



Oklahoma School of Science and Mathematics

1141 N. Lincoln Boulevard, Oklahoma City, OK 73104

Website: www.ossm.edu ♦ Main: (405) 521-6436 ♦ Fax: (405) 522-4586

CEEB: 372-684

2020-2021 PROFILE FOR COLLEGES

Cynthia Parish

Director of College Counseling

O: 405.522.7834

C: 405.740.3367

Cynthia.parish@ossm.edu

Frank Y.H. Wang, Ph.D.

President

Brent Richards, Ph.D.

VP for Academic Services

William Kuehl

Dean of Admissions/Registrar

The Class of 2021

The **Class of 2021** students represent **22** Oklahoma counties, **35** hometowns and **46** individual high schools.

50% Asian

45% White

14% American Indian

4.7% Black or African American

4.7% Hispanic or Latino

1.6% Native Hawaiian or Other

Pacific Islander

13% will be the first generation in their family to attend college.

14% meet the federal guidelines for free/reduced meals.

Average Composite ACT: 31

Average SAT: 1433

EBRW: 703

Mathematics: 731

26 National Merit Semifinalists

About OSSM

Created by legislative action in 1983, the Oklahoma School of Science and Mathematics began classes in 1990 as Oklahoma's only co-education, two-year, public, fully-residential high school for juniors and seniors with exceptional ability in science and mathematics. OSSM is situated in Oklahoma City in the heart of the Innovation District.

The **148 students (76 seniors and 72 juniors)** represent **73 high schools** in **28 counties** throughout the state of Oklahoma. Our students come from a wide range of socio-economic backgrounds. Historically 100% of our graduating seniors enroll at a four-year college or university directly after graduation.

All 32 faculty members hold at least a master's degree; 91% hold a doctorate in their academic teaching discipline.

Our Mission

To educate students who show promise of exceptional academic development through a program of instruction and discovery that challenges them far beyond the traditional high school model, imparting a superior foundation for careers in STEM, (Science, Technology, Engineering, and Mathematics), fields.

To serve as a catalyst for advancing public school STEM education in Oklahoma by providing residential, regional, summer, and virtual learning programs that extend advanced science and math education to a diverse student demographic.

To inspire students to make a difference in the State of Oklahoma and the world by leveraging their knowledge and curiosity for the betterment of mankind.

Life at OSSM

Our courses are all taught at a college level—They are rigorous and demanding and classes run from 8am to 6pm Monday—Friday. Students have a mandatory two-hour study hall that is required Sunday-Thursday evenings.

In addition to the seven-course load, all students are required to participate in physical education two days a week. To satisfy the fine arts requirement, our students take music, dance or visual arts.

Students can participate in approximately 40 student interest groups and organizations. OSSM offers club rowing, a limited number of organizations such as Robotics, Ethics Bowl and TEAM+S, and a variety of student interest groups such as Kind Society and Women in STEM.

Students are admitted into OSSM in their junior year and invited to return for their senior year if they remain in good academic standing.

Admission is competitive and is initiated by written application, which includes an essay and faculty and counselor recommendations. Students selected to be semifinalists are invited to interview with the admission committee. The admissions committee makes recommendations as whom to invite to join OSSM.

Advanced Course Offerings

OSSM has more than 65 different course offerings. Our college-level curriculum includes courses in Microbiology, Bio-chemistry, Neurobiology, Molecular and Cellular Biology, Genetics, Endocrinology, Human Anatomy and Physiology, Geoscience, Organic Chemistry, Data Structures, Computer Architecture and Assembly, Java Programming, Discrete Structures, Multivariate Calculus, Differential Equations, Number Theory, Linear Algebra, Abstract Algebra, Real Analysis, Physics: Mechanics, Electricity and Magnetism, Thermal Physics, Waves and Optics, Modern Physics, Theoretical Physics.

OSSM offers opportunities for students to pursue academic interests to the highest levels. Directed studies courses regularly include topics in Computer Science, Engineering, Literature, History, and Modern Politics.

Each science class at OSSM includes three hours of lecture and a two- or three- hour laboratory session per week.

Research and Mentorships

Our proximity to the OU Health Sciences Center, the OK Medical Research Foundation, and downtown OKC allows students extensive opportunities for research and internships. More than 60% of OSSM students participate in independent research or mentorships, receiving hands-on experience in their field of interest outside of the classroom. Mentorships have been a part of the academic program at the Oklahoma School of Science and Mathematics since the first graduating class.

Graduation Requirements

OSSM students must successfully complete a minimum of sixteen (16) units: one unit of biology; one unit of chemistry; one and one-half units of physics; one unit of science electives; two units of mathematics (inclusive of calculus); two units of English; two units of history; two units of the same foreign language; one-half unit of computer science; one unit of fine arts; two units of physical education.

Students study at least 7 academic courses, plus fine arts and physical education, each semester.

A **collegiate class schedule** is followed. (Classes Meet M-W-F for 50 Minutes or T-Th for 75 Minutes; Science laboratories meet weekly for two or three-hour sessions.)

All courses utilize collegiate textbooks.

60 hours of community service and 60 hours of school service are also required.

Academics

GPA and Class Ranking

Because of our diverse demographics with students coming from various academic backgrounds, **OSSM does not rank our students.**

OSSM's emphasis is on academic challenge, as all academic courses are advanced and/or accelerated honors-level courses. The academic culture encourages students to take academic risks and challenge themselves, as a result, **OSSM does not calculate a grade point average.**

Advanced Placement (AP)

OSSM does not teach AP courses. However, OSSM students do take AP exams every spring.

64 students took 187 AP exams, May 2020. 80% of the AP Exams received scores of 3 or higher.

Grading Information

The academic year is comprised of two semesters. Final grades are given after the eighteenth week of each semester. Students

Grade Averages	Fall 2019	Spring* 2020
Mathematics	88.43	88.43
Biology	88.55	88.57
Chemistry	87.65	88.87
Physics	85.12	87.57
Computer Science	92.35	95.02
Humanities	90.84	91.93

are required to sit for a comprehensive three-hour final in each course.

Due to the rigor of our courses, we suggest the following grading scale be used to evaluate a student's coursework:

87 - 100 = A
77 - 86 = B
70 - 76 = C
< 70 = No credit received

Students receive a Pass (P) for physical education and fine arts and Directed Studies. Mentorships, also receive a Satisfactory (S) or Pass grade.

*In spite of COVID-19, the overall grade distribution remained similar to the previous year's spring semester.

Standardized Testing

ACT (Juniors and Seniors)				
English	Math	Reading	Science	Composite
32	31	32	31	32

SAT (Juniors and Seniors)		
EBRW Mean	Math Mean	Total Mean
684	722	1415

National Merit Scholars (Class of 2021)
26 Semi-Finalists

College Matriculation (2016-2020)

Arizona State University-Tempe	Rensselaer Polytechnic Institute
Baylor University	Rice University (4)
Belmont University	Rochester Institute of Technology
Boston College	Saint Louis University Medical Scholars Program (2)
Boston University (4)	Southern Methodist University
Brandeis University	Southwestern Oklahoma State University (2)
California Institute of Technology	Stanford University (3)
Cameron University	The University of Alabama
Campbell University	The University of Texas at Austin (7)
Carnegie Mellon University (3)	Trinity College Dublin
Case Western Reserve University (3)	Trinity University--San Antonio (2)
College of the Atlantic	Tulane University (2)
Colorado College	United States Merchant Marine Academy
Colorado School of Mines	United States Naval Academy
Columbia University (3)	University of California, San Diego
Concordia University-Chicago (3)	University of California-Berkeley
Cornell University	University of California-Los Angeles
Duke Kunshan University	University of Central Oklahoma
Duke University (3)	University of Chicago (5)
Embry-Riddle Aeronautical University-Daytona Beach	University of Delaware
Emory University	University of Kansas
Emory University--Oxford College	University of Michigan (2)
George Washington University	University of Missouri-Kansas City BA/MD Program (2)
Grinnell College (2)	University of North Carolina at Chapel Hill
Hamilton College	University of Notre Dame (2)
Harvard College (2)	University of Oklahoma (123)
Harvey Mudd College	University of Pennsylvania (5)
Lehigh University	University of Portland (2)
Massachusetts Institute of Technology (4)	University of Rochester
Missouri Southern State University	University of Southern California (6)
New York University (2)	University of Tampa
Northwestern University (4)	University of Tulsa (19)
Nova Southeastern University	Vanderbilt University (6)
NYU Shanghai	Vassar College
Oberlin College	Washington and Lee University
Oklahoma City University (2)	Washington University in St Louis (8)
Oklahoma State University (19)	Wesleyan University
Oregon State University	Williams College
Princeton University (5)	Yale University
Purdue University (3)	

(The parenthesis indicate the number of students matriculated)

Recent Notable Student Achievements

- * OSSM had three teams compete in the National Science Bowl (Sponsor: US Dept of Energy). Our three teams ranked as Regional Champions 2020, Regional Runner-Up 2020, and 4th in the Region.
- * US National Chemistry Olympiad (USNCO)/Sponsor: The American Chemical Society—Two students ranked in the Top 20.
- * Seven students participated in the Chemistry Research Mentorship - The ACS National meetings and presentations in Philadelphia. All seven were published in the Book of Abstracts.
- * Three students qualified for 2020 National Astronomy Olympiad exam.
- * Test of Engineering Aptitude in Mathematics and Science - TEAM+S - Sponsor: Technology Students Association - Three teams from OSSM (24 students) participated in 2020 , placing 2nd, 3rd, and 5th in the divisional. *Best of the Nation” competition at Nashville, TN was cancelled due to COVID-19.
- * OSSM had two students qualify as semifinalists for the Biology Olympiad. *Semifinal Competition for the Biology Olympiad was cancelled due to COVID-19.

Covid-19 Academic Response

OSSM is unique in Oklahoma because of our extremely rigorous, college-level academic program, because all of our students live on campus, and because our students come from all over the state. These factors that make OSSM stand out have also created unique challenges for the school in responding to the COVID-19 pandemic.

OSSM transitioned to virtual learning on March 25, 2020, with finals week May 18-22nd, 2020.

We began the Fall 2020 semester remotely on July 29th, 2020; all classes are still virtual. The end date will be November 24 with no week-long fall break. The number of instructional days for the semester has remained the same.

Our students come from all over the state of Oklahoma, including several rural or low-income school districts. As in many states, broadband internet access is not readily available in many areas. Students who live in these areas or in low-income households may have a hard time keeping engaged with their courses due to poor connectivity or lack of technology. OSSM has provided prepaid cellular WiFi hotspots and laptops to those students who have requested them free of charge.

Grading scales and policies

No institution-wide changes were made to OSSM's grading scales or policies.

All OSSM students are required to meet the same graduation requirements that were in place before the COVID-19 pandemic began. All courses required for graduation have been available for students to take.

Instructional methods

We have never had a proper Learning Management System or other tools in place that may have made switching to online learning smoother. Instead, our faculty have had to improvise an online program mostly from scratch.

Instructors have been delivering lectures and other course materials and assigning work through apps like MS Teams and Zoom as well as websites like YouTube and FlipGrid. Some instructors have chosen to deliver lectures live videoconference while others have opted for pre-recorded lectures and many courses use a combination of both approaches. In addition, all teachers have been available to provide direct one-on-one help for students via videoconference and text chat. Daily online peer-tutoring and study sessions are available to students as well.

Student schedules and course offerings

Students have been assigned a weekly course schedule designed to look like a typical, in-person OSSM schedule. Students have been expected to attend live lectures or watch recorded lectures during their class time, depending on the instructor's delivery method. Most of the courses that are routinely offered during the fall semester have been available for students to take. The only exception is the Fine Arts program, which has been offering a smaller selection of its usual catalog.

Testing requirements

Due to national cancellations and campus health concerns, OSSM has reduced the number of standardized tests available for students to take on campus and therefore the number that students are typically required to take during the school year, including the ACT and SAT.

Other extenuating circumstances:

OSSM has not lowered its academic standards in response to the COVID-19 pandemic. However, because our students are living at home instead of on campus, it has been hard to recreate the same sense of community and structure that comes with our residential program. Some of our students may be struggling academically because of this and would almost certainly show better performance on campus. This is especially true for our juniors (i.e., class of 2022) because this is their first semester at OSSM, and they may be accustomed to a much lighter workload, given that their former schools may not have required much in the way of academic work since March.