

UNIVERSITY OF FLORIDA SCHOOL OF FOREST RESOURCES AND CONSERVATION
GEOMATICS PROGRAM - SUR 4430 SURVEYING AND MAPPING PRACTICE
SYLLABUS – SPRING SEMESTER 2021

Version 1 – 010621

**THIS IS A "FIRST DRAFT" AND WILL BE UPDATED AS LABS ARE FINALIZED.
STUDENTS ARE CAUTIONED TO STAY UP WITH THE CURRENT VERSION**

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 Surveying and Mapping 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.

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

Campus Assignment: Given the format of this course, and the fact that our students are distributed across four campuses, I do not have a physical UF office. I am always available to you by cell phone or email. Should face-to-face meetings become allowed, and are needed, I am assigned to:
UF/IFAS GCREC-Plant City Campus
1200 North Park Road / Plant City, FL 33563-1540

Contact via Email: jnbreed@ufl.edu

!!warning!! jbreed@ufl.edu is NOT ME! **!!warning!!**

Non-UF Work Days: CivilSurv Design Group, Inc.
2525 Drane Field Road, Suite 7
Lakeland, FL 33811
jbreed@civilsurv.com
Cell phone 863 559 6597

ON-CAMPUS ASSISTANCE: 2064 / Plant City / Katie Britt / Office 813-757-2183 / Cell 813-613-3147
2002 / Broward / Adam Benjamin / Office 954-577-6378 / Cell 401-741-7801
01GF / Apopka / Angela Colonna / Office 407 410 6946
8849 / Gainesville / Jaclyn Gilley / Office 352-392-9492 / 352-494-4011

COMMUNICATION: I will be teaching "live" via ZOOM 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. Again, watching the video is NOT attending and participating. Our "Classroom" is ufl.zoom.us/j/8128578300

TEXTBOOK: Required Text: *Evidence and Procedures for Boundary Location*
Sixth Edition, Robillard, Wilson, Brown (*Note: the 7th Edition is planned for release on February 24, 2021*)
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.
PLEASE NOTE: you will be required to deliver Sketches, Boundary Surveys and Topographic Surveys which requires access to, and proficiency in AutoCad. There are student versions available, on-campus workstations, and remote access through UF Apps. Do not wait until mid-semester, make arrangements now.

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.** For the third time, note that watching the video is NOT the same as attending (virtually via ZOOM) and participating.

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. **At present, with pandemic restrictions, this is highly unlikely for this semester.**

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	1/13 due 1/20 3:00pm
Bridge Survey Business Proposal	1/20 due 2/3 3:00pm
Surveyors Report	2/17 due 3/3 3:00pm
Legal Description	3/3 due 3/17 3:00pm
Cory Expert Opinion	3/3 due 3/17 3:00pm
Retracement Lab Prep	3/10 due 3/13 OnSite
Tide Study	3/16 due 4/21 3:00pm
"Mortgage" Survey	4/7 due 4/14 3:00pm

5 QUIZZES

Introduction	1/20
Regulations	2/17
Subdivisions	3/8
Water/USPLSS	4/7
Ethics	4/21

3 "VIRTUAL" FIELD TRIPS

Hands On Look	1/27 & 2/3
FDACS Board Meeting	2/11-12
Leadership/Regulation	2/24 We

2 FIELD LABS

USPLSS Retracement	3/13 Sa
Tide Study	3/26 Fr

Plus a Final Exam! 4/28/21 – 7:30am to 9:30am

2021 COURSE TOPICS AND TENTATIVE CLASS SCHEDULES

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

WEEK 1	LECTURE SERIES 1	AN INTRODUCTION TO THE PRACTICE OF SURVEYING AND MAPPING
Tuesday	1/12	LECTURE 1 Introductions. The Surveying and Mapping Profession. Course Outline. Shock and Awe. Expectations.
Wednesday	1/13	LAB 1 Continue Overview and Introductions, and outline Homework Assignment #1 – NIRTS, Welcome To The Profession. Due via .pdf by 3:00pm on 1/20, 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	1/14	LECTURE 2 Time, Cost and Schedule Management
WEEK 2	LECTURE SERIES 1	AN INTRODUCTION TO THE PRACTICE OF SURVEYING AND MAPPING
Tuesday	1/19	LECTURE 3 Client/Project and Business/Operational Proposals
Wednesday	1/20	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 2/3
WEEK 2	LECTURE SERIES 2	A HIGHLY REGULATED PROFESSION
Thursday	1/21	LECTURE 4 Florida Statutes Chapter 472 and Florida Administrative Code Chapter 5J17

WEEK 3 LECTURE SERIES 2 A HIGHLY REGULATED PROFESSION

Tuesday 1/26 LECTURE 5
Florida Statutes Chapters 177 and 287 and the BLM Manual of Instructions

Wednesday 1/27 LAB 3A
A DIRECT LOOK (VIA ZOOM) AT THE PRACTICE OF SURVEYING AND MAPPING

3:00pm. Class convenes on-line. Please dress appropriately to meet the leadership of our profession.

Our "Classroom" is ufl.zoom.us/j/8128578300

3:15pm – The Land Development and Construction Industry. Meeting 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

4:00pm – 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, PSM, and David McKay, PSM. Rooks specializes in providing a full suite of photogrammetric solutions catered to the geospatial community.

4:45pm – The Sales/Technology/Equipment Providers. Meeting/discussion 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

5:30pm – 6:00pm – Class Discussion, Summary Comments, Questions.

Thursday 1/28 LECTURE 6
Florida Statutes 95, 193, 718, ALTA/NSPS Standards

WEEK 4 LECTURE SERIES 2 A HIGHLY REGULATED PROFESSION

Tuesday 2/2 LECTURE 7
"Mortgage Survey" and Condominiums. Regulatory Review and wrap-up

Wednesday 2/3 LAB 3B
A DIRECT LOOK (VIA ZOOM) AT THE PRACTICE OF SURVEYING AND MAPPING

3:00pm. Class convenes on-line. Please dress appropriately to meet the leadership of our profession.

Our "Classroom" is ufl.zoom.us/j/8128578300

3:15pm – The Public-Sector Practice of Surveying and Mapping. Meeting/Discussion with FDOT District One and Polk County BOCC Surveying and Mapping staff: District Surveyors Jim Myers, PSM, Geomatics Gator Ryan Kuhn, PSM, and Mike Benton, PSM, and County Surveyor Richard Noland, PSM, and City Surveyor Richard Powell, PSM.

4:00pm – 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 Craig Fuller, PE, John E. Howle, PE, Mark Frederick, P.E., Hetty C. Harmon, AICP, Gary Allen, PLS, and Geomatics Gators Kenneth T. Glass, PSM and Timothy Morris, 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.

4:30pm – 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, Past President of FSMS and Geomatics Advisory Board Member John M. Clyatt, PLS, Craig Emrick, PSM, 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.

5:15pm – Public? Private? Large? Small? Round-Table discussion with Dianne M. Collins, PSM, Past President of FSMS, and President of Collins Survey Consulting, LLC, a specialty FDOT R/W Mapping firm.

5:45pm – 6:00pm – Class Discussion, Summary Comments, Questions.

Thursday 2/4 LECTURE 8
Surveying in a Monumented Subdivision

WEEK 5 LECTURE SERIES 3 SURVEYING AND MAPPING PROCEDURES AND DELIVERABLES

Tuesday 2/9 LECTURE 9
Surveying in a Protracted Subdivision
Surveyor's Report and Content of a Survey Drawing

Wednesday 2/10 NO LAB TODAY

WEEK 7 LECTURE SERIES 3 continued SURVEYING AND MAPPING PROCEDURES AND DELIVERABLES

Thursday 2/25 LECTURE 13 USPLSS Following in the footsteps, equipment and marks

WEEK 8 LECTURE SERIES 3 SURVEYING AND MAPPING PROCEDURES AND DELIVERABLES

Tuesday 3/2 *The 60 Day Session of the Florida Legislature Begins. Practitioners of a highly regulated profession, living in a highly regulated State, and operating in highly litigious environment, must maintain active participation and vigilance in our State Legislature and with our elected officials.*

Tuesday 3/2 LECTURE 14 USPLSS Township Protraction, Dependent and Independent Resurveys, Township Corner Recovery - USPLSS Section Corner Recovery

Wednesday 3/3 LAB 7
Quiz 3 – Subdivisions
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 3/17, and
 (B) Expert Opinion Letter - due via .pdf NLT 3:00pm 3/17

Thursday 3/4 LECTURE 15 USPLSS Section Breakdown and the Center of Section

WEEK 9 LECTURE SERIES 3 SURVEYING AND MAPPING PROCEDURES AND DELIVERABLES

Tuesday 3/9 LECTURE 16
Intro to Water Boundaries and the OHWM (same slides used again on Lecture 17)

Wednesday 3/10 LAB 8 ACMF Retracement Lab Preparation
Homework Assignment: ACMF Retracement Lab Field Crew Work Package

Thursday 3/11 LECTURE 17 – 3:00pm to 4:30pm – during the assigned LAB time.
The Ordinary High Water Mark (continue slides from 3/24)
Tidal Boundaries and MHW Surveys (part 1)

SATURDAY 3/13 LAB 10
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. 10625 NE Waldo Road Gainesville 32609

WEEK 10 LECTURE SERIES 3 SURVEYING AND MAPPING PROCEDURES AND DELIVERABLES

Tuesday 3/16 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 4/21 LAB

We/Th 3/17-18 SCHEDULE CONFLICT – NO LAB WEDNESDAY – NO LECTURE THURSDAY.
See you at The Twelve Hours of Sebring!

WEEK 11 LECTURE SERIES 3 SURVEYING AND MAPPING PROCEDURES AND DELIVERABLES

Tu/We/Th 3/23-25 NO LECTURES, NO LABS

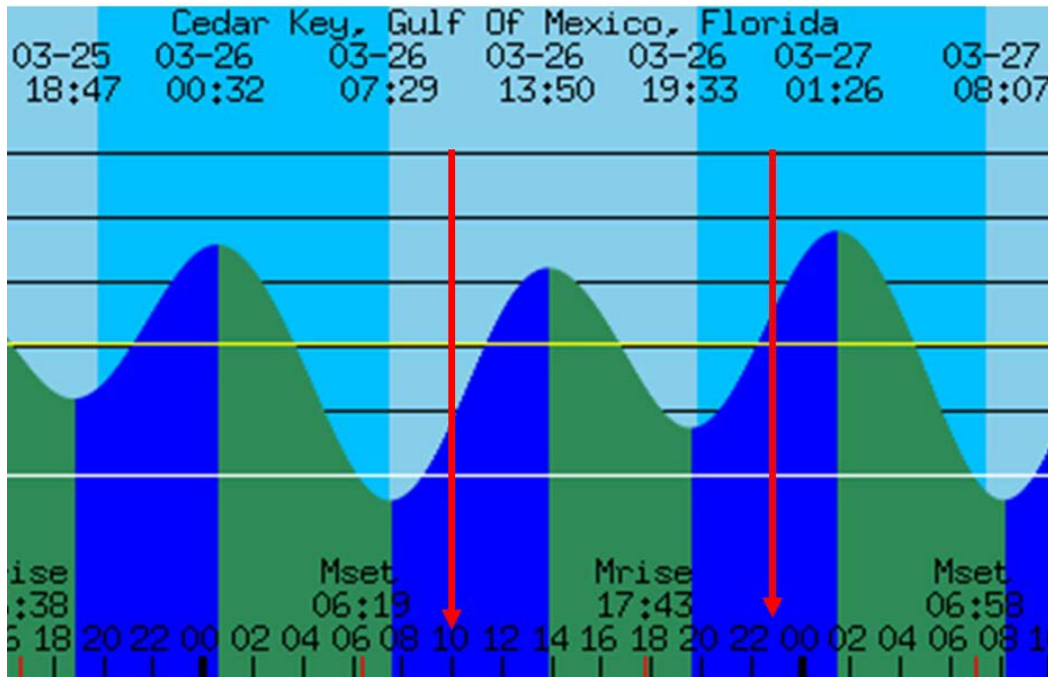
You have a LOT of prep and organizing for Friday's Tide Study, use your time wisely!

Friday 3/26 CEDAR KEY FIELD TRIP – TIDE STUDY
MEET ONSITE PROMPTLY AT 8:30AM UNTIL MIDNIGHT

Cedar Key, Gulf Of Mexico, Florida 29.1350° N, 83.0317° W

8:30am Get both gauges up ASAP and start readings NLT 10:00am (mid-tide)

11:00pm Finish Recording both gauges when sufficient amplitude has been observed (mid-tide)



2021-03-26 00:32 EDT 3.57 feet High Tide
 2021-03-26 06:19 EDT Moonset
 2021-03-26 07:28 EDT Sunrise
 2021-03-26 07:29 EDT -0.43 feet Low Tide
 2021-03-26 13:50 EDT 3.20 feet High Tide
 2021-03-26 17:43 EDT Moonrise
 2021-03-26 19:33 EDT 0.70 feet Low Tide
 2021-03-26 19:47 EDT Sunset
 2021-03-27 01:26 EDT 3.78 feet High Tide

WEEK 12 LECTURE SERIES 3 SURVEYING AND MAPPING PROCEDURES AND DELIVERABLES

Tuesday 3/30 LECTURE 19
Flood Certifications

Wednesday 3/31 LAB 11
Case Studies: Holmes Avenue and Gardens East.
Curriculum Catch-Up, what's been missed, status review with class

Thursday 1/1 SCHEDULE CONFLICT – NO LECTURE

WEEK 13 LECTURE SERIES 3 SURVEYING AND MAPPING PROCEDURES AND DELIVERABLES

Tuesday 4/6 LECTURE 20
Marketing 101 : Private Sector Proposals For Public Sector Clients.
Marketing Discussion
Old School vs. Virtual vs. Social Media
Community Involvement
Targeted Markets

Wednesday 4/7 LAB 12
Quiz 4 – Water Boundaries and the USPLSS
Homework Assignment: the Whitedove Lot Survey.
Due NLT 3:00pm via pdf and live classroom presentation on 4/14.

WEEK 13 continued BEGIN FINAL LECTURE SERIES 4 YOU! - THE PROFESSIONAL SURVEYOR AND MAPPER

Thursday 4/8 LECTURE 21
Ethics and Professionalism

Fri/Sat 4/9-10 FYI SFRC'S SPRING CELEBRATION AND UF GSA WEEKEND!

WEEK 14 LECTURE SERIES 4 YOU! - THE PROFESSIONAL SURVEYOR AND MAPPER

Tuesday 4/13 LECTURE 22
Liability and Contracts

Wednesday 4/14 LAB 13
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 4/15 LECTURE 23 The Surveyor in Court (part 1)

WEEK 15 LECTURE SERIES 4 YOU! - THE PROFESSIONAL SURVEYOR AND MAPPER

Tuesday 4/21 LECTURE 24 The Surveyor in Court (part 2)

Wednesday 4/22 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 4/22 READING DAY – NO LECTURE

WEEK 16 FINAL EXAM WEEK

Wednesday 4/28 FINAL EXAM 7:30am to 9:30am

Friday 4/30 The 60 Day Session of the Florida Legislature Adjourns "Sine Die" with the ceremonial drop of a handkerchief. Practitioners of a highly regulated profession, living in a highly regulated State, and operating in a highly litigious environment, must maintain active participation and vigilance in our State Legislature and with our elected officials.