This sophomore-level transition course at Montclair State University is designed as an applied proofs course with single variable calculus as a pre-requisite. It introduces students to difference and differential equations in the context of real-world applications, uses technology (Excel and Maple) to study the long term behavior of solutions, and requires them to write simple proofs, and submit oral and written reports. We present a five year historical perspective beginning with the conception and award of an NSF grant (DUE-0310753). We include context, content, and results of attitudinal surveys designed to judge the impact of the transition course for majors at Montclair State University. Finally, we talk about some pitfalls we encountered in the process of incorporating the course as a requirement for majors at a large and diverse mathematical sciences department.

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