Intermediate real analysis II

Course	MAT 473
Semester	Spring 2020
Line No.	25861
Time	TuTh 10:30 - 11:45 AM
Room	WXLR A308
Instructor	Jack Spielberg

Course description: This is the continuation of MAT 472, giving a rigorous treatment of analyisis in n-dimensional Euclidean space. The first part of the course will deal with differentiation of functions between Euclidean spaces, including partial and total differentiation, Taylor's theorem, and the inverse and implicit function theorems. The remainder of the course covers Lebesgue measure and integration in $\mathbb{R}$, Fubini's theorem in $\mathbb{R}^2$, and the change of variables theorem if time permits.

Course notes will be posted on the web. No text is required, but a few recommended books are listed below.

1. "An introduction to analysis" by Rosenlicht
2. "Principles of mathematical analysis" by Rudin
3. "Real mathematical analysis" by Pugh
4. "Lebesgue integration on Euclidean space" by Jones

There will be weekly problem sets (the most important part of the course), a midterm exam, and a final exam.

Prerequisites MAT 472 with grade of C or better, or consent of the instructor. Some familiarity with linear algebra (e.g. MAT 342 or 343) is recommended.

Questions may be addressed to the instructor at spielberg@asu.edu.