**Advanced Calculus II**

**MA 441/541-ET**

**SPRING 2022**

**Department of Mathematics**

**University of Alabama at Birmingham**

**Course Instructor:** Professor Nikita Selinger  
**Office:** UH 4016  
**Phone#:** (205) 934-2154  
**E-mail:** selinger@uab.edu  
**Office Hours:** By appointment

---

**Meeting times:** MTWT 15:35 AM – 16:25 PM  
**Meeting location:** UH 4002  
**Prerequisite:** Grade of C or better in Advanced Calculus I or equivalent  
**Credits:** 4 semester hours

**Textbook:** See notes on Canvas

---

**Course Description:**

Advanced Calculus is the rigorous mathematical study of calculus topics emphasizing proofs of all results. As an example, the intermediate value theorem is a result usually presented in a first course on calculus which is easy to see in a picture on the board, but surprisingly difficult to prove. We focus on complete, rigorous proofs of results such as these.

---

**Important dates:**

- **First day of class:** January 10, 2022.  
- **Last day to drop/add:** January 18, 2022.  
- **Last day of class:** April 22, 2022.
Course policies:

- Please make sure that you are able to receive e-mail through your Blazer-ID account. Official course announcements may be sent to that address.
- If you are contacted by the Early Alert Program, you should consider taking advantage of the services it offers. Various services to assist you are also listed in the Student Resources section of the Blazernet website.
- If you wish to request a disability accommodation please contact DSS at 934-4205 or at dss@uab.edu.

Methods of teaching and learning:

- Class meetings of 50 minutes consisting of student presentations.
- Students are expected to undertake at least 10 hours of private study per week.

Course Objectives:

Upon successful completion of this course, you will be able to:

- Prove a mathematical theorem.
- Present your proof and answer any questions of students in class.
- Pose questions or challenges to other students’ proofs to determine whether or not those proofs are rigorously correct.

Assessment procedures:

The grade will be based on the number of points obtained by in class presentations. For details please see the lecture notes on Canvas.

Tips:

- Technical support is available at https://www.uab.edu/elearning/help.
- By working steadily and regularly, you will increase your chances to succeed in this course.
- Remember, being a full-time student is a full-time job.