

**COURSE SYLLABUS & OUTLINE. GEOGRAPHY 4333-01 (Geo 5095). CRN 22178**

**FIELD STUDIES. SPRING 2018**

**Meets Tuesday Thursday 2:00 - 3:50 in LDB 328 and at various locations in field.**

**Instructor: Dr. Mark R. Leipnik.**

**3 Units Credit, (since a mix of lecture, lab, field trips it meets 3 hours 40 minutes per week).**

**Field Studies explores methods and technologies, particularly global positioning systems (GPS) that are used to assist the collection and analysis of data about the natural and man-made environment. Students will experience field data collection methods and work as part of a team building participatory and leadership skills. Factual information will be imparted through power-point based lectures, demonstrations in the field, use of computer and GPS technologies and via presentations by several guest speakers who are professionals. An appreciation for the increasing importance of geospatial technologies in solving major environmental and societal issues will be stressed. Concepts covered include map use and creation and GIS, capture and interpretation of aerial photography remotely sensed imagery, orienteering and compass use, use of surveying instruments including laser total stations, use of global positioning systems technology and integration of GPS with GIS and digital photography. Areas where these materials, methods and technologies are applied that will be studied include: geocaching, forensic sciences, land surveying, soil science, forestry, wetlands delineation, transportation and urban studies and probably crime scene and ground penetrating radar methods. There are no prerequisites for this course. There is no textbook, but there will be lecture notes available as PDF's.**

**Lecture meets Tuesday 2-4 pm in LDB room 328 with field work on Thursdays most weeks 2-4 pm in various interesting places. (The Thursday field exercises will typically last slightly less than two hours including travel time; some may take slightly longer; I will let you know in advance if the field trip is likely to take a few extra minutes). A University van may be provided, but students may use their own transportation with prior arrangement and approval. One-two field trips will be to the Woodlands or Conroe and back and will take a little longer probably 3 hours they will most likely be on a Thursday in April. Note that in the event of inclement weather we may switch a field trip to Tuesday or have no field trips in one week and two field trips the next week.**

**Instructor: Dr. Mark Leipnik. Office Hours in Huntsville: Tu. 10-11. Phone: Ex. 3698, email GEO\_MRL@SHSU.EDU. Lecture notes will be available before quizzes in PDF format but they should not substitute for attentive participation in class. Activities and discussions during field trips will also be on the 6 quizzes in the class, so missed field trips cannot easily be made up for.**

**POLICIES: GENERAL:** Attendance at lectures and during field exercises is mandatory and will be taken at the beginning of each lecture. Students that are more than ten minutes late will be considered absent. Field trips and independent group work will not involve taking attendance due to logistical issues. However, on field trips the van may leave campus at between 2:01 and 2:05, so if you are late you will miss out or have to drive yourself.

**TEAMS & TEAM PROJECTS:** Each student will be assigned to a 2-3 member team. Membership in teams will be determined by alphabetical order of last names. Persons wishing to change teams should see the instructor after team composition is announced and have a good reason like sharing a car pool. Each team will receive a Trimble Juno GPS unit and retain that unit for use throughout the semester. ArcGIS 10.x software might be needed to a limited extent to create maps from data obtained using GPS units. These units will be signed out by all team members and each team member will assume responsibility for safe return of the \$950.00 unit. GPS units that are lost or stolen will result in failing grades for all members of the team to which the unit was assigned unless they opt to pay the replacement cost themselves (so be careful with your GPS unit!).

**ASSIGNMENTS & GRADING:** Since field studies is an applied "methods" course where much of the learning takes place in field exercises where material presented in lectures and by guest speakers is used to study the "real world" and since no text book is assigned (although some readings will be handed out as appropriate) this course will not have a traditional midterm or final exam. Rather, there will be six modules lasting two to three weeks each. The first Tuesday after the end of each module there will be a short quiz with ~10-20 T/F and/or multiple choice questions the quizzes will be worth 50 and then 70 points each (thus the quizzes will be worth 400 points total or 40% of all total points). Also each module will require the members of each team to submit a 5-10 page (sometimes longer) report for their team. Page length includes maps and photographs as appropriate. This report will be due at the first Thursday class meeting after the end of each module (except for module VI). This report will include results of field work, copies of field notes (including GPS coordinates and images of GPS screens) and information presented in the lecture. Also each team will be expected to include photographs taken during the course of field work. These photos can be either prints or output from a digital camera. I strongly recommend you use a cell phone camera and/or consider obtaining a digital camera for this class. Smart phone cameras are acceptable but the GPS in your smart phone does not have the accuracy adequate to meet the requirements of the class so it is not a substitute for the Trimble Juno unit. Additional information obtained from sources such as the Internet may also be appropriate for inclusion in the team reports. ESRI ArcGIS software should be used to create maps for each module using existing aerial photography and topographic maps as base-maps. One missed quiz can be made up with a 5-page research paper on a topic assigned by the instructor. Grades will be provided on returned quizzes at the next class meeting. Grades on module reports will be provided along with the returned report at the next class meeting after the report was due. The modules are worth 100 points each or 600 points total (60% of all total points). Each team has a mascot that is a venomous reptile found in Texas each module report should have a different picture of your mascot plus names of team members, module number, topic and date.

**SUMMARY OF GRADING: 1,000 points possible: Each quiz is worth 50 points, 6 quizzes @ 50 pts = 300 points (30% of total). Each report is worth 100 points, 6 reports @ 100 pts = 600 points (60% of total).**

**A = 900-1,000 points.**

**B = 750-900 points.**

**C = 600-750 points.**

**D = 500-600 points.**

**F = less than 500 points (*and you qualify to be left permanently in a wetland*).**

**Extra Credit:** Students wishing to make up for missed classes/quizzes or to improve their grade may receive up to 25 points of extra credit for a report. The report must discuss geographic technology applicable to field work and be approved by the instructor. The report must be 5 pages in length double spaced with normal margins and no more than 12-point type and contain 5 relevant references. A quiz missed for what the instructor determines to be a valid reason can be replaced by the grade on a 5-page paper with the same content. No more than 1 missed quiz can be replaced.

**Graduate credit.** The course is available for graduate credit (Geo 5095) with the requirement that a 20-30-page research paper on the application of geospatial or related technologies in gathering and analyzing field data in some application area be researched and prepared. The instructor must agree to the topic and will provide the student with appropriate references and guidance.

### ADDITIONAL INFORMATION:

**ACADEMIC DISHONESTY:** All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of academic dishonesty including, but not limited to, cheating on examinations or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials. At a minimum the student will receive a failing grade on the assignment in which dishonesty was involved, thus for a quiz worth 25 points copying of answers would result in the loss of those 25 points...

**Classroom Rules of Conduct:** Students are expected assist in maintaining a classroom environment that is conducive to learning. Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. Cellular telephones and pagers must be turned off before class begins. Students are prohibited from eating or drinking in class, using tobacco products, making offensive remarks, reading newspapers, sleeping, talking at inappropriate times, wearing inappropriate clothing, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in a directive to leave class. Students who are especially disruptive also may be reported to the Dean of Students for disciplinary action in accordance with university policy.

**STUDENTS WITH A DISABILITY:** It is the policy of Sam Houston State University that no otherwise qualified disabled individual shall, solely by reason of his/her handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any academic or Student Life program or activity. Disabled students may request assistance with academically related problems stemming from individual disabilities by contacting the Director of the Counseling Center in the Lee Drain Annex or by calling (936) 294-1720. Any student seeking accommodations should go to the *Counseling Center and Services for Students with Disabilities* in a timely manner and complete a form that will grant permission to receive special accommodations.

**VISITORS IN THE CLASSROOM:** Unannounced visitors to the classroom must present a current, official SHSU identification card to be permitted in the classroom. They must not present a disruption to the class by their attendance. If the visitor is not a registered student, it is at the instructor's discretion whether or not the visitor will be allowed to remain in the classroom. This policy is not intended to discourage occasional visiting of classes by responsible persons.

**Religious Holidays:** Students that are absent from class for the observance of a religious holy day are allowed to take an examination or complete an assignment scheduled for that day within reasonable time after the absence. The period of time during which assignments and exams will be excused includes travel time associated with the observance of the religious holy day. A student who wishes to be excused for a religious holy day must present the instructor of each scheduled class that he/she will be absent from class for religious reasons with a written statement concerning the holy day(s) and the travel involved. The instructor should provide the student with a written description of the deadline for the completion of missed exams or assignments. In such cases, the student will be required to take the test or submit the assignment early—unless there are good reasons for not being able to do so and the instructor has agreed to those reasons.

**NOTE THAT UNIVERSITY POLICIES CHANGE, SO THE SHSU UNIVERSITY WEB SITE SHOULD BE CONSULTED FOR A FULL DISCUSSION OF APPLICABLE OFFICIAL RULES & REGULATIONS.**

**GEO 4333. FIELD STUDIES. COURSE OUTLINE:**

---

**Week 1. Lec. 1. First Class Meeting. (Th. Jan. 18) (Handout syllabus, go over class policies, tentative team membership info) No lab or field work first week.**

**MODULE I. WEEK 2-3: PART I. USE OF MAPS, GIS & AERIAL PHOTOGRAPHY:**

---

**Week 2. Lec. 2. Map & GIS use and map creation (Tuesday, Jan. 23).**

**Lab 1. ArcGIS mapping exercise LDB 328 (Th. Jan. 25, start work as a team).**

---

**Week 3. Lec. 3. Aerial Photography/Remote Sensing (Tuesday Jan. 30).**

**Lab 2. Interpretation of aerial photos/ R.S. imagery (in LDB 328) (Th. Feb. 1).**

---

**MODULE II. WEEK 4-5: USE OF COMPASS AND SURVEY EQUIPMENT.**

**Week 4. Lec. 4. Geodesy, Navigation, and Compass. (Part of video on Navigation)  
(Tuesday Feb. 6).**

**Lab 3. (Quiz on MODULE I). Compass use and scavenger hunt  
(Thursday Feb. 8).**

---

**Week 5. Lec. 5. Surveying, Benchmarks and Surveying Instruments (possible guest speaker). (MODULE I write-up due), Demonstration of Benchmark web site. (Tuesday Feb. 13).**

**Lab 4. Visit benchmarks near campus, demonstration of Laser Total Station Surveying (S.H. Quad, etc., probable guest) Find and document benchmarks exercise (Independent effort) for lab using USNGS Benchmark web site. (Feb. 15).**

---

**MODULE III. WEEK 6-7: Global Positioning Systems.**

**Week 6. Lec. 6. GPS Theory (Tuesday Feb. 20). (Quiz on MODULE II).**

**Lab 5. Introduction Trimble GPS Units Sign out Units (GPS Survey Control Monument on campus), Start scavenger hunt (Thursday Feb. 22).**

**NOTE IN ORDER TO OBTAIN TRIMBLE JUNO GPS UNIT FOR YOUR TEAM EACH TEAM MUST SIGN OUT THE UNIT WITH NAMES & SIGNITURES OF ALL TEAM MEMBERS. ALSO EACH TEAM MUST SUBMIT ONE T SHIRT WITH A FUNNY OR UNUSUAL DESIGN ON IT. THE SHIRT WILL BE RETURNED AT END OF SEMESTER THE BEST T SHIRT GETS EACH MEMBER OF THE TEAM 10 POINTS EXTRA CREDIT.**

---

**Week 7. Lec. 7. GPS Applications and Data Management (MODULE II write-up due). (Tuesday Feb. 27).**

**Lab 6. Continue GPS “scavenger hunt” in Huntsville area. (Thursday March 1)**

---

**MODULE IV. WEEK 8-9 GEO CACHING/URBAN PLANNING.**

---

**Week 8. Lec. 8: Geocaching**

**(Quiz on MODULE III) (Tuesday, March 6)**

**Lab 7. Find Geocaches and create a Geocache (Thursday, March 8).**

---

**-----SPRING BREAK-----**

---

**MARCH 12-16, conduct your own field investigations of wild and crazy beach parties....**

---

**Week 9. Lec. 9. (MODULE III write-up due). URBAN PLANNING, Spatial Patterns in Human Settlement (Tuesday, March 20).**

**Lab 8. Find examples of Best and Worst Land use (Thursday, March 22).**

---

**MODULE V. WEEK 11-13: SOILS & FORESTRY, WETLANDS APPLICATIONS.**

---

**Week 10. Lec. 10. "Dirt in a Day" (Tuesday, March 27). (Quiz on MODULE IV)**

**Lab 9. Soil Sampling Methods (locations in Walker County) (Thursday, March 29).**

---

**Week 11. Lec. 11. (MODULE IV write-up due). Forestry (Tuesday, April 3).**

**Lab 10. Timber Cruising (Managed Forest, guest forester) (Thursday, April 5)**

---

**Week 12. Lec. 12. Wetlands. (Tuesday, April 10).**

**Lab 11. Delineating & Creating Wetlands (Field Trip to Woodlands) (Th. April 12).**

---

**MODULE VI. WEEK 14-16 FORENSICS, TRANSPORTATION & CJ APPLICATIONS OF FIELD METHODS.**

---

**Week 13. Lec. 13. Transportation Planning /Traffic Safety (possible Conroe FT) (Tu. April 17).**

**Lab 12. Study of traffic enforcement, field sobriety demo (with Police Officer) (April 19).**

---

**Week 14. Lec. 14. RESULTS OF BEST & WORST LAND USE & GEOCACHING CONTESTS & EXAMPLES OF STUDENT GEOCACHES. Work on Reports...**

**(MODULE V write-up due). (Quiz on MODULE V).**

**(Tu. April 24).**

**Lab 13. Visit to East Texas Forensic Sciences Site (GPR, Demo? Th. April 26).**

**NOTE VISIT TO “ETFS SITE” Requires signing two release forms, no cellphones are allowed also may have to be rescheduled to Tuesday or following Tuesday depending on staff schedule). NOTE that only students enrolled in the class may participate: no friends or guests are allowed on the field trip...**

---

**Week 15. Lec. 15. Crime Scene/Homicide Investigation guest lecture (or free day to finish up lab reports...) (Tu. May 1). write-up on MODULE VI due.**

**Lab 14. Thursday May 1 Field work at Huntsville State Park during scheduled final we will not have a final exam but a field trip to Huntsville State Park. Note that the park charges a \$2 per head entry fee for school groups so be sure to have the money with you. Instructor will provide soft drinks and fried chicken, students should plan on bringing whatever potluck item they are good at making (25 points extra credit for bringing a home-made food item, 50 points for best homemade item (instructor judges, ties are possible), Attendance at this lab constitutes the final quiz...(Th. May 3).**



## SUMMARY OF KEY ASSIGNMENTS DATES & POINTS

Date	Assignment	Points
Feb. 8	MODULE 1 QUIZ	50
Feb. 13	MODULE 1 REPORT	100
Feb. 20	MODULE 2 QUIZ	70
Feb. 27	MODULE 2 REPORT	100
March 6	MODULE 3 QUIZ	70
March 20	MODULE 3 REPORT	100
March 27	MODULE 4 QUIZ	70
April 3	MODULE 4 REPORT	100
April 24	MODULE 5 QUIZ	70
April 24	MODULE 5 REPORT	100
May 1	MODULE 6 REPORT	100
May 3	MODULE 6 QUIZ	70