

# Math 451, Numerical Computation, Spring 2017

**Lecture:** Section 1 MWF 2:30 pm – 3:20 pm in 119 Earth and Engineering Science Building  
**Course homepage for announcements, homework, and exam reviews will be available on Canvas, and:**

<http://personal.psu.edu/sxw58/MATH451.html>

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**Instructor:** Shuonan Wu, McAllister Building 316, [sxw58@psu.edu](mailto:sxw58@psu.edu), 814-863-9059  
**Instructor office hours:** M 11:10 am - 12:10 pm, W 12:20 pm – 1:30 pm, or by appointment.  
Location: McAllister Building 316

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**Prerequisite:** MATH 230 or MATH 231. (calculus, linear algebra, elementary differential equations, and maybe a little programming)

**Textbook:** *An Introduction to Numerical Computation*, Wen Shen.  
*Numerical Analysis, 9th Edition*, Richard L. Burden, J. Douglas Faires (For reference).

**Attendance:** Each student is expected to attend every class lecture.

**Electronics:** Please respect your fellow students and prevent your electronics from disrupting class.

**Collaboration and Honor Code:** Students are permitted and encouraged to work together when doing homework, but must write their own papers. Copying work is not allowed.

**Absences and makeup work:** Students are expected to arrive on time, stay the entire class, and contribute to the class discussion and group work. Excused absences and makeup exams will be handled according to University policy. Please notify the instructor in writing (email message is acceptable) prior to the date of absence when this is feasible. In cases where advance notification is not feasible (e.g., accident or emergency), the student should notify the instructor as soon as possible.

**Grading Policy:** 600 points in total

- Homework: 100 points. 10 points each assignment.
- Quizzes: 50 points. 10 points each quiz.
- Midterm exams: 200 points, 100 points each.
- Lab: 50 points, 10 points each.
- Attendance: 50 points.
- Final exam: 150 points.

The total number of points earned during the semester will determine your course grade as follows:

A : 600 - 560

A- : 559 - 530

B+: 529- 510

B : 509 - 490

B- : 489 - 470

C+: 469 - 450

C : 449 - 420

D : 419 - 360

F : 359 - 0

**Homework:** There will be 10 assignments in total. Normally 5 to 10 problems will be assigned for each lecture, and it is expected that each assignment takes 2 hours or more. Homework will be collected during classes. Late homework will not be accepted. The general rules for academic honesty apply to all written work.

**Quizzes:** There will be 5 quizzes in total. Make-up Quizzes will *not* be offered except in extraordinary circumstances.

**Laboratories:** This is a hands-on class, in which you will need to learn to program. We will use MATLAB for numerical computation. The tentative schedule will be to meet on the following (tentative) dates: Jan. 13, Feb. 1st, Feb. 22nd, Mar. 22nd and Apr. 19th. **Location:** Section 1, 2:30pm – 3:20pm, 211 Keller Building.

**Software:** As mentioned above, you will be required to do programming by using MATLAB in this course. A free software using a language that is mostly compatible with MATLAB can be found in <https://www.gnu.org/software/octave/>. Some assignments will need to be electronically submitted (hopefully), and specific instructions will be presented for those assignments.

**Midterm and Final exams:** There will be two midterm exams; make-up exams will *not* be offered except in extraordinary circumstances. The final exam will be held in the final week. Please note these exam time when making any travel arrangements. Taking the final exam is mandatory.

**Appeal:** All appeals related to homework, quizzes and exam grades must be submitted within 1 week after they are returned. To appeal, the student must submit to the instructor the following: homework, quiz or exam, written or typed note explaining which question(s) is/are being appealed, and the basis for the appeal (e.g., the TA graded too harshly, the question was mistakenly marked incorrectly, etc.). The instructor will review each appeal and make appropriate changes.

**Disabilities:** Reasonable accommodations will be made for students who are registered with the Office of Disability Services. Such students should speak with the instructor as soon as possible.

*The instructor reserves rights to make necessary changes for the course any time during the quarter. The students are responsible for keeping up with possible changes.*