

THE OKLAHOMA SCHOOL OF SCIENCE AND MATHEMATICS

OSSM is a state funded, residential high school for students with ability and interest in science and math who plan to pursue careers in STEM related fields. One of just 16 similar schools in the nation, OSSM is one of some 100 school members of the National Consortium for Specialized Secondary Schools of Mathematics, Science & Technology (NCSSMST). Consortium students are high-performing in SAT/ACT.



■ Average student SAT Math score is 663.4 – US average is 514 – OSSM Class of 2016 average is 660

■ Average student SAT Verbal score is 639 – US average is 496 – OSSM Class of 2016 average is 650

■ Average student ACT score is 29 – US average is 21 – OSSM Class of 2016 average is 31

OSSM typically has 50% or greater female enrollment and 25% or more students on free and reduced lunch.

Typically 200 or more sophomores apply each year to OSSM for some 70-80 places in the next junior class and admission is highly competitive. The admissions committee examines multiple criteria including students' academics, recommendations from teachers, principals and counselors and special talents and accomplishments. Semifinalists are interviewed by review committees before the final selection is determined. OSSM alumni come from all 77 Oklahoma counties, and typically about 60% of the students admitted come from rural communities.

THE OSSM DIFFERENCE

OSSM challenges students *far* beyond the traditional high school model. Everything at OSSM supports students' academics—from the school's residential model, college-level curriculum and largely doctoral-level teaching faculty (70%) to required evening study halls staffed with faculty and absence of cell phones and personal internet. Students leap forward in their academic progress, and many OSSM graduates receive numerous credits for their OSSM classes at their chosen institutions of higher learning. OSSM course offerings include:

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| <u>Math</u> | Pre-Calculus I, II & III, Calculus I & II, Multivariate Calculus, Differential Equations, Probability & Statistics, Linear Algebra, Abstract Algebra, Topology, Real Analysis, Number Theory, Game Theory, Special Topics, Foundations of Mathematics |
| <u>Biology</u> | General Biology, General Zoology, Intro to Neuroscience, Anatomy & Physiology, Embryology, Endocrinology, Histology, Genetics, Molecular & Cell Biology, Plant & Soil Science, Ecology, Invertebrate Zoology, Vertebrate Zoology, Microbiology, Biochemistry |
| <u>Chemistry</u> | General Chemistry I & II, Organic Chemistry I & II, Biochemistry, Physical Chemistry, Chemical Thermodynamics, Chemistry Olympiad Prep/Directed Study |
| <u>Physics</u> | General Physics, Electricity & Magnetism, Mechanics, Astronomy, Intro to Modern Physics, Modern Physics II, Exploration Geosciences, Geoscience Seminar, Thermal Physics Waves & Optics, Topics in Theoretical Physics, Meteorology |
| <u>Engineering</u> | Robotics Engineering, Electronic Circuits, TEAM+S (extra-curricular) |
| <u>Computer Science</u> | Intro to Comp.Science, Data Structures I & II, Operating Systems, Networking, Object-Oriented Programming with Java, Computer Architecture & Assembly Programming, Special Topics |
| <u>Humanities</u> | American Literature, World Literature, Prin. of English Comp., American History, Western Civilization, East Asian Civilization, Arab Civilization, Foreign Languages, Fine Arts |

ACROSS THE STATE

In addition to the intensive residential model at the main campus in Oklahoma City, OSSM operates seven **Regional Centers** in rural areas across the state to challenge students with advanced calculus and calculus-based physics courses near their homes. OSSM has now established a **Virtual Regional Center** where instruction in calculus and calculus-based physics is delivered online and labs are conducted in face-to-face visits from their OSSM instructor.



“OSSM IS THE MOST RIGOROUS ACADEMIC PROGRAM OF ITS KIND IN THE NATION.” ~ *The late Dr. Julian Stanley, nationally known expert on gifted education*

OSSM students are aggressively recruited by the Honors Colleges of Oklahoma’s major universities as well as by highly selective universities across the nation. **All OSSM graduates are accepted to institutions of higher learning and have collectively earned scholarships in excess of \$135 million.** Twenty-five graduating classes—1,535 students—have generated 417 National Merit Finalists and 199 Commended Scholars, 110 Oklahoma Foundation for Excellence Academic All-State Scholars, 654 Oklahoma State Regents Scholars, 36 Oklahoma Medical Research Foundation Fleming Scholars, and six National Presidential Scholars. The OSSM Classes of 1998 and 2000 achieved the highest composite ACT scores in the U. S. in the years they graduated before ACT officials stopped making school ranking information available to the public. *OSSM Class of 2010 alumnus Mubeen Shakir was named a 2013 Rhodes Scholar!*

HISTORY– Legislated in 1983, OSSM is a state agency located on a 32-acre campus in Oklahoma City. The old renovated Lincoln Elementary school building holds classes and students live in the Dan Little Residence Hall, opened in early 1998. The school’s gym opened 1999 and the Samson Science Center (2001) houses physics and chemistry teaching labs, research labs, and faculty offices. The Senator Bernice Shedrick Library (2002) holds 50,000 volumes and provides space for study and administration. Two new residence towers completed in 2014 doubled dormitory capacity to 288 and additional students are being added as funding permits. Tuition, room and board, and books are provided free for Oklahoma residents. SB1131 passed in 2013 authorized OSSM to begin taking out-of-state students for tuition and fees beginning with the 2015-2016 school year. Through the OSSM Foundation, private partners help OSSM retain its world class faculty and round out the school’s nationally recognized academics with fine arts, research opportunities, enrichment programs and activities, scholarships, math and science competitions, and a range of outreach activities benefiting students and teachers across the state.

RESULTS – Of OSSM’s 1,535 graduates, more than half are still pursuing their higher education.

- **85% of OSSM alumni are remaining in technical/scientific fields for their career pursuits!**

- **More than 400—a third—have obtained or are pursuing engineering degrees.**

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| Electrical Engineering | 20% | Computer Engineering | 5% |
| Chemical Engineering | 20% | Petroleum Engr/Geophysics | 4%* |
| Mechanical Engineering | 15% | Materials Engineering | 2% |
| Engineering Physics | 7% | Systems Engineering | 1% |
| Industrial Engineering | 5% | | |

**One of the OSSM Class of 2003, John H. is nearly finished with his Ph.D. in Petroleum Engineering—His dissertation research was on modeling gas flow in shale formations. John might never have reached this level of knowledge and skill without the intense preparation he received at the high school level at OSSM. In 2007, OSSM formalized its Geoscience program (the only one of its kind in Oklahoma) with the Chesapeake Endowed Chair in Geoscience. John went to work for Chesapeake in 2014.*

- **Close to another third are pursuing medical, bioscience, and related career fields** including physicians/surgeons (MD & DO), PharmD, PhD (research and academic), DVM, DDS, and others

OSSM’s mentorship programs and strong OU Health Science Center partnerships provide outstanding opportunities for OSSM seniors to participate in intensive research mentorships in specialized areas of interest, allowing them to graduate high school with real world research experience and practical lab skills to jump start their higher education.

- **Another third of our alumni, all highly prepared in math and science, have pursued and are pursuing many other fields critical to our economy,** as well, including Computer Science & MIS, Economics & Finance, Marketing, Applied & Computational Math, Chemistry & Physics, Law

- *Of those who have completed their higher education and are working, half are right here in Oklahoma.*

A RECENTLY COMPLETED INDEPENDENT STUDY SHOWED OSSM AND ITS ALUMNI ALREADY GENERATING SOME \$40 MILLION IN ANNUAL ECONOMIC ACTIVITY, AND THIS IMPACT IS GROWING WITH EVERY GRADUATING CLASS!

