

Washington University - St. Louis  
Spring 2022  
Math 4111 - Introduction to Analysis  
Lecture: Mallinckrodt 303 Time: MWF 10:00am – 10:50am

**Instructor:** Brett D. Wick      Office: Cupples I Room 212  
Office Phone: 314-935-6765      Office Hours: MW 9:00am – 10:00am, F 11:00am – 12:00pm  
Email: [wick@math.wustl.edu](mailto:wick@math.wustl.edu)      or by appointment  
Webpage: [http://www.math.wustl.edu/~wick/teaching/math4111\\_S2022.html](http://www.math.wustl.edu/~wick/teaching/math4111_S2022.html)

**Text:** There is no required text for the course. The course will follow lecture notes that will be provided after each lecture. For students who wish to have a text to follow any of the following will have useful information that covers parts of the material in the course:

Principles of Mathematical Analysis by Rudin.

Elementary Analysis: The Theory of Calculus by Ross.

Mathematical Analysis: An Introduction by Browder.

Real Mathematical Analysis by Pugh.

**Prerequisite and Description:** The real number system and the least upper bound property; metric spaces (completeness, compactness, and connectedness); continuous functions (in  $\mathbb{R}^n$ ; on compact spaces; on connected spaces);  $C(X)$  (pointwise and uniform convergence; Weierstrass approximation theorem); differentiation (mean value theorem; Taylor's theorem); the contraction mapping theorem; the inverse and implicit function theorems. Prerequisite: Math 310 or permission or instructor.

**Attendance:** Attendance is required for all lectures. The student who misses a class meeting is responsible for any assignments and/or announcements made. Office hours will not be utilized to re-teach material presented in class. However, questions to better understand the course are always welcome.

There will be no opportunities for make-up tests after the fact. **In the event of an absence due to travel representing Washington University - St. Louis, such as an intercollegiate sports competition, you must notify the professor at least two weeks in advance to arrange an early test or other alternative.** Otherwise, such absences will be treated as personal. In the event of a missed exam, contact Blake Thornton: [bthornton@wustl.edu](mailto:bthornton@wustl.edu).

**Homework:** This course will have weekly homework assignments which will be graded.

**Exams:** This course will have three mid-term exams and a comprehensive final exam. The exam dates for the course will take place on:

Exam Dates:

Exam 1	Wednesday, February 16 (tentative)
Exam 2	Wednesday, March 23 (tentative)
Exam 3	Wednesday, April 27 (tentative)
Final Exam	Monday, May 9, 10:30am – 12:30pm

**Exam Re-Grading Policy:** If you disagree with the grading of your exam you are to notify me of the issue at the time of return. If you take the exam when it is returned to you without registering a complaint regarding the grading, then your score is set and no additional regrades will be considered for that exam. If you request a regrading of your exam, you may additionally arrange a meeting to discuss the regrading issue with me directly.

**Piazza:** This term we will be using Piazza for class discussion. The system is highly catered to getting you help fast and efficiently from classmates and myself. Rather than emailing mathematical/course questions to the teaching staff, I encourage you to post your questions on Piazza. If you have any problems or feedback for the developers, email [team@piazza.com](mailto:team@piazza.com).

**Learning Disabilities:** It is the right of any student with a certified learning disability to request necessary accommodation. Such requests must be made well in advance of the time that the accommodation is required and a letter of documentation from the [Disability Resources](#) office must be presented at the time of any request.

**Academic Honesty:** It is expected that all students are aware of their individual responsibilities under the [WUSTL Academic Integrity Policy](#), which will be strictly adhered to in this class. **Any violations must be reported directly to the Dean of Students.**

**Grades:** Grades will be based upon attendance, homework's, mid-term exams, and the final exam. Course grades will be assigned from the *maximum* of the following formulas:

	Method 1	Method 2
Homework	20%	20%
Midterm Exams	45%	35%
Final Exam	35%	45%

The usual ten-point scale will be used (A: 90-100, B: 80-89, C: 70-79, D: 60-69, F: 0-59), however, if necessary, adjustments will be made to arrive at a standard grade distribution for the course. On an individual basis, significant improvement over the semester will be taken into account. A to be announced number of homework will be dropped when computing your grade. This is the only mechanism for coping with personal events such as illness and family emergencies. For students taking the course with the Pass/Fail option, the threshold for a passing grade will be a "C".

**Policy Regarding Online Course:** In the event we need to transition to an online course, we will utilize Zoom and Canvas for course coordination and information.

**COVID Safety Procedures:** Students are expected to follow university-mandated COVID safety procedures at all times, and stay informed of any changes to these procedures. Failure to do so will result in you being removed from the classroom, and possible university disciplinary procedures. Masks and social distancing are the most important safety measures we

can take; it is also important that you wash your hands and clean surfaces as frequently as possible.

Masks are mandatory at all times in the classroom; if you have a medical condition that precludes wearing one, contact Disability Resources to discuss accommodations before coming to class.

**If you are sick:** If you are sick, quarantined, or do not pass WUSTL self-screening, do not come to class in person. Notify your instructor of your absence.

**If your instructor is sick:** If your instructor is sick, quarantined, or does not pass self-screening, your class meeting may need to move online for the day. Please check Canvas (or your email) immediately before you leave for class in case your meeting needs to move online at the last minute.

**Important Dates for Spring 2022:**

January 18	First day of classes
March 13-19	Spring Break - No Class
April 29	Last day of classes