**University of Montana**
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Spring 2-1-2018

# M 210.01: Introduction to Mathematical Software

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| **CLASS:** | MWF: 3:00pm – 5:30pm; Room: MA 306; CRN: 36388 |
| **INSTRUCTOR:** | Karel Stroethoff |
| **OFFICE:** | MA 307; Phone: 243–4082; Math Office: 243–5311; <br> E-mail: karel.stroethoff@umontana.edu |
| **MOODLE PAGE**: | https://moodle.umt.edu/course/view.php?id=21479 |
| **DESCRIPTION**: | The course will introduce software packages useful for doing and writing mathematics. An introduction will be given to a computer algebra system (such as Maple or Mathematica), a numerical package (such as MATLAB or R), and elementary programming. The course will furthermore cover writing and communicating mathematics using the mathematical typesetting system LaTeX. |
| **PREREQUISITES:** | M 162 or 171 (MATH 150 or 152), or consent of instructor. |

**LEARNING GOALS:**

- Using a computer algebra system or a numerical package, demonstrate the ability to:

  ○ Display mathematical objects graphically;

  ○ Model repetitive processes and conditional situations;

  ○ Model multidimensional objects using vectors, matrices, or related structures;

  ○ Embed algorithms in reusable functions and procedures;

  ○ Conjecture mathematical statements (mathematical experimentation);

  ○ Find solutions to modeling problems with the aid of software manuals.

- Using LaTeX, demonstrate the ability to typeset mathematical documents.

**IMPORTANT DATES:**

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| February 20: | Presidents' Day; Holiday |
| April 2: | Last day to add/drop or change grading option |
| March 26–March 30: | Spring Vacation |
| May 7–11: | Final Exam Week |
| Final Class Meeting: | Tuesday, May 8, 5:30 pm–7:30 pm |

**GRADING:** There will be lab work, and regular homework assignments. It is expected that students come to every class, and attendance will be taken and be part of the grade. Announced quizzes will be given throughout the semester and there will be a final exam. The course grade will be based on these assessment components using the following percentages 10% attendance, 20% quizzes, 40% homework, and 30% final exam.

**Add/Drop Policy.** The last day to drop by CYBER BEAR is Friday, February 10. This is also the last day to change to or from an Audit. The last day to change sections and to change grading options is Monday, April 2. This is also the last day to drop. Until April 3, drop slips will be signed with no questions asked. Changes after this deadline must be done by Petition to Drop/Add After Deadline and approved by the lecturer, your advisor, and the appropriate Dean. The last day for this type of drop petitions is May 4. Approval requires *genuine extenuating* circumstances, such as:

- Missing a substantial number of class days due to illness, accident or family emergency.
- A change in work schedule that makes it impossible to attend class or devote adequate time to the course.
- Registration in the course by error and never attending class.

Reasons that are *not* satisfactory include:

- Forgetting to turn in a drop slip.
- To protect grade point average.
- To keep financial aid.
- To retain eligibility to engage in sports.

**DSS.** Students with disabilities are welcome to discuss accommodations with me. Disability Services for Students will assist in the accommodation process. For more information, visit their website at http://life.umt.edu/dss. Please note that appropriate forms need to be submitted in a timely fashion.

**Academic Honesty.** All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University.

**Student Conduct Code.** All students need to be familiar with the Student Conduct Code, which is available for review online (the easiest way to find it is to search for "Student Conduct Code" via the "A to Z Index" link on the top of the UM home page.)

**Important Dates.**

Feb 20 (Mon): President's Day Holiday
Mar 26–Mar 30: Spring Vacation
May 4 (Fri): Last regular class day

Apr 2 (Mon): Last day to use Add/Drop form
May 7–11 (Mon-Fri): Final Exam Week