

# Maine School of Science and Mathematics Strategic Vision

## Statement of Purpose

The purpose of this strategic plan for the Maine School of Science and Mathematics is to capture the school's current values and to set future goals. These goals will be accomplished over the next ten years and will enable MSSM to continue to achieve its mission as stated in Maine statute. These goals will be measured by a series of benchmarks that have been designed to assess our progress over the next one to five years and, in a few cases, ten years. This plan will act as a catalyst for aligning and mobilizing MSSM's stakeholders to complete this mission.

## Mission

We propose the following Mission Statement for 2017:

The Maine School of Science and Mathematics (MSSM) brings together and helps a group of Maine's most academically motivated high school students to become innovative, well-rounded scholars with the ability to develop, investigate, and communicate critical ideas that improve the human condition and benefit the people of Maine. As a residential community, MSSM provides daily opportunities to live as a family of learners, growing together as an institution, as professional educators, and as lifelong learners. The school builds and shares a rigorous curriculum that exceeds state educational standards while emphasizing connections between science, mathematics, and the humanities. MSSM extends its mission by fostering a statewide, year-round community of innovative learners that includes many of Maine's students, educators, and the general public.

## Values

As a community, we believe in and exemplify the following values which embody a cohesive community of respect, integrity, support, and accountability.

- **Strong programming that achieves the student-centered mission of MSSM**  
We value the creativity and innovation of excellent faculty members and residential instructors who create and implement a rigorous academic curriculum and residential program.
- **Communication and teamwork**  
We value a community that has clear communication processes and works as a team to support students and to achieve the School's mission.

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- **Student success and strong student supports**

We value an approach to learning that recognizes students as engaged, active learners and the staff as designers and implementers of the academic, residential, and extracurricular programs. We value high academic standards, rich residential programming, and holding each other accountable. We value supporting each other - especially when we struggle and fail, and encouraging self-advocacy.

- **Respectful Community**

We value a community whose members have mutual respect and feel responsible for each other.

- **Close-knit Community**

We value a community that is close-knit and has strong working relationships that allow us to have safe, honest, trust-building interactions amongst students, faculty, and staff members.

- **Excellence and Competence**

We value striving for excellence in all that we do. We value the competency and knowledge of our staff and, as a consequence, grant them substantial autonomy in their work.

- **Open to try new things**

We value trying new programs, approaches, and ways of engagement to continue to be innovative. We are always evolving and learning as a community and continuing to improve our practice. We value being open to new ideas and perspectives and to actively seek them out.

- **Dedicated and Enthusiastic**

We value our community's dedication to MSSM's mission and our community's willingness to put in the effort necessary to successfully achieve excellence. We deeply value the fact that our community's dedication to and enthusiasm for education and putting student's best interests first is the cornerstone of MSSM.

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## Goals, Benchmarks, and Strategies

**Goal 1: Be seen and recognized as an innovative, creative, and exciting place to study and learn for Students, Faculty, and Staff members**

In order for MSSM to succeed, it needs to be able to attract and retain highly-qualified, innovative, creative, and excited faculty, staff, and students. Our teachers must excel pedagogically, have expert knowledge in their content area, and be able to excite, challenge, and support MSSM students. Our students must choose our school, engage in learning, and be able to operate at a high level in the academic and residential life of MSSM. To attract and retain this caliber of talent, our environment and culture needs to be one that fosters creativity, openness, innovation, growth, and excitement. Through trust, respect, and engagement we create this environment.

We will develop a school culture that prioritizes individual student growth and success; staff morale and job satisfaction; and holistic learning.

We will allocate school resources in a manner that supports those priorities.

### Benchmarks:

1. Have at least a dozen strong leads on file for a variety of faculty, administrative, and substitute positions by 2021.
2. By 2021, 100% of faculty will be actively working on their professional development and, as needed, will be financially supported by the school.
3. By 2019, every faculty member will be participating in at least one interdisciplinary collaboration between departments each year.
4. By 2018, create and annually conduct a school wide cultural assessment measuring student and staff morale.
5. Have 75% faculty and staff be at MSSM for five years or more by 2021.
6. Complete and report exit interview information annually to the Executive Director and Board Chair.
7. 100% quality of program and professional reviews completed by 2022, with reports submitted to the Board in regards to content, reliability, consistency, and student and alumni success. This process will be enriched by feedback and review from similar member schools in the National Consortium for Secondary STEM Schools.
8. Establish a qualitative and quantitative review of compensation and benefits for all employees in 2021 and every five years afterwards to the Board of Trustees
9. Students have the opportunity to participate in extracurricular, co-curricular activities and athletics, through prioritizing their interests.

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10. Codify the existing collaborative student support process between Faculty and Residential Life staff by 2020. This process would be holistic and appropriate for the individual student and promotes health, self-advocacy, respect, and accountability for the community.
11. Purchase sufficient off campus housing for faculty and staff by 2026

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## Goal 2: Enhance MSSM's curriculum on a continuous basis

As Maine's educational landscape continues to change with the establishments of more charter schools, a second magnet school, and a dropping high school student population, MSSM needs to be widely seen as a shining beacon and the strongest math and science magnet school in the State. MSSM students deserve the best facilities and programming to be sure that their experience prepares them to be successful in their future educational aspirations. MSSM needs to lead the way through innovative and strong partnerships with other Science, Technology, Engineering, and Mathematics (STEM) schools in the National Consortium for STEM Secondary Schools (NCSSS), with colleges and universities, and other research, business, and educational organizations.

We will continuously review and strengthen MSSM's core curriculum including student and faculty research, collaborations with leading STEM high schools nationwide, and partnerships with higher education institutions and schools throughout Maine

### Benchmarks:

1. Expand our Social Science offerings by adding another full time faculty member dedicated to this content area by the 2017-2018 school year.
2. By 2018 75% of MSSM students are graduating with at least 32 college credits.
3. By 2018, annually have at least two award winning (individual or group) student competitions, publications, or research projects on a national stage.
4. By 2018, score at least 40% higher than the state and nation on standardized tests.
5. By 2020, leverage our partnership with the University of Maine System to create a pathway for students to matriculate to UMaine's Engineering program where they will earn a Master's in Engineering four years after graduating from MSSM.
6. By 2020, explore an online distance education courses sharing partnerships with the North Carolina School of Science and Mathematics and the Arkansas School for Math, Science and the Arts.
  - a. Offer at least two courses from NCSSM and ASMSA to MSSM students and staff.
  - b. Offer at least one course to NCSSM, ASMSA, and Maine high school students throughout the state.
7. Expand our Fine Arts offerings by adding another faculty member dedicated to this content area by the 2021-2022 school year.
8. By 2021, have 100% of MSSM students either engaged in at least one research and design project, either through a class or on their own, while enrolled at MSSM or participating in at least one summer or J-term internships while enrolled at MSSM.
9. By 2021, expand our higher education partnerships and articulation agreements to include higher education institutes throughout Maine.

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## Goal 3: Manage student enrollment in an optimal and strategic manner over the next 10 years

To improve and enhance MSSM's programming we need to responsibly manage our enrollment and grow in a smart way. Many of MSSM's goals need new facilities and equipment, programming, and appropriate staffing. In order to provide effective programming and best serve Maine and MSSM's student body, we need to have the appropriate number of students to support our ability to offer a diverse selection of courses and activities, and the appropriate blend of grade levels, gender, socio-economic backgrounds, and perspectives.

We will connect enrollment management to strategic investments in programs, facilities, and staff to ensure the quality of the MSSM experience for our student body. MSSM's guiding principles of enrollment management will follow these parameters of growth:

- a. Have qualified applicants to meet those demands both from all counties of the State of Maine and non-residents.
- b. Have appropriate academic and residential programming for these students and/or a clear road map for developing these programs when students enroll
- c. Have appropriate staffing for these students

### Benchmarks:

1. Maintain a sustained enrollment of roughly 155 residential students, while solidifying our operating procedures, honing and improving our curriculum, and offering the best science and mathematics curriculum in the State through great faculty and state of the art facilities connecting MSSM to the world.
2. Maintain an annual attrition rate of at most 7.6% by 2017.
3. Enroll a student body with 1:1 gender balance and a free/reduced lunch percentage equivalent to state percentages of students participating in AP and IB programs by 2020.
4. Provide new lab spaces and renovate all existing classrooms and labs with fully equipped classrooms with the technology and lab equipment for high quality education by 2020.
5. Follow the parameters of growth and provide dormitory space on MSSM's campus to house additional students when appropriate and include opportunities for fitness, offices/distance education classrooms, and shared community spaces by 2026.

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**Goal 4: Be recognized as an educational resource for all of Maine students both enrolled at MSSM and throughout the State**

Decreases in school funding have made it challenging for many districts to offer a range of coursework for high achieving students. As an agency of the state, MSSM will play an essential and important role in providing this programming for districts who need support. We can maximize impact on struggling districts and provide for their high performing students and facilitate professional development for their teachers through quality programming, strong partnerships, distance education, and outreach.

We will offer distance education, curriculum, and professional development opportunities to Maine students and teachers through a variety of online and on-site programs.

## Benchmarks:

1. Engage 20,000 non-enrolled middle and high school students, either directly or through professional development for teachers, in high-quality MSSM educational programs and services by 2026
2. 30 school districts using MSSM provided resources (lesson plans, labs, lecture/videos, training seminars, etc.) either online or onsite by 2026
3. Encourage at least two faculty/staff to present at conferences and professional development programs each year by 2021.
4. Upgrade MSSM's internet bandwidth to 1Gbps by 2018.
5. Upgrade MSSM's internet bandwidth to 10Gbps by 2020.
6. Create a distance education classroom to build and deliver high quality distance education by 2020.
7. Create and deliver an online MSSM mathematics preparation course for potential MSSM students by 2020.

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Goal 5: Develop the alumni association in a manner that promotes strong alumni connections to each other, MSSM (students and staff), industry, academia, and research facilities both in Maine and nationally

Maine continues to struggle to retain its young talent. A strong network of Maine employers and alumni will act as a powerful draw to keep students in the state. This network will also encourage alumni to come back to Maine and play a role in the future of the State. It will support organizations to staff their open positions with qualified candidates who have connections to Maine. Finally, it will provide internships and opportunities for MSSM students and become a critical network and resource for MSSM students, alumni, and Maine organizations.

We will dedicate school resources to strengthening and maintaining MSSM's alumni network.

## Benchmarks:

1. By 2021, 75% of alumni actively using both virtual and physical modes of communicating and networking (roughly 750 alumni out of 1000).
2. By 2018, fund a staff position dedicated to public relations, marketing, and fostering / improving the alumni network and their accessibility to key Maine organizations and businesses.
3. Annually have four meaningful press releases with organizations, businesses, and entrepreneurs through the alumni network by 2019.
4. Complete a thorough survey and database of alumni demographics by 2020.
5. By 2019 create, conduct, and analyze exit interviews with MSSM students their senior year and 50% of alumni five years after graduating from MSSM.
6. MSSM's Foundation is strong enough to be able to mount a significant capital campaign to support the success of this strategic plan by 2020.