

UTMOST Application

December 2015

Submitted by Nicholas C. Zoller
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Southern Nazarene University

The Southern Nazarene University (SNU) Mathematics Department would like to participate in the UTMOST research project investigating the use of online textbooks and Sage in Linear Algebra and Intro to Abstract Algebra courses. Both of these courses are regularly taught at Southern Nazarene University. Linear Algebra will be taught during the 2017-2018 academic year in Spring 2018, while Intro to Abstract Algebra will be taught in the 2018-2019 academic year in Fall 2018. One section of each course will be offered, so it is not possible to have control sections at SNU.

I will serve as the instructor for both courses. I have three semesters of experience teaching each of them. Typical enrollment for Linear Algebra is 8-12 students, while typical enrollment for Intro to Abstract Algebra is 4-8 students. I regularly use Maple in Linear Algebra. Our students are familiar with Maple from their Calculus courses at SNU. I do not regularly use a computer algebra system or other mathematics software for teaching Intro to Abstract Algebra. These two courses are required of our Mathematics Education majors and strongly recommended for our Mathematics majors. Linear Algebra is required of SNU Physics majors, and it is strongly recommended for Computer Science majors.

My experience with mathematics software in teaching includes using Maple, \LaTeX , Mathematica, and GeoGebra. I teach one section of Calculus I, II, or III each semester, and our students have a required Maple lab assignment each week. I use \LaTeX to write lecture notes, handouts, syllabi, quizzes, and exams for all of my courses. I used Mathematica to teach Calculus I and Calculus II as a visiting assistant professor at Lafayette College in Easton, Pennsylvania during the 2008-2009 academic year. I have occasionally used GeoGebra for student research projects. I have not used Sage or SageMathCloud in a course that I taught.

Southern Nazarene University is a private, liberal arts university with a variety of undergraduate, graduate and adult education programs. It is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools and the State Board of Education. SNU has an enrollment of approximately 2000 undergraduate and graduate students. It is also a member of the Council for Christian Colleges and Universities and participates in the following Federal grant programs: TRIO SSS program, National Space Grant College and Fellowship Program, McNair Scholars Program, and Centers for Excellence in Veteran Student Success.

Southern Nazarene University

CHARACTER | CULTURE | CHRIST

This letter is in support of the application of Dr. Nicholas Zoller to participate in the UTMOST Project. The Mathematics Department at Southern Nazarene University is in full agreement with his intention to make the necessary adjustments to his syllabus and text to accommodate the requirements of the project. The courses he is proposing to teach are scheduled in our long-range calendar for the semesters he has indicated in other application materials.



Dr. V. Lee Turner

Chair, Department of Mathematics

Southern Nazarene University

MARKING **100** YEARS
1899-1999