<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture Topic &amp; Text Reading:</th>
<th>Laboratory:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 15</td>
<td>Introduction to Systematics &amp; Taxonomy (Ch 1) Introduction to the Local flora</td>
<td>No lab (M.L.K. Holiday)</td>
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<tr>
<td>Jan 22</td>
<td>Plant names: Nomenclature Ch 16) Phylogenetic Systematics (Ch 2)</td>
<td>Using a key to identify plants (Ch 15; Flora E.Tx p. 12-26) Vegetative terminology (Ch11, p. 452-464; Flora E.TX p. 1359-1393, -especially 1361, 1363, 1367, &amp; 1369).</td>
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<tr>
<td>Jan 29</td>
<td>Phylogenetic Systematics (Ch 2) Collecting plants &amp; the herbarium (Ch 17-18; Flora E.TX p. 1194-1201)</td>
<td>Flower terminology (Ch 11 p. 468-484; Flora E.TX p. 1359-1393); Plant keying exercise; Quiz*</td>
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<tr>
<td>Feb. 12</td>
<td>Evolution &amp; Diversity of Seed Plants: Gymnosperms (Ch 5)</td>
<td>Fruit Terminology (Ch 11 p. 498-492; Flora E.TX p. 1359-1393, esp. 1367) Plant keying exercise.</td>
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<tr>
<td>Feb. 19</td>
<td>Evolution of Flowering Plants (Ch 6) <strong>Test 1</strong></td>
<td>Field trip: Campus (Misc. mostly human-dominated habitats)</td>
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<td>Mar 05</td>
<td>Flowering Plant Diversity &amp; Classification: A.N.I.T.A. Clades &amp; Magnoliids (Ch 7)</td>
<td>Field trip: Pineywoods Native Plant Center (near campus)</td>
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<td>Mar 12</td>
<td>Spring Break!!</td>
<td>Spring Break!!</td>
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<tr>
<td>Mar 19</td>
<td>Flowering Plant Diversity &amp; Classification: Monocotyledons (Ch 7)</td>
<td>Field trip: Lanana Creek Trail Forest edge, old fields, wet-mesic floodplain forest</td>
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<tr>
<td>Mar 26</td>
<td>Flowering Plant Diversity &amp; Classification: Monocotyledons (Ch 7)</td>
<td>Field Trip: Sabine National Forest (Mesic slope &amp; creek bottom)</td>
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<tr>
<td>Apr 02</td>
<td><strong>Test 2</strong> Flowering Plant Diversity &amp; Classification: Monocotyledons (Ch 7)</td>
<td>Field trip: Angelina National forest (Herbaceous Seep, Longleaf Pine).</td>
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<tr>
<td>Apr 09</td>
<td>Flowering Plant Diversity &amp; Classification: Eudicotyledons (Ch, 8)</td>
<td>Field trip: Sabine National Forest (Dry sandy upland)</td>
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<tr>
<td>Apr 16</td>
<td>Eudicotyledons (Ch, 8)</td>
<td>Open</td>
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<tr>
<td>Apr 23</td>
<td>Eudicotyledons (Ch, 8)</td>
<td>Field trip: Angelina River or Caddo Lake (River floodplains, Swamps)</td>
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<tr>
<td>Apr 30:</td>
<td>Eudicotyledons (Ch, 8)</td>
<td><strong>Lab Final</strong></td>
</tr>
<tr>
<td>May 07</td>
<td><strong>Final Examination Week</strong> (both cumulative questions &amp; questions over material since 2nd test)</td>
<td>* With the exception of the first, most lab periods will begin with a quiz.</td>
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</tbody>
</table>

* With the exception of the first, most lab periods will begin with a quiz.
Biology 435/ 535: Plant systematics (Plant Taxonomy)

Dr. J. Van Kley, Office S115, Phone 468-2068; jvankley@sfasu.edu;
Office hours: M, W 11:00-12:00; T, Th 10-12:00, or by appointment

Texts:  
1) Plant Systematics (Simpson 2010)  
2) Illustrated Flora of East Texas (Vol. 1) 2006 -- (Diggs et al. 2006)  
3) Illustrated Flora of North Central Texas 1999 -- (Diggs et al. 2006)

Free PDF downloads of Required texts 2 & 3 are at:
http://artemis.austincollege.edu/acad/bio/gdiggs/EastTX/EastTXpdf.htm
http://artemis.austincollege.edu/acad/bio/gdiggs/NCTXpdf.htm
4) Recommended: Trees, Shrubs & Woody Vines of east Texas (Nixon 2000)

Course Description:
Plant Taxonomy or Systematic Botany is the science of identifying, naming, and classifying plants. While plant taxonomy itself is an interesting field, it is also forms a vital foundation for most other botanical and biological fields. Plant ecology, the study of the interactions of plants with each other and their environment depends on persons with a good taxonomic background. Wildlife studies, wetland studies, resource management, and forestry also require plant identification skills in the plant community.

There is a demand for individuals with good plant identification skills. For example, most National Forests and Natural Resource agencies hire a field botanist. Wetland delineation involves being able to identify wetland plants. Most field-related Environmental Science, Forestry, and wildlife management activities require knowledge of vegetation. If you enter one of these careers you will probably end up either managing vegetation or managing people that manage vegetation!

The past two decades have seen a revolution in a field once said to be “dead”. New (molecular) data and new approaches have revolutionized our ideas about the evolutionary history of plants and solved evolutionary puzzles that Darwin called an “abominable mystery”. Exciting academic careers exist today in systematic botany, especially for those with molecular training.

This course will give you the basic skills necessary to identify plants. The course will also acquaint you will the science of Systematic Botany and with some of the current research trends. You will also become familiar with the major plant families and will learn to identify many local species on sight.

Grading policy and Assignments:
Lecture and lab will each count for 50% of The Bio 435 final course grade. Each section counts for 45% of the Biology 535 grade. Each Bio 535 student must also make a plant collection of at least 15 specimens (not using species already assigned in lab at the time they were collected) properly identified, labeled and mounted on herbarium sheets using standard protocols for collecting & preparing plant specimens for scientific study. The collection provides the remaining 10% of the graduate Plant Taxonomy course grade. Honors Bio 435 students will likewise make a collection to fulfill their Honor’s contract.

There will be two lecture tests and a lecture final each worth one third of your lecture grade (if your score on the final exceeds your average for the two tests, the final will count for 1/2 your lecture grade). Weekly lab quizzes, lab exercises, and a lab final will comprise your lab grade. You may turn in your plant identification study collection for bonus points at the end of the semester.

I expect that you read assignments prior to the lecture in which they are covered. Come prepared to discuss the material in class. This course requires a large amount of memorization; There is no substitute for daily study. Students are encouraged to develop flash cards and quiz themselves regularly on plant terminology, plant family characteristics, and species identification.

The grade-scale will tentatively be as follows:

Total percentage:  
> 90% = A  
90% - 89% = B  
70% - 79% = C  
60% - 69% = D  
<60% = F

There will be no extra credit assignments in this course. Make-up exams will be allowed only for students with excused absences (Documentation of serious illness, conflict with urgent planned activity, or other emergency required).

A student cannot properly prepare for a profession by cheating. Anyone caught cheating will receive a ZERO for the test or quiz. severe cases or second offenses will result in a course grade of “F”. See Academic Integrity policy (A-9.1)

Attendance and participation:
Good attendance and active participation in class discussions will encourage me to raise your grade in borderline cases (69, 79, 89). I reserve the right to adjust grades by up to 3 percentage points based on attendance, participation, and effort.

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Internet resources:
Copies of the lecture notes, this syllabus, and other resources are on the lecture D2L page for this course. Announcements and updates may also be posted to this page so check it frequently. Adaption of a new text this semester (Simpson 2010) will result in many revisions to the lecture notes: Check the D2L page before each lecture to make sure you still have the most up to date copy! Laboratory resources will also be posted there. I will not use the lab page.

An image gallery with nearly all of the species we will encounter in lab: http://www3.sfasu.edu/astc/PineywoodsPlants/index.html

An image gallery describing the principal natural east Texas habitat types and the main species found in them is at: http://www3.sfasu.edu/astc/PineywoodsEcosystems/index.html

A plant gallery from the Texas A&M Bioinformatics Working Group is at http://botany.csdl.tamu.edu/FLORA/gallery.htm

Lecture Course Objectives:
Provide an understanding of the principals of scientific botanical nomenclature and the process of describing a plant species new to science.

Provide an introduction to the herbarium and its role as a resource for education and research in plant systematics and ecology.

Provide both historic and modern perspectives on plant classification and expose students to current theories regarding the the phylogenetic relationships among the major groups of vascular and non-vascular plants.

Expose students to current methods and the characters used to investigate phylogenetic relationships among plants.

Introduce students to the major botanical families of seed plants.

Lecture Course Competencies
Two tests and a comprehensive final examination covering each lecture topic determine the lecture portion of the grade.

Successful students will demonstrate the ability to use basic morphological terminology to describe plant features. This goal contributes to the Program Learning Outcome 1; “The student will demonstrate a good knowledge base in biological concepts”.

Successful students will demonstrate a modern understanding of plant phylogeny and will be familiar with current methods used to investigate phylogenetic relationships among plants. This goal contributes to the Program Learning Outcome 1: “The student will demonstrate a good knowledge base in biological concepts”.

Successful students will be familiar with local Pineywoods natural ecosystem types and the native and naturalized plants that characterize them. This goal contributes to the Program Learning Outcome 1: “The student will demonstrate a good knowledge base in biological concepts”.

Laboratory Course Objectives:
Introduce students to the process of plant identification and to the use of technical keys to facilitate identification.

Introduce students to the principal natural habitat types of the east Texas Pineywoods and the vascular plant species that characterize them.

Laboratory Course Competencies
weekly laboratory quizzes and a laboratory final emphasizing plant identification determine the lab portion of the grade.

Successful students will demonstrate the ability to use basic morphological terminology to describe plant features. This goal contributes to the Program Learning Outcome 1: "To be able to design, carry out, and analyze experiments to answer biological questions, including: scientific methods and instrumentation; safe and appropriate use of laboratory equipment; experimental design; data analysis; and familiarity with professional standards in science”. (the ability to precisely describe plants is vital to any use of plants or plant communities as an experimental subject or research tool). Additionally, this goal contributes to the Program Learning Outcome 1: “The student will demonstrate a good knowledge base in biological concepts”.
Successful students will be familiar with local Pineywoods natural ecosystem types and the native and naturalized plants that characterize them. This goal contributes to the Program Learning Outcome “The student will demonstrate a good knowledge base in biological concepts”.

Successful students will be able to identify approximately 120 common or ecologically important native and naturalized species on sight and will be familiar with the diagnostic features of approximately 40 botanical families. This goal contributes to the Program Learning Outcome 1: “The student will demonstrate a good knowledge base in biological concepts”.

Students will be familiar with the use of dichotomous keys as a tool for identifying unknown species. This goal contributes to the Program Learning Outcome 4: “To be able to design, carry out, and analyze experiments to answer biological questions, including: scientific methods and instrumentation; safe and appropriate use of laboratory equipment; experimental design; data analysis; and familiarity with professional standards in science”. (Key use is a critical method for plant identification, without which plants or their communities could not be used as experimental subjects or research tools).

Miscellaneous

**Academic Integrity (A-9.1)**

Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

**Definition of Academic Dishonesty**

Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit. Please read the complete policy at [http://www.sfasu.edu/policies/academic_integrity.asp](http://www.sfasu.edu/policies/academic_integrity.asp)

**Withheld Grades Semester Grades Policy (A-54)**

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C.

**Students with Disabilities**

To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to [http://www.sfasu.edu/disabilityservices/](http://www.sfasu.edu/disabilityservices/).

**Acceptable Student Behavior**

Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy D-34.1). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.