

M441 Numerical Linear Algebra and Optimization – Fall 2020

Instructor: Prof. Mark Pernarowski
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Grade: Will be based on Homework assignments (HW) and a Final Exam (F). The latter will likely be a take-home comprehensive exam. Details will be announced later this semester. Homework raw scores will vary from assignment to assignment. The total of these raw scores will be converted to a percent HW. The course percentage will be the weighted sum:

$$\text{Course \%} = 0.8 \text{ HW} + 0.2 \text{ F}$$

Lectures: In-class with potential online components. Should MSU/State covid policies change, should I get sick in any way, or other class conditions necessitate it, we will transition to live lectures via WebEx. In such events I intend on recording the lectures and posting them afterwards (details later). Regardless, I will always post my lecture notes for continuity.

Section: 001 (TR 10:50-12:05) or 002 (TR 8:00-9:15)

D2L: Lecture notes, grades, homework assignments and announcements will be posted on the course D2L site. Completed HW assignments students will submit/upload to D2L.

Dates: 9/7 Labor Day (Mon)
11/3 Election Day (Tues) – no class
11/18 Last Class Day (Wed)

Office Hours: Will be by appointment (email me) only on WebEx. They may be during the M-F week but not Tu/Th 8-2pm. If demand is high for the same topic in question, I may make it a group meeting via WebEx.

Textbook: *“A First Course in NUMERICAL METHODS”, Ascher, Greif.*
Is a non-detailed account of what we will cover (Chapters 1-9).
My lecture notes will greatly supplement that material.
Lecture notes will be posted to D2L as the course develops.

Matlab: This course is much more about the mathematics behind numerical algorithms rather than a software course. Nevertheless, we will use Matlab from time to time. Matlab can be downloaded for free at

<https://www.mathworks.com/academia/campus/resources.html>

Homework: Homework will be assigned roughly every two weeks. You will be required to submit your completed assignment (as a single PDF file) to a dropbox I will later provide in D2L. I will grade them and email them back to you.

I highly recommend you obtain a free copy of the *Adobe Scan app* (for iPhone and Android phones) to create a single PDF file of your (handwritten) homework. After creating your PDF file, share it from your phone to one of your email addresses. Download and rename according to the following guidelines before uploading it to D2L:

I'm going to insist you rename the file before you upload it to the D2L drop box. Specifically, I want the name to have the syntax:

M441_SECTION_HW#_LASTNAME.pdf

For instance, use

M441_001_HW3_Barker.pdf

If you are submitting homework number 3 from section 001 and your last name is Barker.

This will greatly help my grading process and will be greatly appreciated.

Covid: On the next page there is a summary of relevant MSU Covid policy/issues:

Three key points I wish to emphasize for this class:

- (i) Space your seating arrangement in class
- (ii) Wear facemasks (MSU requirement)
- (iii) We will leave classroom 5min early to prevent bottlenecks in the hallways.

<http://www.montana.edu/facultyexcellence/teaching/resources/SyllabusLanguage.html>

Syllabus Language for COVID-19

WEARING MASKS IN CLASSROOMS IS REQUIRED

Face coverings are required in all indoor spaces and all enclosed or partially enclosed outdoor spaces. MSU requires all students to wear face masks or cloth face coverings in classrooms, laboratories and other similar spaces where in-person instruction occurs. MSU requires the wearing of masks in physical classrooms to help mitigate the transmission of SARS-CoV-2, which causes COVID-19. The MSU community views the adoption of these practices as a mark of good citizenship and respectful care of fellow classmates, faculty, and staff.

The complete details about [MSU's mask requirement](https://www.montana.edu/health/coronavirus/index.html) can be found at <https://www.montana.edu/health/coronavirus/index.html>.

These requirements from the Office of the Commissioner of Higher Education are detailed in the [MUS Healthy Fall 2020 Guidelines, Appendix B](#).

For more information:

<https://www.montana.edu/health/coronavirus/prevention/index.html>

Compliance with the face-covering protocol is expected. If a you do not comply with a classroom rule, you may be requested to leave class. Section 460.00 of the [MSU Code of Student Conduct](#) covers “disruptive student behavior.”

HEALTH-RELATED CLASS ABSENCES

Please evaluate your own health status regularly and refrain from attending class and other on-campus events if you are ill. MSU students who miss class due to illness will be given opportunities to access course materials online. You are encouraged to seek appropriate medical attention for treatment of illness. In the event of contagious illness, please do not come to class or to campus to turn in work. Instead notify me by email about your absence as soon as practical, so that accommodations can be made. Please note that documentation (a Doctor's note) for medical excuses is not required. MSU University Health Partners - as part their commitment to maintain patient confidentiality, to encourage more appropriate use of healthcare resources, and to support meaningful dialogue between instructors and students - does not provide such documentation.

Remember that we have additional suggested syllabus language for [students with disabilities](#) and weather-related impacts to attendance on our web site.

Note to Faculty Concerning Your Potential Absence:

We encourage you to communicate with students, in your syllabus, how they will be able to continue to participate if a student needs to quarantine or isolate during the semester. Please email us at CFE@montana.edu if you need help developing strategies for student participation and success while they are unable to attend class in person.

Similarly, your syllabus is a good place to communicate how your class will continue if you are required to quarantine or isolate during the semester.

ACCOMODATIONS FOR NOT WEARING A MASK

Individuals whose unique and individual circumstances require an exception to the face covering requirement, as indicated by a medical professional, may request one in accordance with the campus ADA policies. Students should contact the Office of Disability Services at 994-2824 or drv@montana.edu to receive written permission from the Office of Disability Services at MSU. It is strongly recommended that students make contact prior to arriving on campus in order to provide adequate time for their request to be evaluated.