

Information Sheet for Math 307 Spring 2024

Class meets: MTRF 2:00 - 2:50 pm in BH 215

Credits: four credits

Teacher: Branko Ćurgus, Professor of Mathematics

Office Hour: MTRF 1 pm or by appointment in BH 184A or on **Zoom**

Email: curgus@wwu.edu

Class website: http://faculty.wwu.edu/curgus/Courses/307_202420/307.html

Goals: In this course, students will be introduced to the computer algebra system *Mathematica*. The goal is to get students to use *Mathematica* for numerical, symbolic and graphical computations and simulations to explore interesting mathematics.

Organization: The class requires intensive computer use.

- To facilitate easy exchange of files we will share files using <https://www.dropbox.com>. You will receive an email explaining how this is organized.
- A lot of useful information about *Mathematica* is stored in the folder:
 \307_Files
 This folder is being shared with all students in Math 307 on Dropbox.
- Please read the file
 00_Read_me_307_Files.pdf
 which explains the structure of the folder \307_Files.
- The most important information is that the homework assignment will be posted as *Mathematica* notebooks in the folder
 \307_Files\Assignments
- Basic information about *Mathematica* is in the file `Primer_12.nb` located in the folder
 \307_Files\2024.
- Another source of information is the **class website**.

This class is not just about learning the computer algebra system *Mathematica*. I consider *Mathematica* to be just a tool that enables us to work on fascinating mathematical problems. The nature of any fascinating problem encompasses a certain level of uncertainty. And the beauty of it all is that with a certain amount of intellectual effort, uncertainty can be overcome. This takes time. But, with time spent on fascinating problems, we develop our intellectual powers: critical and creative thinking, the ability to analyze, conjecture, synthesize, evaluate, and much more. *The cumulative effect of time spent engaged in creative pursuits is an amazing, often neglected aspect of life.*

Working with computers, in particular when we try to do sophisticated stuff often leads to unexpected difficulties. I strongly believe that the benefits overwhelmingly outweigh the difficulties. I am dedicated to help you overcome the difficulties. Please do not allow to get frustrated with neither *Mathematica* nor mathematics that I assign for homework. If you cannot make progress after what you consider reasonable effort report your problem on **Discussions on Canvas** and a colleague from class or I can help you get going.

Assignments: There will be three assignments. The third assignment replaces the final exam. The due dates for the assignments will be announced on the class website. An assignment will be due approximately ten days after it has been posted. Your finished assignment should be deposited in your folder in Dropbox which you shared with me:

\307_Yourlastname

The file (notebook) with your homework should be named using your last name, the underscore `_`, the capital letter **A** and the assignment number. For example, my first assignment notebook should be named `Curgus_A1.nb`

Please use the folder `\307_Yourlastname\` only for your Math 307 assignments and no other files. You will receive an email from me containing more details about sharing a folder with me on **Dropbox**.

- Assignment notebooks:**
- The notebook with your assignment should be named using your last name, the underscore `_`, the capital letter **A** and the assignment number. For example, my first homework should be named `Curgus_A1.nb`
 - Your homework notebooks should be organized neatly. A notebook should start with a title cell. Individual assigned problems should be presented as sections.
 - Each problem should contain a sufficient amount of text so that I can make sense of what is being presented. If I ask a specific question in a problem, then that question should be answered by a specific complete sentence. The answer should be followed by a justification.
 - The notebooks should be saved with all output deleted (click **Cell**, then **Delete All Output**).
 - You should make sure that all the calculations evaluate properly. A good way to test this is to close your notebook and open it again and evaluate the entire notebook by clicking **Evaluate Notebook** in the **Evaluation** menu.

Here is a short list of useful *Mathematica* advice:

- Never include text in input cells. (Text should be put in special “text” cells. Or if the text is included in an input cell, then it should be commented out in `(* *)`.)
- If *Mathematica* reports an error, do not ignore it, address it. You can copy-paste your code in ChatGPT and ask it to tell you what is wrong with your code. You can post your code in [Discussions on Canvas](#). Please do not post your solutions. Post some related code that illustrates your difficulty.
- Include only your work in your notebook. There is no need to repeat the statements of the problems in your notebook. Make clear which question you are answering by its number. Present your solutions in a “teacher-friendly” way.
- Justify your claims with mathematical arguments, *Mathematica* calculations and pictures.
- Identify specific question that I asked and answer them best you can.
- Before defining new functions, use **Clear** command to clear the names for the functions and the variables that you will be using.

You: The work that you submit in your assignments must be your own. You should put a special effort into making your assignments truly your own. The best way to do this is to have your original solution that will differ from the solutions of others. If you have gotten a significant help from another student, or if a solution is a result of collaboration, then you must find

your own way of presenting and illustrating that solution. No two illustrations that a certain command does what it is expected to do should be the same. The presentation of solutions in your homework should be your own and it should differ from other presentations.

Assessment: Students will be assessed on the quality of the assignments submitted. Each assignment will be graded by an integer between 0 and 100. This number will reflect

- mathematical accuracy and completeness of your work and quality of justifications offered for your claims,
- accuracy, efficiency, and completeness of your *Mathematica* code,
- organization of your homework notebook and your original contribution.

Your grade for the Mathematica part will be the average of the three grades received on the assignments. Your final grade will be the average of the MatLab and the Mathematica part. The letter grade for the class will be assigned according to the following table.

F : 0 - 39	D-: 40 - 44	D : 45 - 49	D+: 50 - 54	C-: 55 - 59	C : 60 - 64
C+: 65 - 69	B-: 70 - 74	B : 75 - 79	B+: 80 - 84	A-: 85 - 89	A : 90 - 100

Academic Honesty Policy: Academic dishonesty is not tolerated at Western Washington University. Representing the work of another as one's own is an act of academic dishonesty. For a full description of the academic honesty policy and procedures at Western, see [Appendix D](#) in the University Catalog.

Flexibility Statement: This syllabus is subject to change. Changes, if any, will be announced in class or online. Students will be held responsible for all changes.

Syllabi@WWU: Please go to <https://syllabi.wwu.edu/> where you will find Syllabi Policies for Students and Campus Resources for Students