Syllabus for Math 330 – Fall 2019, SDSU

Professor Nick Slinglend	Advanced Calculus I
Office: GMCS 520	Classroom EBA-256
Office Hours: Tues&Thurs, 4 to 5pm	Classes Tues&Thurs, 5:30-6:45pm
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Textbook:
Advanced Calculus, 2nd edition, Patrick Fitzpatrick (Both the AMS and Thompson Brooks/Cole publishers will work) – this is the text we will follow however I plan to provide a few additional free references on the Blackboard website.

Catalog Description:
        Formal definitions and prove results in analysis within the framework of sequences and functions of a single variable. (Formerly numbered Mathematics 534A).
        Prerequisites: Mathematics 245 and either 254 or 342A with a grade of C (2.0) or better in each course. Proof of completion of prerequisites required: Copy of transcript.

Grades:
30% homework and other take-home assignments (no late work accepted)
20% midterm exams (there will be two midterms)
30% final exam (Tuesday, 12/17, 15:30-17:30)

I will give approximate scales for graded work as we progress in the class – in other words, I will put some sort of letter scale on the numerical grades as the assessments are graded.

Student Learning Outcomes:
General:
   • Students will understand a more rigorous development of results applied in single variable calculus.
   • Students will develop an understanding of results necessary to progress to Math 530 and further work in mathematical analysis.
   • Students will gain experience in knowing and using specific logical definitions and results. In addition, students will gain practice in writing math proofs.
Specific:
   • Students will learn a set of constructive axioms for the real numbers and some basic results.
   • Students will gain a more complete understanding of the precise definitions of limits as well as fundamental limit results.
   • Students will understand and use properties of continuous functions such as the Intermediate and Extreme Value Theorems.
   • Students will revisit and understand the development of derivative computations and big results like the Mean Value Theorem.