FALL SEMESTER 2015  
GEOGRAPHY 432: DENDROCHRONOLOGY  
SECTIONS 50528 and 50529

Instructor: Dr. Henri D. Grissino-Mayer  
Lecture: Monday, Wednesday, Friday, 10:10–11:00  
Lab: Monday, 12:20–2:15 and 2:30–4:25  
Location: Burchfiel Geography Building, Room 401 for both labs and lectures  
Office Hours: TWRF, 4:00–5:00 or by appointment  
Office: Burchfiel Geography Building, Room 417  
Phone: 865-974-6029  
E-mail: grissino@utk.edu  
Assistant: Maegen L. Rochner

BRIEF DESCRIPTION OF THE COURSE: Dendrochronology is one of the most versatile disciplines in the physical and cultural sciences. The science uses tree rings that are dated to their exact year of formation to analyze the temporal and spatial patterns of processes in the physical and cultural sciences. The science takes advantage of the fact that trees are nature’s ultimate environmental monitoring stations. They are immobile, they assimilate events in the environment, they have their own special language, and they can’t lie (although sometimes they make searching for the “truth” quite challenging). In this course, you’ll learn how to read the language of trees and how to use this information to learn about past and present environmental processes that may shed light on your particular research questions.

CENTRAL LEARNING OBJECTIVES: Upon completion of this course, students will be able to:
1. Use new skill sets acquired in this course to better understand how to interpret environmental processes.
2. Understand the fundamental processes of tree growth and how trees respond to external mechanisms.
3. Understand fundamental principles of dendrochronology and how they complement other fields of inquiry.
4. Examine and implement specific statistically-valid sampling designs to learn about the environment.
5. Identify linkages between our terrestrial ecosystems and ocean-atmospheric circulation patterns.
6. Learn the techniques that examine the past, present, and future of our dynamic earth.
7. Discern the ever-increasing role that humans play in changing our environment.

DEGREE-LEVEL LEARNING OBJECTIVES (for Geography majors): This course satisfies the Physical Geography requirement for those majoring in Geography and has the added benefit of providing valuable laboratory skills (this is a 4-hr course). Upon completion of this course, majors will have a new skill set that has already proven valuable for employment of our former majors.

CONNECTIONS PACKAGES: Geography 432 is part of three Connections Packages that satisfy degree requirements in the College of Arts and Sciences: (1) Understanding Climate Change, (2) Humans Living on a Dynamic Earth, and (3) Biodiversity and Humans. In this course, we study biotic evidence of environmental history over the past 10,000 years, including temporal and geographical patterns of environmental change, natural and human-related drivers responsible for these patterns, and how these patterns can inform us about the interplay between humans and environment.

MY GOAL AS A TEACHER: I want to make this course as enjoyable and beneficial to you as possible. You will leave my course with useful knowledge that will provide you with a new outlook on the world around you. I am not here to try to fail you or to give you a hard time. I’m here to educate you. Important announcements will be made on the course Blackboard page, so please check this site regularly. Use my e-mail address to ask me questions when you’re away from campus. I will respond promptly. When communicating by email, please put “GEOG 432” in the subject line. If you have any questions about anything I’ve covered in the lecture, please ask
me during or after class, or come see me in my office. The time to seek help from me is before, not after, a test. Don’t wait until the last week of classes to ask for help. The earlier you seek help, the better!

LABORATORIES: Attendance at one 2-hour lab per week is required as labs are an integral part of this course. Lab assignments are graded using a 10-point scale. In general, the labs are designed to be completed during the lab period and handed in at the end of the lab class. However, under extenuating circumstances, and after my approval, students may turn in the lab no later than 9:00 the following morning. Failure to turn in your lab will result in a “0” being recorded for that lab.

GRADING AND EXAMINATIONS: Work will be weighted as follows in determining the final course grade: 1st, 2nd, and 3rd exams: 15% each (45% total); final exam: 20%; labs: 20%; and term paper/project: 15%. The exams will consist of multiple choice, short answer, short essay, and (possibly) one long essay question. Content from the labs can also be expected on the exams, although these will only be in the form of short essays.

If you miss any of the four exams for an approved medical or university-related reason (for which you present a signed form from your doctor or university official), you will be allowed to make up the exam within 48 hours of the original test date. If you fail to do so, or if you miss an exam without an approved medical or university-related excuse, a “0” will be recorded.

The final exam will be held at the scheduled time and date for final exams as arranged by the university. The exam will be given only on this test date. Students will not be permitted to do extra work or resubmit work to improve their course grade either during or after completion of the course. Just so you know, like any university level course, an “A” requires extra effort and it is a great honor to earn this grade. Doing the bare minimum will not result in an “A.” Students who earn “A’s” are attentive, rarely ever miss class, prepare for the lecture, score the highest on exams, are leaders in the labs, and put extra effort into their assignments.

GRADING POLICY: After the completion of the final exam, your final grade will be determined based on the following scale:

<table>
<thead>
<tr>
<th>Undergraduates:</th>
<th>Graduates:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: 90.0–100.0</td>
<td>A: 90.0–100.0</td>
</tr>
<tr>
<td>B+: 86.7–89.9</td>
<td>B+: 85.1–89.9</td>
</tr>
<tr>
<td>B: 80.0–83.3</td>
<td>B: 80.0–85.0</td>
</tr>
<tr>
<td>C+: 76.7–79.9</td>
<td>C+: 75.1–79.9</td>
</tr>
<tr>
<td>C: 73.4–76.6</td>
<td>C: 70.0–75.0</td>
</tr>
<tr>
<td>D+: 66.7–69.9</td>
<td>D+: 60.0–63.3</td>
</tr>
<tr>
<td>D: 63.4–66.6</td>
<td>D: 60.0–69.9</td>
</tr>
<tr>
<td>F: below 60.0</td>
<td>F: below 60.0</td>
</tr>
</tbody>
</table>

ATTENDANCE: I expect and demand prompt attendance because you make better grades when you attend class and take notes. I take attendance very seriously and take roll each class period. Missing three or more lectures with no valid excuses will result in your final grade being lowered by one grade step (e.g. a “B” down to a “B-”).

CIVILITY: Civility is genuine respect and regard for others: politeness, consideration, tact, good manners, graciousness, cordiality, affability, amiability and courteousness. Civility enhances academic freedom and integrity, and is a prerequisite to the free exchange of ideas and knowledge in the learning community. Our community consists of students, faculty, staff, alumni, and campus visitors. Community members affect each other’s well-being and have a shared interest in creating and sustaining an environment where all community members and their points of view are valued and respected. Affirming the value of each member of the university community, the campus asks that all its members adhere to the principles of civility and community adopted by the campus: http://civility.utk.edu/

Talking in class, web surfing, checking email, and sleeping in class are all examples of disruptive behavior. If a fellow student around you complains, I will take this very seriously and give you a stern warning. If you’re caught a second time, I will initiate procedures for removing you from class. Keep in mind that such disruptive
behavior may bother other students around you. When you disrupt them and keep them from taking good notes, they’re going to be very upset with you. I make sure that everyone has an equal opportunity to take adequate notes and to do well in this class. Cell phones must be turned off prior to entering the classroom (your instructors will do the same). To ensure no disruptions, please place your cell phone in “silent” mode and not “vibrate” mode.

ACADEMIC INTEGRITY: The University of Tennessee, Knoxville Honor Statement: You will acknowledge and adhere to this honor code! “An essential feature of the University of Tennessee, Knoxville is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the university, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity.”

Don’t cheat! Cheating at a university will cause you to be expelled. One basic rule for my class: if you’re caught cheating, don’t bother coming back to class – you’ve earned an F. Just don’t do it or even think about it! During exams, you must remove any hats (religious garments are acceptable, however), place all books and papers underneath your chair, and turn off and place your cell phone out of sight of anyone.

COURSE ASSESSMENT: At UT, it is our collective responsibility to improve the state of teaching and learning. During the semester, you may be requested to assess aspects of this course either during class or at the completion of the class. You are encouraged to respond to these various forms of assessment as a means of continuing to improve the quality of the UT learning experience.

DISABILITY SERVICES: Any student who feels he or she may need an accommodation based on the impact of a disability should contact the Office of Disability Services (ODS) at 865-974-6087 in 2227 Dunford Hall to document their eligibility for services. ODS will work with students and faculty to coordinate reasonable accommodations for students with documented disabilities.

FINAL TERM PAPER: All students are required to complete and turn in a term paper that involves your writing about a particular subject in dendrochronology. Graduate students also are permitted to conduct an original research project that answers a relevant research hypothesis and uses techniques and methods taught in this course. All students must check with me so that I can approve the topic prior to beginning the paper or project. The paper/project is required for this course. Failure to turn in your paper on the Due Date (see below) will result in a grade of “F” being assigned for the course.

The paper must be 10 pages minimum for undergraduate students and 15 pages minimum for graduate students. These minimums can include a reasonable number of tables and figures, but the title page and the pages with the citations do not count towards the page count. In other words, the page minimum must count only the actual body of the paper. In addition, you must format your paper according to these standard rules. Failure to adhere to these rules will result in points being deducted! To help, simply check off each box after you have carefully checked your entire paper!

☐ 1. The paper must have a title page with all the vital information (make this look professional. Note: this page does not count towards length requirements).
☐ 2. A 200 word abstract that summarizes your paper is required at the top of page 1.
☐ 3. A 1–2 page introduction section should introduce the reader to the problem.
☐ 4. You must use logical headings and subheadings to help the organization of your paper.
☐ 5. Margins should be 1-inch on all four sides.
☐ 6. 12-point Times Roman font must be used.
☐ 7. No page justification should be used (ragged right margins, like this syllabus).
☐ 8. Page numbers must be seen on every page.
☐ 9. All papers must be 1.75-line spaced, not double-spaced (learn how to do this in MS Word).
☐ 10. Italics must be used for foreign words and titles of books and journals.
11. Cite original references in the body of your paper as (Grissino-Mayer and Butler 1993).
12. Please cite references with three or more authors as (Grissino-Mayer et al. 2004), and be sure to list all authors for each article in the Citation section at the end of your paper.
13. You must have used at least 15 references when compiling information for your paper, and these must be listed in your citation section at the end of the paper.

You must use in-text citations throughout the body of your paper or else this can be construed as plagiarism. Although the web provides easy access to information, you should know that some web-based material is not considered appropriate for citing in papers. The majority of your reference material should come from the peer-reviewed literature, i.e. articles in scientific periodicals and books. Therefore, do not list more than five web pages as references.

The references in your bibliography must use the following format, and be in alphabetical order by first author. Failure to adhere to these formatting rules will result in major point deductions:

- **Journal article:**

- **Book:**

- **Section or Chapter in an Edited Book:**

- **Web Site:**

**Common Mistakes Made on Term Papers...**

1. Do NOT put blank lines between paragraphs in an effort to lengthen your paper.
2. Figures always should have figure captions and be numbered (e.g. "Figure 1") and mentioned in the text.
3. Do not – repeat – do not rely heavily on using direct quotes to lengthen your paper! Use your own words.
4. When inserting figures, learn to do this right. Do not leave extra "white space" at the end of a page because of a bad figure insert.
5. Pay attention to your citations at the end of your paper. You should provide enough information so that I can find the reference myself!
6. Never use contractions (e.g., "could’ve") which have no place in technical writing.
7. Watch out for overly long paragraphs – a paragraph should never ever take up an entire page.
8. Each paragraph should have a central topic, or theme sentence. Make sure all sentences in that paragraph are central to that theme.
9. It will be clear to me if you rely on one primary reference throughout your paper. You must use multiple references!
10. Do not rely heavily on my lecture notes and figures. You must demonstrate data-gathering skills we expect of upper-level students.

Lastly, three very important things:

11. I can easily tell a term paper done at the last minute, resulting in a low-quality product with an appropriately low grade! You will therefore receive the grade you deserve.
12. I can easily spot plagiarism -- Google makes this easy as all I have to do is type in a phrase from your paper! Plagiarism = automatic "F."
13. The "truly excellent" term papers are those that actually teach me new things and introduce me to new findings so that I can better improve my teaching for students in future courses! Don’t just regurgitate material from the book or the lectures. Think outside the box.

**Graduate Students:** if you elect to do an original research project, you should include the following:

- 1. An **introduction** section that introduces the reader to the problem;
- 2. A **site description** that gives information about your study area;
- 3. A **methods** section that summarizes the various methods used;
- 4. A **results** section that summarizes your important findings (relying heavily on tables and figures);
- 5. A **discussion** section that provides in-depth analysis concerning the meaning of your results;
- 6. A **citation** section providing full bibliographic information.

**Suggestions:** This paper should be well-written, with clear wording, absolutely no misspellings, and correct grammar and punctuation. You should proofread your paper several times before turning it in. Important: you are required to have a classmate proofread your paper to make sure he or she understands what you have written, and the classmate must sign the title page at the bottom. If he or she can’t understand it, chances are I won’t either. This is common strategy when writing reports and manuscripts for publication or for your job, which (I hope) you may be doing extensively after graduation. Have someone read over your work! Always! When in doubt about grammar, consult a book or web site about technical writing such as the classic book *The Elements of Grammar* (yes, still very popular and should be in everyone’s e-library) or Walden University’s Writing Center (http://academicguides.waldenu.edu/writingcenter/home). If your paper still has major grammatical mistakes after proofreading, both you and your classmate may see point deductions! Take this task seriously.

**Due Dates:** A detailed 1–2 page outline of your paper is due Friday, October 9. This outline will count 10% of the total grade for the paper. See Blackboard for an example of a well-written outline. Your final paper is due on Tuesday, December 1 (the last formal day of classes). The other 90% breaks down as follows: Content (50%), Clarity (30%), and Organization (10%). Again, see Blackboard for an example of a well-written term paper.

**A Few Final Words...** Writing a cohesive, well-organized, and easily-understandable report is one of the most valuable skills you can learn in your university career. This skill will serve you well in years to come, as hopefully you will be working at a job that requires you to use your writing and communication skills as a geographer. Count on writing a lot after you graduate. Count on your writing skills as being one measure by which your supervisor and employer will gauge your success. That said, take this term paper seriously, especially if you’re a graduating senior or graduate student. Produce a paper that you would be proud to show your future employer as part of your application portfolio.

Do not wait until the last minute to do this paper. You must plan ahead. I can easily tell those papers that were done in the last week of classes (or the night before the paper is due) versus those that were planned well in advance and were worked on over the entire semester. Such papers usually earn no better than a low “C” or worse and again demonstrate to me that you really don’t care about your grade or about doing well here at the university.

And whatever you do, never ever copy and paste material from a web site or anything you find online verbatim into your paper as this is plagiarism which constitutes grounds for dismissal from the university. It is very easy for me to find complex words and phrases on the web if you decide to lift material from the web from your term paper! Even if you change some words in what you copied, this is still plagiarism! Learn how to paraphrase, which is reading something, thinking about it, understanding it (it helps to repeat the paragraph to yourself in your own words with your eyes closed), and then re-writing it, in your own words. This paper is supposed to show me your own original writing, your ideas, your ability to grasp what you read, and understand its importance.