OKLAHOMA STATE UNIVERSITY

SUCCESS IN UNDERGRADUATE MATHEMATICS
A CASE FOR SUPPORT

OKLAHOMA STATE UNIVERSITY is undertaking a bold initiative to enhance student learning and success in mathematics through best-practice teaching, an innovative new model of supervision and coordination of instruction, and the latest in educational technology.
Every degree program at Oklahoma State University requires a course in mathematics, which is why learning and success in math is essential for any student chasing their dreams. Success in Undergraduate Mathematics (SUMS) will ensure all students at OSU can be successful in their entry-level math courses by providing the resources, guidance and additional support they need to fulfill their mathematical requirements. In addition to improving retention and graduation rates, SUMS will boost academic confidence and help launch interested students’ careers in Science, Technology, Engineering and Math (STEM), as well as careers in business, finance and health.
SUCCESS IN UNDERGRADUATE MATHEMATICS

Plans for SUMS are the result of an extensive review of OSU’s entry-level math courses by a committee of University faculty who had been asked by Provost Robert Sternberg to find better ways to reach learners enrolled in these classes.

The committee found that an average of 36.8 percent of students enrolled in entry-level math courses at OSU withdraw or fail these classes.

While lower than the national average of between 40 to 45 percent, we at OSU want to improve student learning and success in mathematics.

The committee identified the fundamental causes of such a significant percentage of course withdrawals or failures as the improper student placement in entry-level mathematics classes and a lack of effective student participation in the learning process.

SUMS AIMS TO SIGNIFICANTLY INCREASE STUDENT LEARNING AND SUCCESS IN ENTRY-LEVEL MATHEMATICS BY:

- Implementing a mandatory and enforced Placement Exam for first-time enrollees in an OSU mathematics class (place students based upon their readiness for success).

- Enhancing support and training for academic advisors to improve their knowledge and understanding of entry-level math courses and student readiness.

- Providing dedicated coordination and supervision of entry-level mathematics through the hiring of Clinical Faculty.

- Adding Faculty Fellows who, with tenure-track faculty, bring an exceptional record of teaching and best-practice pedagogy to those course most often identified in the preparation of STEM students.

- Enhancing the training and continuing professional development of Teaching Assistants and Instructors.

- Providing innovative new resources and practices for student learning and success in mathematics in the Mathematics Learning Success Center.

- Undertaking curriculum revision and developing an instruction model of best practice for learning and doing mathematics.

- Ensuring that teachers in the classroom have an excellent command of subject matter and a positive, caring attitude toward student learning and success.

- Revising the experience for STEM students with a well-balanced curriculum of concepts, problem solving, and inquiry-based learning.
PROGRAM SUPPORT

OSU has been a national leader in terms of providing student support for the study and learning of mathematics since 1984 when it introduced the mathematics learning resource center.

MATHEMATICS LEARNING SUCCESS CENTER
We propose a state of the art facility incorporating experienced personnel, the latest technology, and best-practice pedagogy in support of student learning and success in mathematics.

OSU led the Nation in 1984 when it established the Mathematics Learning Resource Center as a student support center for studying and learning mathematics. It was the first of its kind to offer a range of student services integrated with the mathematics instruction program in the classroom.

The University has designated 8000 square feet of prime space on the fifth floor of the Edmon Low Library for construction of a new learning center, the Mathematics Learning Success Center (MLSC). This is an exceptional, central location for the MLSC and not only indicates the importance the University places on the MLSC, but enhances and continues the historic role of the Edmon Low Library as the center for student study and learning on the OSU Campus.

The MLSC will be the hub for support services for students in lower-division mathematics courses. It will provide the latest in educational software and computer technology, highly trained tutors, and a dedicated staff that coordinates and supervises the services, continually seeking enhancements for student learning and success.

CLINICAL FACULTY
Clinical Faculty are an exciting new addition to program support under the SUMS program. Clinical faculty are non tenure-track members of the department faculty, who will provide dedicated coordination and supervision of pre-calculus mathematics. They are experienced, master teachers who have excellent command of subject matter and a positive caring attitude toward student learning and success, making them the centerpiece of our plans for innovative, caring, and dedicated instruction in pre-calculus mathematics courses. Plans call for five clinical faculty to be part of the SUMS program.

FACULTY FELLOWS
Faculty fellows are non tenure-track members of the department faculty who have an exceptional record of teaching and best-practice pedagogy but also contribute to the program through their excellence in mathematical research and scholarship. These faculty, along with tenure-track faculty, will be responsible for the learning and success of students in calculus, differential equations, and linear algebra, the often identified STEM courses.

OUR GOAL IS TO MAKE MATHEMATICS A PUMP AND NOT A FILTER IN THE PIPELINE TO CAREERS AND SUCCESS.

Parents and students worry about having high enough math scores to get in to college, and their worries often continue about entry-level math classes. However, with the support of the program Success in Undergraduate Mathematics, the message to students and parents is that if you go to OSU, you will receive all support possible for learning and success in mathematics.”

— William “Bus” Jaco, regents professor and Grayce B. Kerr Chair and Head of Mathematics
The impact of Success in Undergraduate Mathematics (SUMS) will be far-reaching. At OSU, it has the potential to positively influence every student while the outcomes it yields may alter the way higher education approaches entry-level mathematics throughout the nation. Naming opportunities for this important project are abundant as are other ways to become involved.

FOR FURTHER QUESTIONS, PLEASE CONTACT:

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Branding Success is a $1 billion campaign to unleash the transformative power of people and ideas at OSU. The campaign will secure $500 million in student scholarship support and a $500 million investment in faculty, facilities and programs. At the heart of this initiative is empowering Oklahoma State to pursue the vision of becoming a premier land-grant university.

This campaign is the work of alumni and friends who share our intrepid spirit. They are undaunted by the ambitions of a campaign unlike anything in Oklahoma’s history. They are determined to ignite the potential of this great university. By joining them, you seize an extraordinary opportunity to change this university, this state and this nation. We know what we need to do. With your help, we will succeed.