightspace*, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

https://community.brightspace.com/support/s/contactsupport

Interaction with Instructor Statement

Response time to any questions sent by email regarding the course will be answered within 72 hours. However, students are encouraged to interact with the instructor directly during the class time and office hours, if necessary. Exceptions such as widespread internet outage apply.

Course and University Procedures/Policies:

Course Specific Procedures/Policies:
You are expected to check your ETAMU email and d2l every day to check for any announcements. Additional information about all course assessment components is provided under "Course Evaluations". Please do not attend class if feeling ill, if an illness occurs during a course assessment, please see the "General Makeup Policy" section above for guidance.

University Specific Procedures:

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.
https://inside.tamuc.edu/admissions/registrar/documents/studentGuidebook.pdf

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum:
https://www.britannica.com/topic/netiquette

ETAMU Attendance
For more information about the attendance policy please visit the Attendance webpage and Procedure 13.99.99.R0.01.
http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf

Academic Integrity
Students at East Texas A&M University are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03
Undergraduate Student Academic Dishonesty Form

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf

Graduate Student Academic Dishonesty 13.99.99.R0.10
Graduate Student Academic Dishonesty Form

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf

AI Statement

East Texas A&M University acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty
https://inside.tamuc.edu/aboutus/policiesproceduresstandardsstatements/rulesprocedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf

13.99.99.R0.10 Graduate Student Academic Dishonesty
https://inside.tamuc.edu/aboutus/policiesproceduresstandardsstatements/rulesprocedures/13students/graduate/13.99.99.R0.10.pdf

Students with Disabilities – ADA Statement
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:
Office of Student Disability Resources and Services
East Texas A&M University
Velma K. Waters Library Rm 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@tamuc.edu
Website: Student Disability Services
https://www.tamuc.edu/student-disability-services/

Nondiscrimination Notice
East Texas A&M University will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in East Texas A&M University buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and East Texas A&M Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:
http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.
at 903-886-5868 or 9-1-1.

ETAMU Supports Students' Mental Health

The Counseling Center at East Texas A&M, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel

Mental Health and Well-Being

The university aims to provide students with essential knowledge and tools to understand and support mental health. As part of our commitment to your well-being, we offer access to Telus Health, a service available 24/7/365 via chat, phone, or webinar. Scan the QR code to download the app and explore the resources available to you for guidance and support whenever you need it.

http://telusproduction.com/app/5108.html