
ASSIGNMENT I-2 Tree-Ring Skeleton Plots & Crossdating

[This is an Individual Assignment worth 20 pts distributed according to [GRADING RUBRIC](#) posted online.
It is DUE in the D2L DROPBOX at 11:59 pm on Tuesday Sep 28

You should be able to complete this assignment on your own by following the step-by-step directions in the assignment and after watching the online [DEMO VIDEO](#) prepared by one of our Tree-Ring Lab graduate students.

To get started, go to the **Laboratory of Tree-Ring Research (LTRR) website** and click on **Tree rings** :

LTRR Website: www.ltrr.arizona.edu

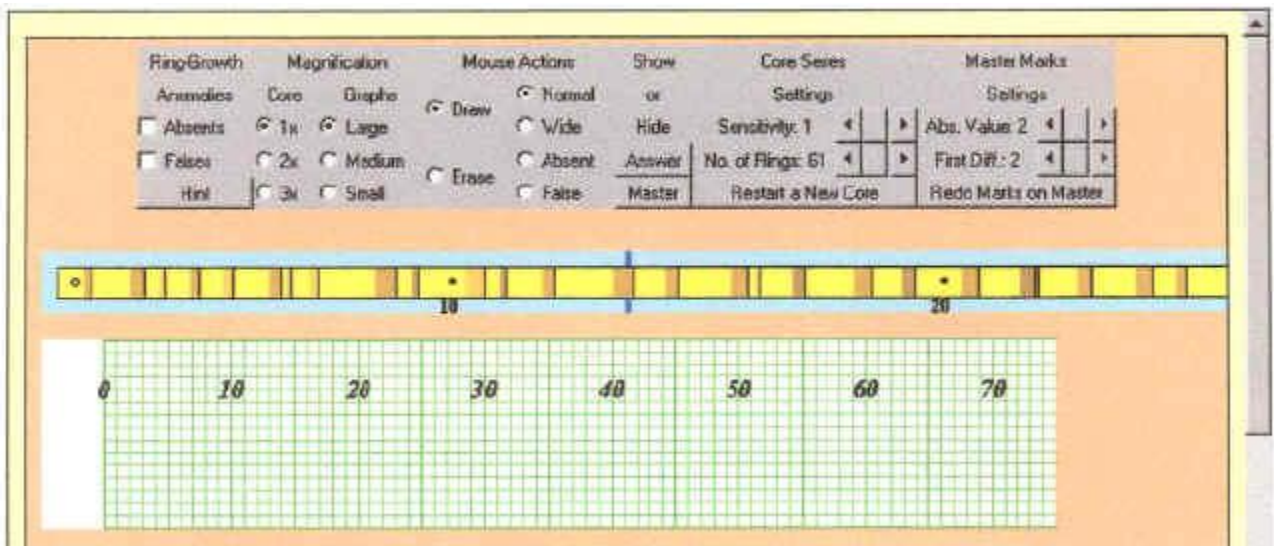
Then on the next screen, click on **Try Crossdating Online** to get to the **Skeleton Plotting & Crossdating tutorial**.

Here's the direct link to the Tutorial: <http://www.ltrr.arizona.edu/skeletonplot/introcrossdate.htm>

Enlarge the window to full screen if necessary, or copy the link, and paste it into a new tab or window outside of D2L.

I-2 ASSIGNMENT STEP-BY-STEP INSTRUCTIONS

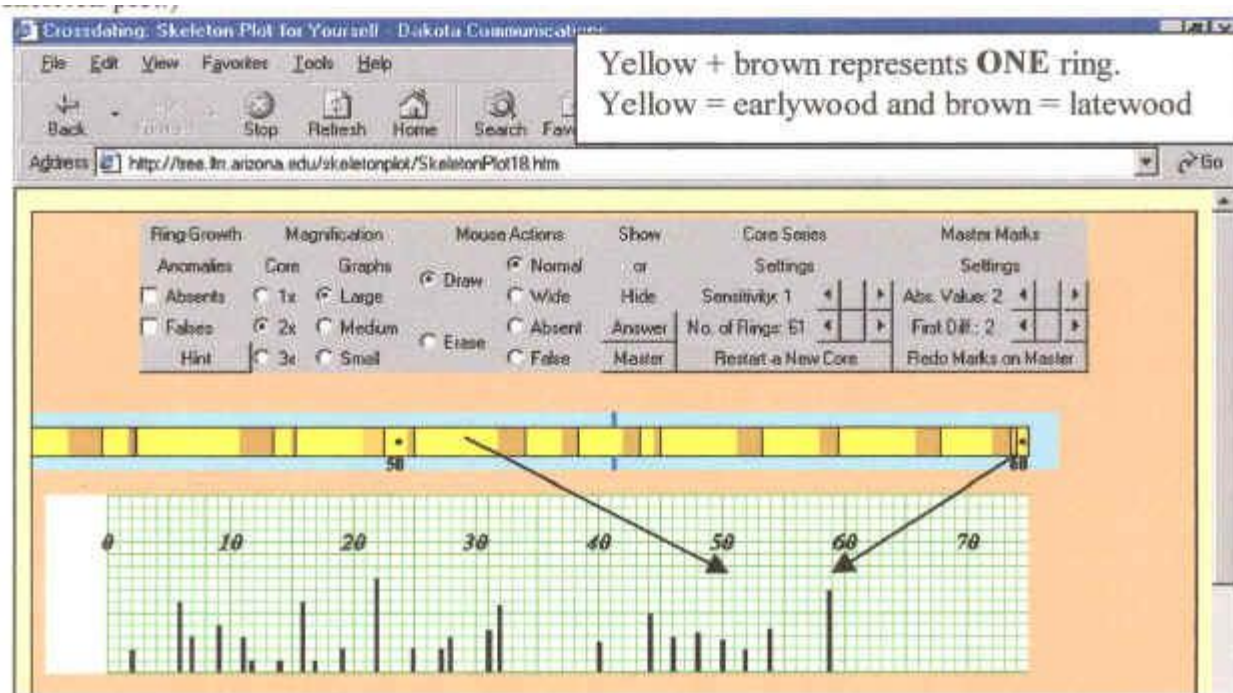
1. Click on and READ through the Crossdating Tutorial's **Explanatory Pages** (Items #1 through #11, esp. #6-11). Be sure to **try out the examples** at each step to learn what to do
2. Then click on #12, '**Try skeleton plotting for yourself**' to begin your skeleton plot. (The screen image should look like the figure below, but will have a thin red arrow marking the beginning (ring 0) and ending (ring 60) points on the graph paper)



3. Begin skeleton plotting! **BIG HINT: CONCENTRATE on the narrow rings!!**
4. To see the really **tiny rings better**, you can change the **zoom** on the core and the graph by clicking on 1x, 2x, or 3x for the core and large, medium, small for the graph paper.
5. If you **make a mistake** and put a mark on the wrong graph line or want to change the height of the mark, select '**ERASE**' and click on that mark to erase it. Then re-select '**DRAW**' to continue.
6. **Plot vertical marks for the narrowest rings -- the narrower the ring, the longer your mark** (see tutorial #6 on "Making Skeleton Plots"). To make your mark, on the graph paper, click on the vertical green line that

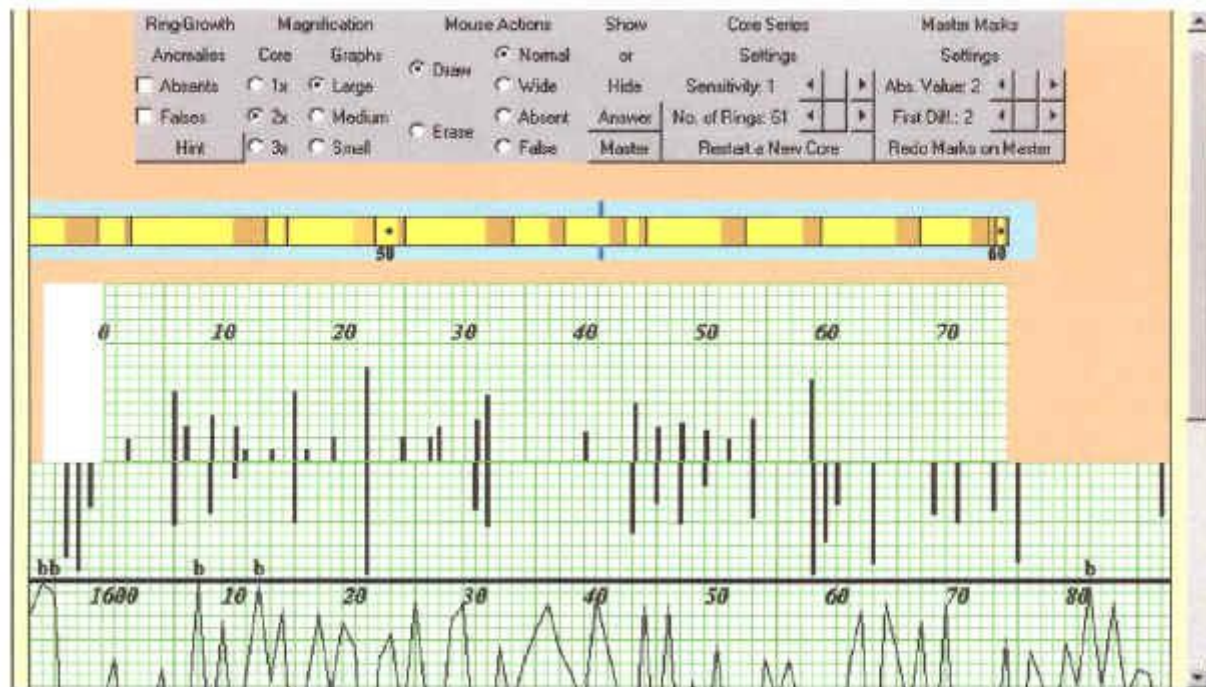
corresponds to the proper ring number at the height you want to assign to your mark (e.g., 8-10 grid lines up for REALLY narrow; 5-7 for quite narrow; 2-4 for narrow.)

7. **Move the core** by clicking on it and **dragging**. You can use the blue marker line to keep track of the rings as you count and plot them. (See figure below for example of completed skeleton plot.)



8. **When you have finished your skeleton plot** of the core's 61 rings (rings 0 through 60, defined by the two red arrows on the graph paper), click on the **MASTER** button to reveal the master chronology's skeleton plot and ring width indices.

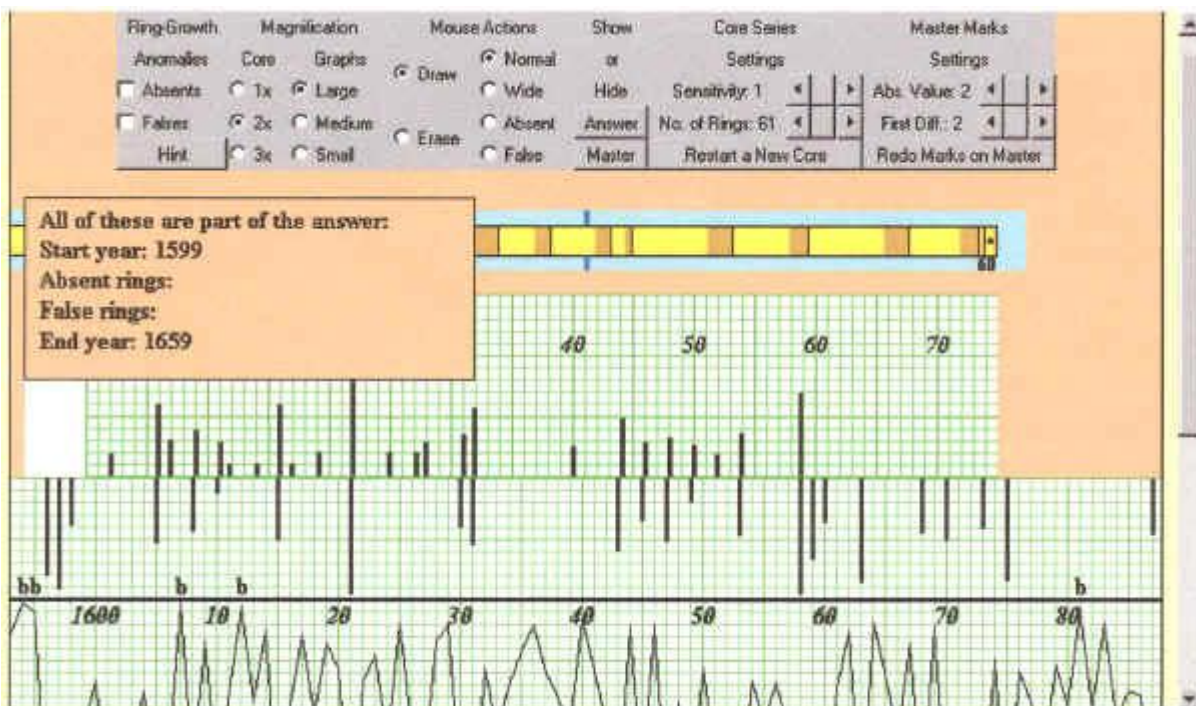
9. To **pattern match** your skeleton plot with the master, **click and drag the master** until you find the match.



10. To **crossdate** your core after you find the match, find the **Start Year** (the year that corresponds with ring 0 on your plot) and **End Year** (the year for ring 60 on your plot).

11. When you think you have correctly matched *and* figured out the **Start & End** years, **click on 'ANSWER'** to confirm that you have correctly pattern matched and crossdated your core & plot.

(See the answer box on the figure below and note how the graph years match the answer box years.)



12. If your plot's **Start & End years** agree with the **ANSWER**, you have successfully skeleton plotted, pattern matched, and crossdated your core!!!

Now, **keep your crossdated image on the screen** and follow the [DOCUMENT FORMAT DIRECTIONS](#) below to **COPY & SAVE** it in a document for submission.

WHAT TO DO TO COMPLETE THE ASSIGNMENT

The I-2 Assignment is worth a total of 20 points.

Your submission must include:

- Your **NAME, NATS 101 Section # (51+54 or 53+54), Group #, the title "I-2", and the DATE.**
- A "screen image" copy of your successfully crossdated plot. (total of 8 pts)
[IMPORTANT: See the [I-2 Document Format Directions](#) below for info on how to copy a screen image and see the [I-2 Grading Rubric](#) for specific guidelines about grading.]

(continued)

- **A written summary (total of 10 pts) of what you did which includes:**
 - (2 pt) an explanation of **skeleton plotting** (*in your own words*)
 - (2 pt) an explanation of **pattern matching** (*in your own words*)
 - (2 pt) an explanation of **cross dating** (*in your own words*)
 - (2 pts) an explanation of what a **master chronology** is and how it is used in cross dating. (*in your own words*)
 - (2 pts) a description of the terms **complacency and sensitivity** and an explanation of what these two types of ring patterns look like, followed by an explanation of which type is better for cross dating and why – *all in your own words.*
 - **Top Two" (total of 2 pts) *Crossdating a complacent core***
Directions: Repeat the skeleton plotting exercise, but this time with a **complacent core** and **write a paragraph describing** how it differed from the sensitive core exercise. Here's the step-by-step:
 - After you've **saved** your previous crossdated image, **change the SENSITIVITY from 1 (very sensitive) to 5 or 6 (more complacent).**
 - Then click "Restart a New Core" and try to plot, match, and crossdate the **more complacent core.**
 - If you are successful, **save the image** as above ,and
 - **Write a "Top Two" paragraph** (~200-300 words) describing (a) the challenges of crossdating a complacent core and (b) explaining the specific techniques you used to meet this challenge and successfully get your plot to match the master (e.g., paid more attention to subtle changes in ring width, compared each ring to its adjacent rings to decide if it was "narrower" enough to draw a line, etc.)

IMPORTANT: see the [Grading Rubric](#) for more specifics

Bonus Point Opportunity (up to 2 additional points) *Crossdating with absent or false rings*

Directions: Repeat the skeleton plotting exercise again, but this time plot a **core which may have absent rings** and a **core which may have false rings** and write a paragraph describing your experience with this challenge compared to the previous plotting exercises. Here's the step-by-step:

- Study the tutorial on: [Skeleton Plotting Absent and False Rings](#)
- After you've saved your previous crossdated images, select **ABSENTS** or **FALSSES** to indicate which type of rings you want embedded in the next core you'll look at (it is suggested that you don't try to do both absent and false rings in the same core -- do them one at a time).
- Then click "Restart a New Core" and try to plot, match, and crossdate the core, inserting the **absent ring notation(s)** or the **false ring notation(s)** in the proper place(s) on the skeleton plot
- If you are successful, save the image as above and
- Write a Bonus Opportunity paragraph (200 - 300 words) describing your experience with absent and false rings! What did you have to do differently? What made this so difficult?, etc. etc.

I-2 DOCUMENT FORMAT DIRECTIONS

With your crossdated image still on the screen, do a [screen capture](#) via **Print Screen** and a copy of the computer screen image will be saved to the computer's temporary "clipboard." (see the online instructions for links on how to do a screen capture on a PC or Mac.)

Now start up MS Word and open a new document. **Type your NAME, NATS 101 Section # (51+52 or 53+54), GROUP #, "I-2"** and the **date** at the top of the page. Then click on **Paste** (or hold down the **Ctrl and V keys**) and what you copied from the screen will be pasted into the document. Below your plot, **Type your written summary** (if you like, you can wait and write this part up later.)

Save the document in either .doc or PDF format

Give it the name: **I-2-lastname-firstname.doc (or I-2-lastname-firstname.pdf)** (inserting your last name and first name in the place indicated.)

IMPORTANT: So that we can read your assignment, **PLEASE SUBMIT IT IN .DOC or PDF FORMAT ONLY** (*not* .docx or .wps (Microsoft Works) pages or .odt. (Open Office) Even if your word processing program is Word 2007 or Microsoft Works or Open Office, it should allow you the option to "save as" so you can save your file in the **.doc format**.

If you are using a **Mac**, **EXPORT** it as a PDF or a .DOC and be sure the .pdf or .doc extension is at the end of your file name before you submit it.

Submit it to the D2L DROPBOX BEFORE MIDNIGHT (specifically 11:59 pm) on Tuesday Sep 28th.

*If you are in a computer lab and want to work on the written part later before you submit it, you can **upload it to your D2L LOCKER** or EMAIL your saved document to yourself as an attachment and finish it to submit it later.)*

Review of directions for submitting your **I-2 ASSIGNMENT to the DROPBOX:**

- (1) Click on **Add a File** below:
- (2) **Browse** to find your **I-2-lastname-firstname.doc (or .pdf) FILE** on your computer. After you find it and select it, click "open" to copy it into the upload bin.
- (3) click the **UPLOAD** button to upload your **I-2 FILE** from your computer to the UPLOAD holding bin.
- (4) When your I-1 FILE has been added, you may also add comments to the instructor if you wish, **then click on the SUBMIT button at the very bottom of the screen** to SUBMIT the file at once for grading. (*You may need to scroll down to find the SUBMIT button!*)
- (5) A **screen message** will appear saying "**File Submission Successful**" with a link to your files and another link saying "**View submission history for this folder**"

IMPORTANT: If you do NOT see the message "**File Submission Successful**" you have **NOT YET** properly uploaded your files -- so go back and carefully follow all the directions above and try again. You should click on **SUBMISSION HISTORY** to double check that your submission has gone through successfully.