

COURSE SYLLABUS - FALL 2018

Math 180-02: Mathematical Tools for Computing

Instructor: Eric Peterson

Class Meeting Times: MWF 9-10am

Classroom: Washburn 309

Office: Lippitt 106C

Email: epeterson11492@my.uri.edu

Office Hours: TBD

Sakai: <https://sakai.uri.edu/>

The Sakai site for this course will contain lecture notes, grades, administrative announcements, and other important resources (such as solutions). Check it often!

Course Content: The course introduces basic mathematical tools and formal methods of reasoning used in computing. Each topic will be motivated and connected to computer science applications. The course puts emphasis on problem solving and applications. Topics include propositional logic, proofs, recursion, elementary number theory, counting, and linear algebra.

Classroom Conduct: The classroom is a place for learning. While you are in class, I expect you to remain focused on the course material, and also to maintain an environment in which other students can do the same. In particular:

- Laptops and tablets can be useful for taking notes, but they can also be major distractions. Avoid the temptation to screw around on the Internet during class! This is distracting not only to you, but also to other students sitting nearby.
- Cell phones should be muted at all times during class.
- All in-class discussion should pertain to the course material as off-topic chatter can be distracting to other students.
- The point is: be respectful of your fellow students (and of me).

Textbook: Susanna S. Epp, *Discrete Mathematics: An Introduction to Mathematical Reasoning (Brief Edition)*, Brook/Cole Cengage Learning, ISBN-13: 978-0495826170, ISBN-10: 0495826170. The textbook is required for this course as a source of supplementary material, homework problems, and additional problems for review.

Calculators: Scientific/graphing calculators are permitted for this course and can be used to support your calculations.

Evaluation: The course grade will be based on daily classwork, weekly homework, quizzes, two midterm exams, and a final exam.

- Classwork: 10%
- Homework: 15%
- Quizzes: 15%
- Midterm Exams: 17.5% each (35% total)
- Final Exam: 25%

Scores will be posted in the Sakai gradebook.

A rough guideline for grading is as follows:

A: 93.00% and above		A-: 90.00% - 92.99%
B+: 87.00% - 89.99%	B: 83.00% - 86.99%	B-: 80.00% - 82.99%
C+: 77.00% - 79.99%	C: 73.00% - 76.99%	C-: 70.00% - 72.99%
D+: 67.00% - 69.99%	D: 60.00% - 66.99%	
F: 59.99% and below		

If you have any questions about the grading of a particular assignment, please let me know.

Classwork: There will be daily classwork assignments (usually in the form of a practice problem or two) that will often be collected and graded. These will be based on the material given during lecture on that particular day of class. You are encouraged (but not required) to work in groups on these assignments, as collaboration is a great way to learn and is required in nearly all fields of the workforce. Solutions will be provided on Sakai after each graded assignment is returned. There are no makeups for classwork assignments.

Homework: Weekly homework assignments will be assigned based on the material covered throughout the week. Homework problems will usually be taken from the textbook. Don't wait until the deadline! It's to your benefit to complete the assignments promptly. Working through the homework will reinforce your understanding of the material, which will make it easier to follow subsequent lectures. You may work with your fellow classmates on homework assignments, but **the work you submit must always be your own.**

Quizzes: You can expect to be quizzed on a semi-weekly basis as a way to test your knowledge of the material and help prepare you for the midterm exams. Each quiz and the material covered will be announced in advance. Quizzes may be either take-home or given in class.

****Solutions to all homework, classwork, and quizzes will always be posted to Sakai****

Midterm Exams: There will be two midterm exams given throughout the semester (the following dates are tentative):

- Exam #1: Friday, Oct 12
- Exam #2: Monday, Nov 19

Each midterm will be administered in class and will be closed notes/textbook. You will have 50 minutes (the entire class period) to complete each midterm exam. Calculators are allowed and encouraged for exams.

Final Exam: There will be a cumulative final exam given during finals week (TBD by Enrollment Services). The final exam will be made by Dr. Lubos Thoma in conjunction with his section of MTH 180 (and will therefore be a common exam).

Attendance Policy: I will be keeping attendance and fully expect you to attend every single class. Failure to attend class will result in missing graded classwork assignments and quizzes. Be warned: there will be no makeup quizzes, assignments, or exams given, except at the discretion of the instructor. Legitimate absences where appropriate documentation (e.g. note from Health Center) is provided will be acknowledged accordingly.

Academic Accommodations: If you require academic accommodations and have documentation from Disability Services (874-2098), please get in touch with me as soon as possible.

Academic Integrity: Cheating is prohibited in all aspects of the course and will result in severe consequences. Cheating includes but is not limited to: communication with other students during a quiz or exam, reading another student's written work during a quiz or exam, and use of any electronic device (including calculators) during a quiz or exam.

General Education Areas: MTH 180 is a General Education course. The general education education areas satisfied by MTH 180 are:

- A1** Scientific, Technology, Engineering, and Mathematical Disciplines (STEM),
- B3** Mathematical, Statistical, or Computational Strategies (MSC).

Office Hours / Email: I will remind you over the course of the semester to utilize my office hours and email to the fullest of your advantage! My goal is to help you understand the course material to the best of my ability. I am very welcoming of any questions you may have over email or in person and will do my best to answer them. If you feel you are struggling in this course, please contact me sooner rather than later!

Tutoring: In addition to my office hours, the Academic Enhancement Center (www.uri.edu/aec) is a walk-in tutoring center that provides free support for this course (or any math course up to MTH 243). The AEC is a great environment for reviewing material with classmates and preparing for exams, as there are tutors available to help with any questions you might have.

Course Goals: At the conclusion of this semester, you will be able to:

- Understand logic statements, mathematical logic and set notation, and basic proofs.
- Understand sum notation and recurrences and be able to apply them to analysis of algorithms.
- Understand and be able to do calculations using modular arithmetic.
- Understand the concept of graphs and their applications to algorithms and networks.
- Understand the basic properties of vectors, matrices, and systems of linear equations. as well as their computer science applications
- Model basic algorithmic problems using the mathematical concepts covered in the course.
- Improve your problem-solving skills and effective communication of your solutions.

Important Dates:

- *Open Add Period:* Wed, Sept 5 - Tues, Sept 11.
- *Open Drop Period:* Wed, Sept 5 - Wed, Sept 26. (no mark on transcript)
- *Late Withdrawal Period:* Thurs, Sept 27 - Wed, Oct 17. (“W” on transcript)

A course may be dropped by official procedures determined by the Office of Enrollment Services (e-Campus) on or before the end of the third week of classes (Open Drop Period) with no mark on a student’s transcript. Courses may be dropped through e-Campus between the fourth and end of the sixth week of classes (Late Withdrawal Period) and will be recognized on a student’s transcript with a “W.”

After the end of the Late Withdrawal Period, a student may drop a course only in exceptional circumstances with authorization of the dean of the college in which the student is enrolled. Such drops will also be recognized on a student’s transcript with a “W.” If the student has not dropped a course by the end of the withdrawal period the instructor must submit a grade.