

UNIVERSITY OF FLORIDA SCHOOL OF FOREST RESOURCES AND CONSERVATION
GEOMATICS PROGRAM - SUR 4430 SURVEYING AND MAPPING PRACTICE
SYLLABUS – SPRING SEMESTER 2019

Version 2 - 010419

COURSE TITLE: SUR 4430 Surveying and Mapping Practice - Credits: 3
Section 01GF (Apopka) Section 2002 (Broward),
Section 2064 (Plant City) Section 8849 (Gainesville)

PREREQUISITES: SUR 3520 and SUR 4403 or the equivalents. You MUST have mastered the Cadastral Principles Course before attempting this class. This course should be the final core Geomatics course for graduating Seniors who are preparing to take their S.I.T. exam, and either enter the workforce or proceed on to graduate school.

UF CATALOG DESCRIPTION: A study of land surveying and mapping practice; the lot survey; the sectional survey; the water boundary survey; office and business practices; professional standing. (Note: This Catalog Description dates back to the earliest decade of the Program and was written by Dr. David W. Gibson, P.L.S.)

Current Instructor Breed's Expanded Description: A study of the Professional Practice of Surveying and Mapping and preparing graduating Seniors to enter the workforce; the "Lot and Block" Boundary Survey; the United States Public Lands Survey System and Boundary surveys within sectionalized lands; Riparian Boundary Surveys (Mean High Water and the Ordinary High Water Mark); Public- and Private-Sector Office and Business Practices; Professionalism; Ethics; the Florida Regulatory Environment; Professional Standing and Inculcating A High View Of A Grand Profession.

INSTRUCTOR: John N. "Jack" Breed, P.L.S.
Campus Assignment: UF/IFAS GCREC-Plant City Campus
1200 North Park Road / Plant City, FL 33563-1540
Actual Location: CivilSurv Design Group, Inc.
2525 Drane Field Road, Suite 7
Lakeland, FL 33811

Contact via Email: jbreed@civilsurv.com or cell phone 863 559 6597

!!warning!! jbreed@ufl.edu is rarely checked. You MUST use my CivilSurv office address for communications, and for timely submittal of assignments **!!warning!!** jbreed@ufl.edu is NOT ME! **!!warning!!**

Office hours: Tuesdays 3:30pm to 5:00pm via email and phone

COMMUNICATION: I will be teaching "live" via Polycom from my private office in Lakeland, to all four campuses. We must work together to overcome the disconnect caused by a 4-campus class discussion, and you are encouraged to speak up and keep the course lively. This is to be a DISCUSSION course. You will be graded on your participation, insight and input on the issues we discuss. I live and work in Polk County, so it is easiest to reach me via email and cell phone when you have questions or need assistance. **Our "Classroom" is ufl.zoom.us/j/8128578300**

TEXTBOOK: Required Text: *Evidence and Procedures for Boundary Location*
Sixth Edition, Robillard, Wilson, Brown

Note : Prerequisite courses required *Boundary Control and Legal Principles*, Brown, Robillard, Wilson, and this text will be an additional reference.

Supplementary Materials, Exhibits and Handouts will be distributed for lectures and labs. CADD-equipped and internet-accessible workstation/laptop is required for labs. Field Trips require travel and rigorous outdoor work.

OBJECTIVES: As one of the final courses of the Geomatics Program, this course will explore and discuss practical applications of geomatics principles and theories, aimed at students entering the Surveying and Mapping Profession. Further, this course aligns with the students' professional goals of licensure as a Professional Surveyor and Mapper.

LECTURE/LAB TIMES AND DAYS: Typically, Lectures will be 9:35am to 10:25am on Tuesdays and Thursdays, with Lab/Discussion Sessions from 3:00pm to 6:00pm on Wednesdays. There are many exceptions to the usual schedule as there are several out-of-town and weekend field trips. Pay close attention to the weekly schedule, and note that students must provide their own transportation for the field trips. **ACTIVE ATTENDANCE, PARTICIPATION, AND DISCUSSION IS MANDATORY.**

ATTENDANCE AND CLASS Demeanor: This course will deal in practical applications and requires student/class interaction and discussion. Again, class participation is a significant portion of your grade. Talk to me. Think. Discuss. Debate. Attendance at ALL lectures, ALL labs and ALL field trips is mandatory, and attendance will be taken at the beginning of each session. Exceptions may be granted at the Instructor's sole discretion for extreme hardship.

Working students are advised to setup internet/camera connections for ALL lectures for participation. It is only two 50-minute windows in the week, and can be easily done from the workplace. It is NOT advisable to skip lectures and merely review the recordings. Many of the Labs and ALL of the Field Trips require your physical attendance, not merely an "online" presence.

This is a professional-level course and classroom demeanor is expected to conform to business office practices. Therefore distractions such as texting, internet surfing and cell phone use is not acceptable during lectures and discussion sessions.

Graduates of this class will be entering the workforce, and students will be expected to produce professional deliverables in a timely manner. You will be introduced to the leadership of this profession on several field trips and appropriate attire is mandatory. That is a jacket and tie for the gentlemen and professional office attire for the ladies.

ASSIGNMENTS, DELIVERABLES AND DEADLINES: Welcome to the Profession! Deadlines are absolute (a 3:00pm deliverable is marked LATE at 3:01pm). Due dates and times will be announced when assignments are given. Strict attention to deadlines is required, just as it will be in your future practice of Surveying and Mapping.

All assignments must be successfully and fully completed and turned in to pass the course. Again, to pass this class, ALL work must be successfully and thoroughly completed and turned in. Late work delivered within 24 hours of the deadline will result in a 20% score reduction on delivery. Work delivered any later than 24 hours will be docked an additional 10%. All work must be turned in to pass this course, but any submittals over one week late will receive a score of zero. Incomplete submittals will be returned, and regardless of score, all assignments MUST be thoroughly and satisfactorily completed to pass this course.

And, a final "Lesson Learned". Clearly label all submittals with your name and date and assignment title on the center top of the front page. I will not link your email to the attached document. Likewise, .pdf file names should include your name and assignment title.

ACCOMODATIONS FOR STUDENTS WITH DISABILITIES: Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

ASSESSMENT METHODS: Current UF grading policies for assigning grade points may be reviewed at <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>. Grading will be weighted approximately as follows:

<i>Class Attendance and Participation/Discussion/Engagement</i>	15%
<i>Professionalism</i>	10%
<i>Homework/Lab Assignments</i>	30%
<i>Quizzes</i>	30%
<i>Final Exam</i>	15%

THE FS (SIT) and PS (PSM) EXAMS:

The majority of our Geomatics students plan to take the NCEES Fundamentals of Surveying (FS) Exam after completing this course or near the end of the semester. Our course is structured to follow the content of the exam to prepare the student for licensure.

The Fundamentals (FS) exam and the Principles and Practice (PS) exam are both now offered year- round through computer based testing (CBT). The National Council of Examiners for Engineering and Surveying (NCEES) is responsible for administering of both the FS and PS exams, and you may direct all of your questions regarding exam registration and procedures to NCEES. Find out more by visiting www.ncces.org.

The Florida Jurisdictional exam is now being offered through the Florida Board of Professional Surveyors and Mappers office. They offer the paper and pencil, 100 question multiple choice exam four to six times per year in different locations throughout the state. Please visit their website to view the exam dates and locations, as well as the registration information.

Please note: In order to register for any of the exams (FS, PS and Florida Jurisdictional), you must have submitted a registration application and been approved by the Board.

CRITICAL CALENDAR DATES:

8 ASSIGNMENTS

Field Crew Work Order	1/9 due 1/16
Bridge Survey Business Proposal	1/16 due 2/5Tu
Surveyors Report	1/30 due 2/13
Legal Description	2/13 due 2/20
Cory Expert Opinion	2/13 due 2/26Tu
Retracement Lab Prep	3/20 due 3/27
"Mortgage" Survey	4/3 due 4/17
Tide Study	4/2 due 4/24

5 QUIZZES

Introduction	1/16
Regulations	2/13
Subdivisions	2/20
Water/USPLSS	4/17
Ethics	4/24

Plus a Final Exam!

5 FIELD TRIPS

FDACS Board Meeting	1/24 Th
Hands On Look	2/6 We
Leadership/Regulation	2/27 We
USPLSS Retracement	3/27 We
Tide Study	4/13 Sa

4/29/19 12:30pm to 2:30pm

2019 COURSE TOPICS AND TENTATIVE CLASS SCHEDULES

The dates of each lesson may change during the semester, depending on our class progress. This is the initial plan to serve as a guideline.

LECTURE SERIES 1 AN INTRODUCTION TO THE PRACTICE OF SURVEYING AND MAPPING

Tuesday	1/8	LECTURE 1 Introductions. The Surveying and Mapping Profession. Course Outline. Shock and Awe. Expectations.
Wednesday	1/9	LAB 1 Continue Overview and Introductions, and outline Homework Assignment #1 – NIRTS, Welcome To The Profession. Due via .pdf by 3:00pm on 1/16/18, and Class Presentation at 3:00pm Lab, same day. There will also be reading assignments given in the lectures and labs, and there will be subsequent quizzes on the reading assignments.
Thursday	1/10	LECTURE 2 Time, Cost and Schedule Management
Thu/Fri	1/10-11	FYI - THE FLORIDA SURVEYING AND MAPPING SOCIETY WILL BE HAVING THEIR QUARTERLY BOARD MEETING IN LAKELAND
Tuesday	1/15	LECTURE 3 Client/Project and Business/Operational Proposals
Wednesday	1/16	LAB 2 Quiz 1 Student Presentation of Field Crew Work Order Packages, Open Class Grading Homework Assignment #2 – Bridge Survey Business Plan/Proposal Due via .pdf by 3:00pm on 2/5 Tu

LECTURE SERIES 2 A HIGHLY REGULATED PROFESSION

Thursday	1/17	LECTURE 4 Florida Statutes Chapter 472 and Florida Administrative Code Chapter 5J17
Tuesday	1/22	LECTURE 5 Florida Statutes Chapters 177 and 287 and the BLM Manual of Instructions
Wednesday	1/23	NO LAB TODAY, TRAVELLING TO GAINESVILLE TOMORROW
Thursday	1/24	LAB 3 ALL MORNING, IN GAINESVILLE, MAKE ARRANGEMENTS WITH OTHER CLASSES! 8:00am to Noon (<i>plus Gainesville travel time</i>) <i>Meet me promptly at 8:00am in the Lobby of the Hilton Garden Inn, 4075 SW 33rd Place, Gainesville, FL 32608. The Meeting begins at 8:30am.</i> We have been invited to attend the Quarterly Meeting of our Regulatory Board (BPSM) in the Department of Agriculture and Consumer Services (FDACS). Our host is Board Executive Director Jenna Harper. This is a unique opportunity to meet with our Regulators, and observe Probation Reviews, Application Reviews, Continuing Education, Rules and General Business of the Board. <i>You will be introduced to the leadership of this profession and appropriate attire is mandatory. That is a jacket and tie for the gentlemen and professional office attire for the ladies.</i>
Friday/Saturday	1/25-26	FYI - See you at PIGFEST, visit The Grove In The Swamp BBQ Team!
Tuesday	1/29	LECTURE 6 Florida Statutes Chapters 95 and 718 and the ALTA/NSPS Standards.

LECTURE SERIES 2 A HIGHLY REGULATED PROFESSIONcontinued...

Wednesday 1/30 LAB 4
Reviewing the Classic David Gibson Case of Jack Frost's Survey
Homework Assignment: Writing a Surveyor's Report, due via .pdf NLT 3:00pm 2/13

Thursday 1/31 LECTURE 7
The "Mortgage Survey" and Condominiums. Regulatory Review and wrap-up

LECTURE SERIES 3 SURVEYING AND MAPPING PROCEDURES AND DELIVERABLES

Tuesday 2/5 LECTURE 8
Surveying in a Monumented Subdivision

Wednesday 2/6 LAB 5 **ALL DAY WEDNESDAY - MAKE ARRANGEMENTS WITH OTHER CLASSES!**
A DIRECT LOOK AT THE PRACTICE OF SURVEYING AND MAPPING – POLK COUNTY FIELD TRIP -
You will be introduced to the leadership of this profession and appropriate attire is mandatory. That is a jacket and tie for the gentlemen and professional office attire for the ladies.
Departure - to arrive Plant City campus promptly at 8:15am. Address: UF/IFAS GCREC-Plant City Campus / 1200 North Park Road / Plant City, FL 33563-1540. We will carpool, leaving some vehicles at Plant City.
8:15am – Meet with Dr. Amr H. Abd-Elrahman and Katie Britt. Discussion of Geomatics Program and tour of Gulf Coast REC / Plant City campus.
8:30am – The Land Development and Construction Industry. Meeting at the Plant City REC with Gator Geomatics Alumni David Williams, Justin Brantley and Joe Rager of GeoPoint Surveying, Inc. to discuss the "big-firm" approach to meeting the needs of the Land Development and Construction Industries in Florida. GeoPoint is one of Florida's largest Surveying and Mapping firms and their experience covers a broad range of project types, including residential, commercial, industrial, institutional, energy, transportation, and various other public and private projects
9:30am – The Private Practice of Mapping. Meeting/discussion and facilities tour of I.F. Rooks & Associates, Inc., 106 N.W. Drane Street, Plant City, FL 33563, with Ed and Ike Rooks. Rooks specializes in providing a full suite of photogrammetric solutions catered to the geospatial community.
10:45am – The Sales/Technology/Equipment Providers. Hydrographic Vessel Tour and facilities tour of Measutronics Corporation, an Equipment, Installation, Training and Support firm for the marine construction, hydrographic survey, dredging and structure monitoring industries. Hosted by UF Alumnus Lou Nash and Trevor Yocum. Address: 4020 Kidron Road, Suite #9 / Lakeland, Florida 33811-1280
11:45am – The Multi-Disciplinary Practice of Engineering, Planning and Surveying and Mapping. Meeting/discussion and facilities tour of CivilSurv Design Group, Inc., 2525 Drane Field Road, Lakeland, FL 33811, with John E. Howle, PE, Hetty C. Harmon, AICP, and Geomatics Gator Kenneth T. Glass, PSM. CivilSurv is a full-service, multi-discipline, state-wide Infrastructure services firm with a veteran staff of Professional Engineers, Urban Planners and Surveyors and Mappers.
12:45 – Public? Private? Large? Small? Services? Sales? Technology? Lunch Meeting and Round-Table discussion with Dianne Collins, PSM, Collins Survey Consulting and current President of the Florida Surveying and Mapping Society, Kenneth T. Glass, PSM, (UF Alumnus and V.P. of CivilSurv), and Lou Nash, Measutronics (UF Alumnus). Abuelo's Mexican Food Embassy, 3700 Lakeside Village Blvd, Lakeland, FL 33803.
2:15pm – The Private Multi-Disciplinary Practice of Surveying and Mapping. Meeting/Discussion and Facilities tour of Pickett & Associates, Inc., 475 South First Avenue, Bartow, FL 33830, with Gator Geomatics Alumnus John M. Clyatt, PLS, Jeff Young, PSM, and Greg Prather, PSM. The Pickett team brings a focused approach to a wide range of surveying, photogrammetry, remote sensing and GIS services in support of various applications.
3:45pm – The Public-Sector Practice of Surveying and Mapping. Meeting/Discussion with FDOT District One and Polk County BOCC Surveying and Mapping staff. FDOT District Headquarters, 801 North Broadway Avenue, Bartow, FL 33830, with District Surveyors Jim Myers, PSM, Dan Rutkosky, PSM, and Mike Benton, PSM, and County Surveyor Don Arscott, PSM.
4:30pm – Debrief then head home

LECTURE SERIES 3 SURVEYING AND MAPPING PROCEDURES AND DELIVERABLES Continued

Thursday	2/7	LECTURE 9 Surveying in a Protracted Subdivision Surveyor's Report and Content of a Survey Drawing
Tuesday	2/12	LECTURE 10 Evidence and Procedures (I)
Wednesday	2/13	LAB 6 Quiz 2 – Regulations Case Studies: Original Surveyors Intent and Mined Lands. Writing Legal Descriptions. The Cory Boundary Survey Dilemma. Homework Assignments: (A) Legal Description - due via .pdf NLT 3:00pm 2/20, and (B) Expert Opinion Letter - due via .pdf NLT 3:00pm 2/26 Tu
Thursday	2/14	LECTURE 11 Evidence and Procedures (II)
Tuesday	2/19	LECTURE 12 The Bureau of Land Management and the History of the Public Lands Survey System (USPLSS)
Wednesday	2/20	LAB 7 Quiz 3 – Subdivisions Case Studies: Holmes Avenue and Gardens East. Instructions for next Wednesday's Tallahassee Lab.
Thursday	2/21	LECTURE 13 USPLSS Following in the footsteps, equipment and marks
Tuesday	2/26	LECTURE 14 USPLSS Township Protraction, Dependent and Independent Resurveys, Township Corner Recovery - USPLSS Section Corner Recovery
Wednesday	2/27	LAB 8 ALL DAY WEDNESDAY - MAKE ARRANGEMENTS WITH OTHER CLASSES TALLAHASSEE FIELD TRIP – STATE GOVERNMENT, STATE RECORDS, AND PROFESSIONAL LEADERSHIP - <i>You will be introduced to the leadership of this profession and appropriate attire is mandatory. That is a jacket and tie for the gentlemen and professional office attire for the ladies.</i> 8:30am Arrive Tallahassee, parking and walk to Capitol 9:00am Meet Jack Breed in the lobby of the New Capitol for a briefing and Self-Tour 9:30am – Florida Capitol Fourth Floor. Meeting/discussion of the Legislative process with David Daniel (Smith, Bryan and Myers), FSMS Legislative Representative 10:00am – Meeting in Florida Agriculture Commissioner Fried's Office – Plaza Level, room PL-10. FDACS BPSM staff will discuss the Florida Cabinet and FDACS Regulatory oversight of Surveying and Mapping, as well as the overall mission of the Department of Agriculture and Consumer Services 11:30am – FSMS Headquarters – Lunch Meeting - Florida Surveying and Mapping Society headquarters. 1:00pm – Meet at original corner monument for class photograph 1:30pm – Meeting with Brett Wood, PSM, Gator Geomatics Alumnus George Massey, PSM, and the Florida Department of Transportation – Central Office Surveyors and Staff 3:00pm – Meeting at Florida Department of Environmental Protection, Division of State Lands, re: FDEP DSL Records, LABINS and Tide Surveys. FDEP Surveyors and Staff. Hosted by State Surveyor Richard Malloy, PSM. 4:00pm – Meeting at FDEP Title & Land Records Section, tour of the State Records Vault with Marcus Ashman, PSM, Samantha Mercer and Karen McMillan. 5:30pm – Head home
Thursday	2/28	NO LECTURE, YOU MAY BEGIN SPRING BREAK!

LECTURE SERIES 3 SURVEYING AND MAPPING PROCEDURES AND DELIVERABLES Continued

Tu/We/Th	3/12-14	SCHEDULE CONFLICT – NO CLASS THIS WEEK. <i>See you at The Twelve Hours of Sebring!</i>
Fri/Sat	3/15-16	FYI SFRC'S SPRING CELEBRATION AND UF GSA WEEKEND!
Tuesday	3/19	LECTURE 15 USPLSS Section Breakdown and the Center of Section
Wednesday	3/20	LAB 9 ACMF Retracement Lab Preparation Homework Assignment: ACMF Retracement Lab Field Crew Work Package
Thursday	3/21	LECTURE 16 Intro to Water Boundaries and the OHWM (same slides used again on Lecture 17)
Tuesday	3/26	LECTURE 17 The Ordinary High Water Mark (continue slides from 3/14) Tidal Boundaries and MHW Surveys (part 1)
Wednesday	3/27	LAB 10 ALL DAY WEDNESDAY - MAKE ARRANGEMENTS WITH OTHER CLASSES! USPLSS RETRACEMENT LAB - Field trip – meet onsite promptly at 10:00am. Working lab until dark, so pack your own lunch - section corner retracement in Austin Cary Memorial Forest, between Waldo and the Gainesville Airport.
Thursday	3/28	NO LECTURE TODAY
Tuesday	4/2	LECTURE 18 Tidal Boundaries and MHW Surveys (part 2) Prep for MHW Tide Study in Cedar Key Homework Assignment: Deliver a completed MHW Survey on the FDEP forms Deliver a Certified Topographic Survey of the Site Both due via .pdf NLT 3:00pm and presented live at 4/24 LAB
Wednesday	4/3	LAB 11 Homework Assignment: the Whitedove Lot Survey. Due NLT 3:00pm via pdf and live classroom presentation on 4/17. Continue prep discussions for Cedar Key lab.
Thursday	4/4	LECTURE 19 Flood Certifications

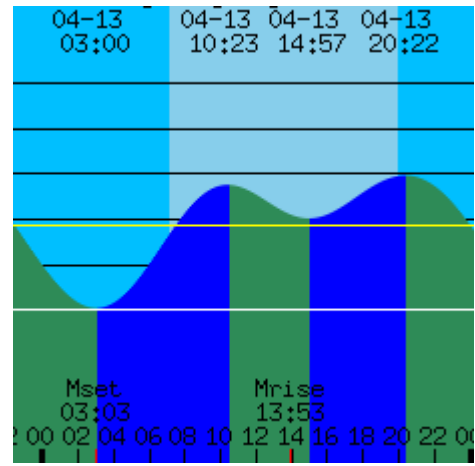
LECTURE SERIES 4 YOU! - THE PROFESSIONAL SURVEYOR AND MAPPER

Tuesday	4/9	LECTURE 20 Ethics and Professionalism
Wednesday	4/10	NO LAB TODAY. MOVED TO ALL DAY SATURDAY APRIL 13 *** REMINDER *** STUDENTS ARE CAUTIONED TO USE THIS TIME TO PREPARE FOR SATURDAY'S TIDE STUDY IN CEDAR KEY. Assemble, test and calibrate all your gear. Research benchmarks and control.
Thursday	4/11	NO LECTURE TODAY. SEE YOU IN CEDAR KEY SATURDAY

LECTURE SERIES 4 YOU! - THE PROFESSIONAL SURVEYOR AND MAPPERcontinued.....

Saturday 4/13 **ALL DAY SATURDAY**
 CEDAR KEY FIELD TRIP – TIDE STUDY
 MEET ONSITE PROMPTLY AT 6:30AM **SATURDAY** UNTIL 7:00PM
 Cedar Key, Gulf Of Mexico, Florida 29.1350° N, 83.0317° W

2019-04-13 03:00 EDT 0.03 feet Low Tide
7:30am Get both gauges up ASAP and start readings NLT 7:15am (mid-tide)
 2019-04-13 10:23 EDT 2.74 feet High Tide
 2019-04-13 14:57 EDT 2.00 feet Low Tide
Finish Recording both gauges 7:00pm (mid-tide)
 2019-04-13 20:22 EDT 2.95 feet High Tide



Tuesday 4/16 LECTURE 21
 Liability and Contracts

Wednesday 4/17 LAB 13
 Quiz 4 – Water Boundaries and the USPLSS
 The Surveyors Shoot-Out - Whitedove Boundary Survey Student Presentations
 The remainder of this period will be used for sharing Tide Lab data for processing your MHW Survey, and more discussion of deliverables.

Thursday 4/18 LECTURE 22
 The Surveyor in Court (part 1)

Tuesday 4/23 LECTURE 23
 The Surveyor in Court (part 2)

Wednesday 4/24 LAB 14 – THE LAST LAB!
 Quiz 5 - Ethics
 Student presentations of Cedar Key Tide Study and Topographic Surveys
 Wrapping it up! Final discussions of Surveying and Mapping from A to Z

Thursday 4/25 READING DAY – NO LECTURE

Monday 4/29/19 FINAL EXAMINATION
 12:30pm – 2:30pm <http://www.registrar.ufl.edu/soc/201901/finalexamsched.html>