

**Instructor:** Eric J. Wingler**Email:** ejwingler@ysu.edu**Office Location:** 536 Cafaro Hall**Phone:** (330)-941-1817

Student Support Hours: Monday- 1000—1055, 1400—1500
 Tuesday- (none)
 Wednesday- 1000—1055, 1400—1500
 Thursday- (none)
 Friday- 1000—1055
 (or by appointment)

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Course Description: Uniform convergence of sequences of functions and some consequences; functions on n -space: derivatives in vector spaces, mean value theorem, Taylor's formula, inverse mapping theorem, implicit mapping theorem.

Prereq.: MATH 3720 or MATH 725 and MATH 3751 or MATH 751 and MATH 752

Course Materials: *Elementary Real Analysis*. Andrew M. Bruckner, Judith B. Bruckner, & Brian S. Thomson. (2nd Edition).

Course Objectives:

- Developing an understanding of additional concepts of real analysis
- Developing the ability to read and understand mathematical definitions, theorems, and proofs
- Demonstrating the ability to communicate in mathematics and produce well-written proofs

Learning Outcomes and Tentative Course Schedule:

- An understanding of convergence of sequences and series of functions
- An understanding of convergence of power series
- An understanding of functions in n -space including limits, differentiation, the Inverse Function Theorem and the Implicit Function Theorem

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.

Chapter(s)	Section(s)	Topic(s)
9	1–6	Sequences and series of functions; pointwise and uniform convergence
10	1–6	Power series
11	1–9	Algebraic and metric structure of \mathbf{R}^n , mappings from \mathbf{R}^n into \mathbf{R}^m , limits
12	1–6	Differentiation on \mathbf{R}^n , Inverse Function Theorem, Implicit Function Theorem

Grading and Grading Scale:

Your grade will be determined from class participation (20%), homework (20%), and exams (60%). While the final exam is not comprehensive, you still must be familiar with the concepts introduced throughout the course to perform adequately. If you are auditing the course, you must attend at least 40% of the time to receive the grade AU; otherwise you will receive the grade W. Students taking Math 5852 for graduate credit will be expected to do more work than those taking the course for undergraduate credit.

If you have a valid reason for missing an exam, you will be given a makeup. If possible, you should notify the instructor in advance of missing an exam to make arrangements to take a makeup.

On all exams it is expected that you will do your own work and not copy from others. Failure to comply with this policy may result in losing a significant amount of credit and could result in being assigned a failing grade for the course. On homework it is permissible to work in groups, but do not cheat yourself out of a learning experience by letting another person do all the work. Homework turned in late is subject to a slight reduction in credit (up to 20%) with the amount of reduction dependent on the degree of lateness. Generally, if your work on a homework assignment is substantially below perfect, you will be given a chance to redo the assignment for slightly less than full credit.

The following grading scale will be used.

88—100%	A
76—87%	B (at least)
64—75%	C (at least)
50—63%	D (at least)
Below 50%	F (at least)

Semester Dates:

Monday, August 28, 2023 – Term Begins
Monday, September 4, 2023 – Labor Day (University closed)
Tuesday, September 5, 2023 – The last day to add a class or change the grade option
Sunday, September 10, 2023 – The last day to drop with a full refund
Monday, September 11, 2023 – First day to drop with a grade of “W”
Sunday, October 29, 2023 – The last day to drop the course with a grade of “W”
Friday, November 10, 2023– Veterans Day (University closed)
Wednesday, November 22 – Sunday, November 26, 2023 – Thanksgiving Break
Monday, December 11 – Saturday, December 16, 2023 – Final Exams
Saturday, December 16, 2023 – Term Ends

Please refer to [this site](#) in the event of changes to semester dates.

Mathematics Achievement Center (MAC): The [Math Achievement Center](#) is an academic support service which is integrated with the Department of Mathematics & Statistics. Our mission is to assist YSU students in the strengthening of the fundamental mathematics skills which are necessary for success in the study of mathematics and to provide resource materials for independent study.

Location: Cafaro Hall Room 408 and Online

Email: mac@ysu.edu

Phone: (330)-941-3274

Visit our [website](#) to schedule an appointment and check for services available for your course.

Honors Contracts: Please contact the instructor regarding eligibility for honors contracts.

Blackboard: This class will be using the Learning Management System Blackboard. Blackboard can be accessed at: <https://ysu.blackboard.com/>. Here you will find a copy of this syllabus, assignments, notes, solutions, etc. You are required to regularly check Blackboard for documents.

Faculty Evaluations: At the end of the semester, you will be asked to evaluate the instructor and the course in general. We ask that you take these evaluations seriously and provide honest feedback as these are reviewed by the Chair of the Department of Mathematics and Statistics.

YSU Policies: [University policies](#) can be found online and provide you guidance on your rights as a student in this course. The links below take you directly to a specific policy. Should you have any questions about a policy, please do not hesitate to contact me using the information at the top of the syllabus.

- [Statement of Non-Discrimination from the University](#)
- [Academic Integrity/Honesty](#)
- [Student Accessibility](#)

- In accordance with university procedures, if you have a documented disability and require accommodations to obtain equal access in this course; please contact me privately to discuss your specific needs. To coordinate reasonable accommodations, you must be registered with the Accessibility Services, located in Kilcawley Center Room 2082. You can reach Accessibility Services at 330-941-1372.
- [Incomplete Grade Policy](#)
- [Coronavirus Statement](#)

How to Get Help: YSU is committed to your success. As a student you have access to several resources that may be instrumental in helping you succeed in this course and others. Please do not hesitate to utilize any of these [free support services](#) to support your academic success, physical and mental health, and help you navigate your time as a YSU student.

Additional Resources:

- [The Penguin Service Center](#) - The Penguin Service Center is a single place to receive essential information, find guidance, and resolve enrollment-related concerns in the areas of financial aid, records and registration, and student billing. Call the Penguin Service Center at 330-941-6000 or visit their website to [Ask a Question](#).
- [University Counseling Services](#) - As a student, you may experience a variety of concerns that can impede your academic success. Such life stressors may lead to diminished academic performance or reduce your ability to participate fully in life. Services are available to assist you with addressing these and other concerns you may be experiencing. Contact the Student Counseling Services (330-941-3737) to learn more about the confidential mental health services available to our currently enrolled students.
- [College/University Career Advisement](#) - The academic advising staff at Youngstown State University assists undergraduate students in the development of meaningful educational plans while maintaining the integrity of the institutional programs and degrees. For any academic advising questions please [visit here](#) to be directed to your academic college.