ALL OVER THE MAP: MASSACHUSETTS HIGH SCHOOL GRADUATION REQUIREMENTS

SECTION 1: INTRODUCTION

As Massachusetts struggles to help *all* students regain their pre-pandemic learning levels and retain its top status in the nation, the role of our high school graduation requirements has never been more important, providing a critical threshold in determining students' future success. And in today's turbulent economy, where 1 in 4 jobs are expected to be disrupted in the next 5 years, it is increasingly imperative that Massachusetts high school diplomas serve as an indicator for students and families that they are prepared for the postsecondary futures they envision for themselves. For the past two years, the Voices for Academic Equity coalition has been raising questions about statewide requirements and objective data related to high school diplomas in Massachusetts – with a particular focus on equity.

In summer 2024, the Voices coalition embarked on an in-depth analysis of the Commonwealth's requirements for all students to graduate from high school. This central question framed our work: **Given the importance of high school courses in determining students' future success, what policies are in place to *ensure* access to college- and career-ready courses for *all* the Commonwealth's students?** This question led us to examine the guidance that students receive about which, and how many, high school courses they should take to best prepare them for future success. In Massachusetts, statewide guidance for high schoolers and their families comes in the form of a recommended program of study entitled MassCore, which recommends the specific numbers and types of courses across academic subjects that students should take to be prepared for college and career success.

It is perhaps surprising then, that Massachusetts high school requirements and university admissions requirements are sending mixed signals. While MassCore is merely recommended for all Massachusetts high schoolers, completion of MassCore is the minimum undergraduate admissions standard for our state universities and University of Massachusetts campuses. According to the Department of Higher Education, these admissions standards were established "to ensure that students are well prepared to begin college courses and their path to degree."[1] Yet, this is not the standard to which all high school students are held.

As the Voices for Academic Equity coalition highlighted in our 2024 The Courses They Take report, there are equity shortcomings inherent in Massachusetts's opt-in approach. Significant percentages of high school students are graduating having not completed MassCore and as a result, are missing out on the benefits this program of study offers in terms of college and career preparedness — benefits that can have life-changing implications for students' future pathways and earnings.[2] If the Commonwealth truly cares about changing the trajectories for students who are systemically marginalized, MassCore presents a policy opportunity worth exploring.

[1] Massachusetts Department of Higher Education (2019). Undergraduate Admissions Standards for the Massachusetts State University System and the University of Massachusetts: Reference Guide.
[2] Annenberg researchers analyzed students with similar 10th-grade MCAS mathematics test scores. and found that even students with relatively low MCAS scores are more likely to enroll and persist in college if they have completed the MassCore recommended program of study.

SECTION 2: BACKGROUND AND CONTEXT

> ***When it comes to the courses high schoolers across the Commonwealth are required to complete for their diplomas, Massachusetts sets few requirements, and collects no school level data.***

Because MassCore is not required, the state collects only self-reported information from high schools about the numbers of their graduates who have completed MassCore. When it comes to the courses high schoolers across the Commonwealth are required to complete for their diplomas, Massachusetts sets few requirements, and collects no school level data. This lack of data makes it impossible to shed light on which districts have adopted MassCore as a graduation requirement, and which have not. And since participation is entirely optional, districts face no repercussions for not requiring MassCore, as neither their MassCore participation nor their students' completion rates are part of the state's accountability formula. Put simply, while students bear the costs for not completing MassCore as they fall short of Massachusetts's university admissions requirements, and face a potential narrowing of opportunities and reduction of earnings, the districts that do not require MassCore face no negative consequences.[3]

It is also important to note, as the Voices coalition highlighted in our The Courses They Take report, there are discrepancies between some districts' self-reported data about which students complete MassCore and their graduation requirements. With no statewide systematic collection of MassCore data, districts are responsible for self-reporting. Districts often do not track each student's MassCore participation, instead they use proxies that can over-report the number of students completing

[3] Papay, J.P., Mantil, A., Murnane, R.J., An, L., Donohue, K., & Mc-Donough, A. (2020). Lifting all boats? Accomplishments and challenges from 20 years of education reform in Massachusetts. Providence, RI: Educational Opportunity in MA, Brown University.

TABLE 1: District-reported MassCore Completion Rates 2022-23

STUDENT GROUP	# GRADUATED	# COMPLETED MASSCORE	% COMPLETED MASSCORE
All Students	66,858	55,778	83.4
Female	32,896	28,073	85.3
Male	33,698	27,482	81.6
High Needs	35,339	27,056	76.6
LEP English language learner	5,704	3,726	65.3
Low-Income	29,313	22,216	75.8
Students with disabilities	12,009	8,985	74.8
African American/Black	6,244	4,477	71.7
American Indian or Alaskan Native	166	129	77.7
Asian	4,762	3,921	82.3
Hispanic or Latino	13,691	10,210	74.6
Multi-race, non-Hispanic or Latino	2,319	1,967	84.8
Native Hawaiian or Pacific Islander	56	43	76.8
White	39,620	35,031	88.4

Source: Massachusetts Department of Elementary and Secondary Education

MassCore when compared with transcript data that show the actual courses each individual student completed.

Even from the limited, self-reported data that is collected, it is clear that some populations of students are more likely to complete MassCore than others. As Table 1 shows, while 88% of White students complete MassCore, only 65% of English learners do. Because this self-reported data is currently the only MassCore indicator, not nearly enough is known about the full and true extent of inequities, or their impacts on groups of students who are systemically marginalized.

It's this lack of information — and lack of equity — that prompted the Voices coalition to conduct the examination of MassCore requirements that forms the basis for this data brief. Coalition members wanted to understand which high schools currently require MassCore, and which do not. So we conducted a first-ever analysis of all the graduation requirements in Massachusetts's high schools. We analyzed fall 2023 and 2024 graduation requirements for 79% of high schools, serving 92% (267,514) of high school students to determine which schools' graduation requirements adhere to MassCore recommendations. For the first time, our analysis provides clarity on the number of high schools that permit their students to graduate without having completed the state's recommended coursework for success in college and careers.

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What is MassCore?

Adopted by the Board of Elementary and Secondary Education (BESE) in 2007, MassCore is a recommended program of study for all high school students in Massachusetts. MassCore consists of courses in English language arts, math, science, social studies, world languages, and the arts as well as a provision for career and technical education — across all four years of high school. While nearly every other state in the nation *requires* students to take a prescribed number and type of courses, Massachusetts merely proposes a program of study.[4]

What does it take to graduate from a Massachusetts high school?

There are only three requirements made by the Department of Elementary and Secondary Education (DESE). First, students must pass the 10th grade Massachusetts Comprehensive Assessment System (MCAS) in English language arts, math, and one of the high school Science and Technology/Engineering (STE) tests. The second and third requirements are that, according to statute, both physical education and the history of the United States of America and social science, including civics, "shall be taught as a required subject".[5] While high schools are statutorily required to provide high school courses in civics and physical education, the Commonwealth does not require students to pass those courses in order to graduate. In stark contrast to all but one other state, Massachusetts permits local districts to determine all other courses high school students must pass to earn their diplomas.

[4] The only other state that does not require coursework to earn a diploma is VT. CO and PA have no state requirements for high school courses, but do have requirements for high school pathways. See Education Commission of the States 50-State Comparison: 0High School Graduation Requirements.

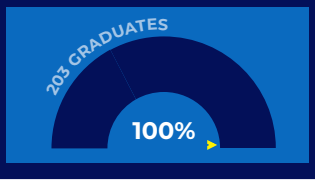
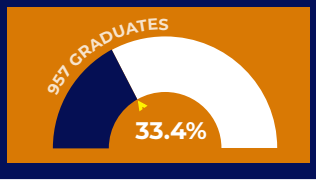
[5] Massachusetts General Law, Title XII, Chapter 71, Section 3, and Massachusetts General Law, Title XII, Chapter 71, Section 2.

What do we know about graduation requirements statewide?

Without any statewide requirements related to the courses or learning experiences students receive, each district (and sometimes individual high schools within a district) makes their own determination about the courses required for students to graduate. As a result, there can be wide variation in students' learning experiences across high schools.

Looking at three high schools (Table 2) of different sizes across the state reveals the challenges of having no consistent definitions for courses and credits statewide. Students attending High School A who successfully complete a semester-long course can earn 4 credits and those who complete a quarter-long course earn 2 credits. But for students attending High School B, successfully completing a year-long, daily course is worth 6 credits, completing a semester-long, daily course is worth 3 credits, and completing a semester-long, every other day course is worth 1.5 credits. While for students in High School C, successfully completing a full year class is worth 5 credits, and the completion of an Advanced Placement course is worth 6 credits. In addition, the amount of MassCore recommended subjects required by each school ranges from 6 units to 25 units across the three schools. Such varying credit definitions and requirements make it difficult to make accurate credit comparisons from one high school to another and mean that students and families in different high schools must navigate and make sense of a range of credit requirements and definitions as they work toward their diplomas.

TABLE 2: Range of Course and Credit Requirements for Graduation Across Three High Schools (2022-23)

	HIGH SCHOOL A	HIGH SCHOOL B	HIGH SCHOOL C
District-Reported MassCore Completion Rate Percentages			
MassCore Required?	NO	NO	YES+
Credits Required to Graduate	*96 credits*	*104 credits*	*125 credits*
REQUIREMENTS — **English**	*2 units (4 semesters)*	*4 units*	*4 units*
Social Studies	*1.5 units (3 semesters)*	*2.5 units*	*4 units*
Math	*1 unit (2 semesters)*	*3 units*	*4 units*
Science	*1 unit (2 semesters)*	*2.5 units*	*4 units*
World Language			*2 units*
Art			*1 unit*
Physical Education	*0.25 units (1 quarter)*	*1 units*	*1.5 units*
Electives		*4.3 units*	*3 units*
Technology and Engineering			*1 unit*
Health	*0.25 units (1 quarter)*		*0.5 units*
Total Required Subject-Specific MassCore Units*	*6 UNITS*	*17.3 UNITS*	*25 UNITS*

**"A unit represents a full academic year of study or its equivalent in a subject that covers all the standards contained*

SECTION 3: ANALYSIS AND FINDINGS

To determine which Massachusetts high schools made MassCore a graduation requirement, we conducted a document review of the published[6] graduation requirements for all 414 public high schools in Massachusetts, including alternative high schools programs/schools, vocational/technical schools and charter schools. We were able to find complete fall 2023 or fall 2024 graduation requirement data for 79% of the Commonwealth's public high schools, serving 92% (267,514) of students.

We developed the definitions below to categorize the graduation requirements that aligned exactly to the requirements set forth in the MassCore program of study, those that did not meet MassCore recommendations, and those that exceeded them.

MassCore Fulfillment:

Yes+: Graduation requirements **exceed** MassCore recommendations (in quality of classes and/or required subjects)

Yes: Graduation requirements **exactly meet** MassCore recommendations

No: Graduation requirements **do not meet** MassCore recommendations (in quantity of classes and/or required subjects)

Falling Short of MassCore Recommendations

- Any school that does not exactly meet/exceed MassCore is included in our "not meeting" list.
- This analysis does not take into account the extent to which the recommendation is not met. In other words, the "not meeting" list includes those schools that just barely fall short of MassCore as well as those whose requirements fall several units short.

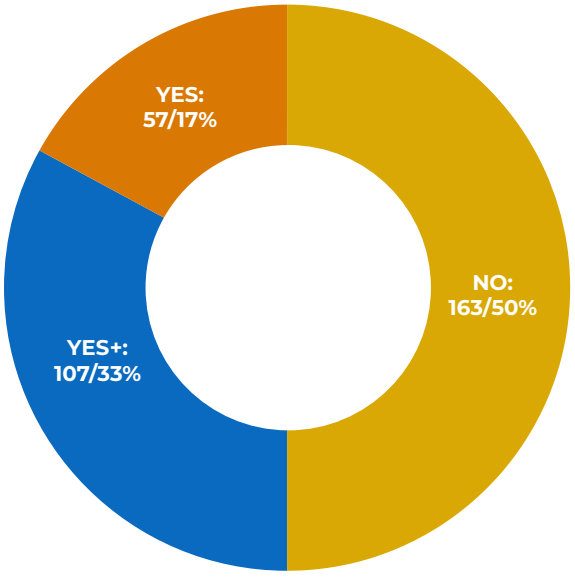
FINDINGS:

Below are the findings from our review of the graduation requirements of 79% of Massachusetts's high schools, as published in districts' publicly available documents for fall 2023 or fall 2024. While our sample includes schools that serve the vast majority of the state's high school students (92%), it is important to bear in mind that our sample does not include every high school in the state.

High schools requiring MassCore

In our sample of Massachusetts public high schools, **half either meet or exceed MassCore recommendations** – but another **half do not** have graduation requirements that meet MassCore's recommended program of study.

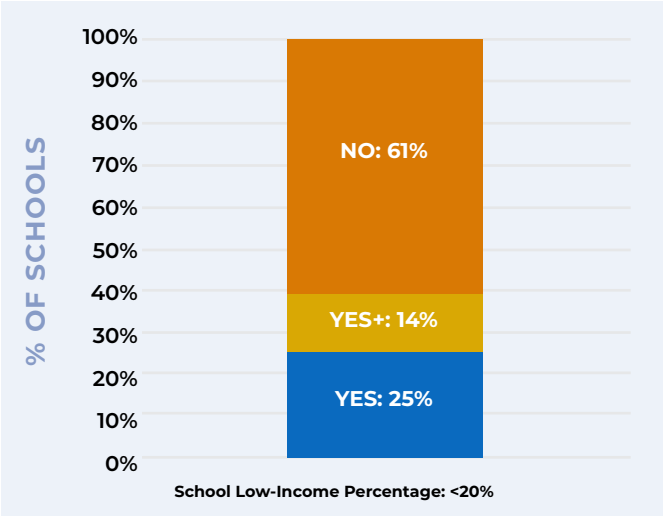
Do Graduation Requirements Meet MassCore?

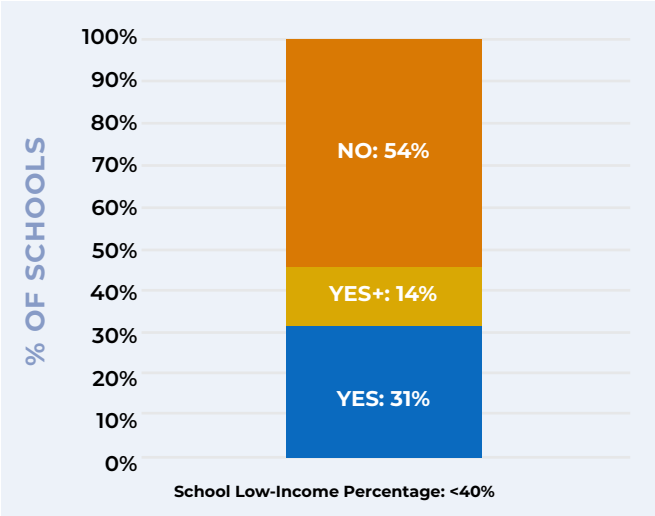


[6] Our analysis is based on a review of the graduation requirements published on districts' websites, as well as in their program of studies documents and student handbooks.

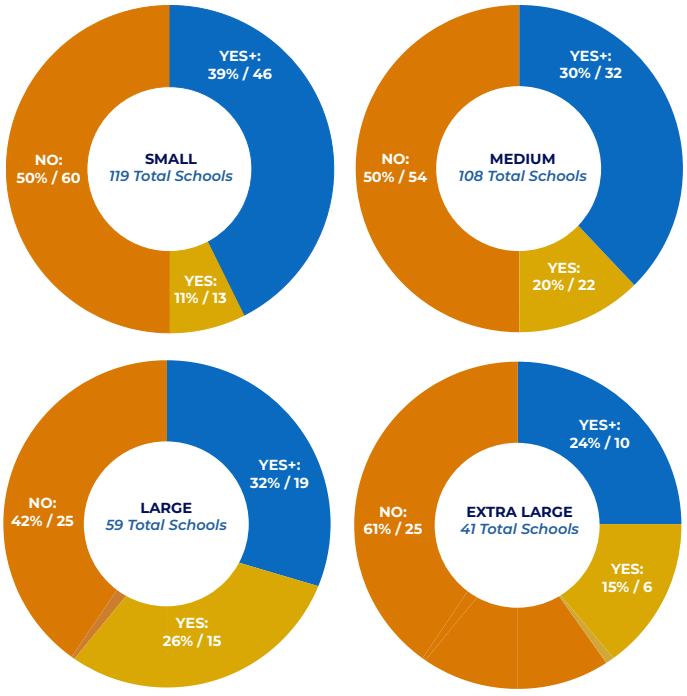
Student income percentages. We examined the schools that required MassCore in terms of schools serving populations made up of more than 40% of students who are low-income and populations made up of under 20% of students who are low-income. We found that **more than half (54%)** of schools serving students with a population of low-income students less than 40% do not require MassCore. Interestingly, we also found that when the population of low-income students decreased (<20%), even fewer schools (61%) met MassCore requirements. It is notable that high schools serving fewer students who are low-income were less likely to require MassCore than schools serving higher percentages of students who are low-income. Put another way, schools serving higher populations of students who are low-income appear more likely to require MassCore than those serving fewer students who come from low-income households.

Percentage of High Schools Requiring MassCore by Income Level





School size. Since high schools' student enrollment numbers and faculty size can impact the number and types of courses that can be offered, we also divided schools into groups according to size.[7] When looking at schools based on their enrollment, we found only moderate changes in the proportion of schools requiring MassCore, not requiring MassCore, and exceeding MassCore. Some differences appeared for large high schools, where less than half (42%) were not meeting MassCore, and for extra large schools, where the majority (61%) were not meeting MassCore.

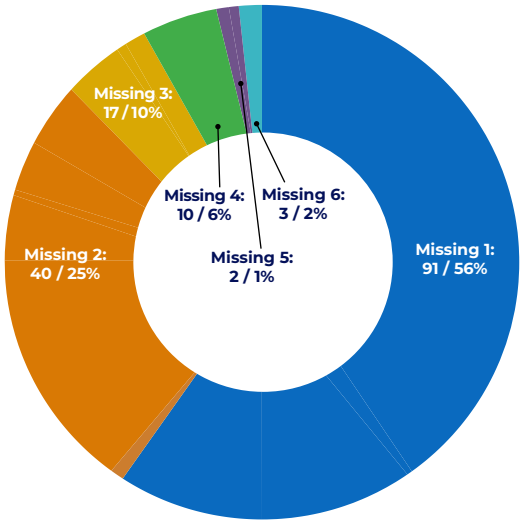


[7] We categorized small schools as those with 0-499 students enrolled, medium with 500-999, large with 1000-1499, and extra large with 1500 or more students enrolled. It is important to note that these groups of schools range in size – from our small schools group representing 119 schools to extra large schools representing just 41 schools.

High schools **not requiring** MassCore

Looking at the 50% of the schools in our sample that do not require MassCore, we conducted a breakdown of the number of MassCore recommendations schools are missing, and of which subject areas were most often missing. We found that **over half (56%)** of MA public high schools that do not have MassCore-aligned graduation requirements are only **missing one unit recommended by MassCore.** Another **25%** of these schools are missing two units recommended by MassCore. The number of schools that are missing three, four, or five of the units of MassCore decreases as the number of missing units increases.

Number of Requirements Missing



SECTION 4: POLICY CONSIDERATIONS

Our findings provide important information to help shape policy conversations about what it means for Massachusetts students to earn a high school diploma. As state leaders examine existing policies that Massachusetts does, and does not, have in place — we hope this report will shine a light on and surface essential questions about the equity of these policies. Below are three considerations for state legislators, policymakers and leaders within the Department of Elementary and Secondary Education.

1 If state policymakers are to **consider the question of shifting from recommending to requiring MassCore**, they must first consider and address the following key questions:

- ***Equity:*** What role does MassCore play in sending messages to students and their families about their readiness for college and career – thereby either expanding, or limiting their options?
- ***Implementation challenges:*** What are the barriers to implementing MassCore across all Massachusetts high schools in terms of:
  - **Staffing:** What is needed to ensure qualified, certified teachers for each MassCore recommended course?
  - **Costs:** What are the costs for necessary curriculum materials (e.g. textbooks, lab materials, art supplies) and staff training for all required MassCore courses?
  - **Facilities:** What changes may need to be made to school facilities? For example, are schools able to provide lab space for all required lab-based science courses?
  - **Time:** How much time would it take for the 50% of districts not requiring MassCore to be ready for all students to complete it? How much time would it take to be able to ensure that districts can implement MassCore well?

2 **With half of schools not requiring MassCore, there's a need for more information.** Research supports the important role played by the courses high school students take in determining their future trajectories. It's irreconcilable then, that half of the Commonwealth's students are not required to take the program of study recommended by the state – the very program of study aligned to our state university system's admissions requirements.[8] Since, as our analysis found, the factors determining which schools require MassCore are not easily explained by the limitations of school size, or students' income levels, **there's a need to conduct qualitative research** to uncover the factors that are influencing local decisions about making MassCore a graduation requirement.

3 While these first two policy considerations are being addressed, there are **near-term policy changes that DESE could undertake,** that would increase transparency for students and families and provide policymakers with greater clarity when making policy decisions:

- **Collect**, for the first time, data about which districts meet MassCore as part of their graduation requirements,
- **Collect** more accurate data about which students complete MassCore,
- **Gather** data from districts, through existing reporting tools, regarding what barriers prevent them from requiring MassCore, and
- **Require** high schools to provide translated versions of all documents that explain high school graduation requirements in the languages most common in their communities.

[8] Massachusetts Department of Higher Education (2019). Undergraduate Admissions Standards for the Massachusetts State University System and the University of Massachusetts: Reference Guide.

CONCLUSION: WHAT'S NEXT?

The Voices coalition's analysis reveals that MassCore, designed as a policy recommendation for increasing college and career readiness for more students, has not yet delivered on its potential – even as it has remained in place for the better part of two decades. As state legislators, policymakers, and educators consider ways to close the gaps that widened during the pandemic and provide more equitable, high quality learning opportunities for all students, it will be imperative to revisit MassCore. There are critical issues that must be addressed to strengthen MassCore's impact as we work to level the playing field for more Massachusetts high school students and their families.

At the same time, state leaders must begin asking: have our standards for all Massachusetts's high school graduates evolved as they should for today's globally-connected, tech-driven world? In today's increasingly polarized society, how are we creating opportunities for children and youth to acquire and interpret knowledge so that they can effectively participate in our democracy and economy? To what extent are we reviewing the effective, evidence-based practices of both domestic and international peers? If we hope to retain our status of being first in the nation, and to expand access to higher outcomes to all of our students, what are the rich educational experiences we must envision, create, and provide to best capture, cultivate, and unleash the imagination and talent of all of our students? In the coming months, the Voices for Academic Equity coalition looks forward to examining these questions in partnership with a broad array of other education leaders.

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Facilitator & author: Jill Norton is an independent policy adviser and researcher. Jill has served as the Director of Education Policy at Abt Associates, Senior Policy Adviser at the Massachusetts Executive Office of Education, and the Executive Director of the Rennie Center for Education Research & Policy. She can be reached at clarkstconsulting@gmail.com.

Coalition Intern: Julia Griffiths is a junior at Tufts University, majoring in Psychology with minors in Political Science and Child Development. A lifelong resident of Massachusetts and a graduate of Lexington High School, Julia has cultivated a passion for education policy, inspired by a mother whose dedication to the field has shaped her understanding of its critical impact. Julia contributed to the data collection and analysis for this report. In addition to her academic pursuits, she plays on the varsity women's volleyball team at Tufts.

VOICES FOR ACADEMIC EQUITY COALITION MEMBERS:

mbae Massachusetts Business Alliance for Education

MA4EC Massachusetts Alliance for Early College

MassPotential

edtrust in Massachusetts

He Is Me Institute

Voices for Academic Equity

Mass insight education & research

National Parents Union

TeachForAmerica Massachusetts

Paul Toner, Cambridge City Council

Kerry Donahue, Independent Consultant

TEACH+PLUS Massachusetts

the Teachers' lounge Massachusetts

Educators for Excellence Massachusetts

Worcester Education Collaborative