

QUESTIONS AND ANSWERS

MassCore

Updated October 16, 2015

	GENERAL QUESTIONS	
1.	<i>What is MassCore?</i>	<p>MassCore is a recommended, rigorous course of study based on standards in Massachusetts's curriculum frameworks that aligns high school coursework with college and career expectations.</p> <p>The recommended program of studies includes successfully completing (passing/receiving credit for): four units of English, four units of mathematics, three units of a lab-based science, three units of history, two units of the same foreign language, one year of the arts and five additional "core" courses. MassCore also includes potential additional learning opportunities including AP classes, dual enrollment and early college, senior and capstone projects, online courses for high school or college credit, and service or work-based learning.</p> <p>A committee comprised of secondary and postsecondary educators, high school students, guidance counselors, members of the business community, Department of Higher Education and Department of Elementary and Secondary Education staff met several times from spring through fall and winter of 2006-2007 to identify the courses and the number of units in the recommended program of studies. A complete list of committee members is available at http://www.doe.mass.edu/ccr/masscore/members.html</p>
2.	<i>Why was MassCore created?</i>	<p>MassCore was developed to provide guidance for a rigorous course of study that will help provide students with the academic preparation required for success in postsecondary education and the workplace.</p> <p>One of the Commonwealth's goals is to decrease the percentage of students enrolling in developmental/remedial coursework in Massachusetts public colleges and universities. Currently more than one out of three Massachusetts high school graduates attending Massachusetts public colleges and universities enrolls in at least one developmental course (over 2/3 of those attending community colleges).</p> <p>MassCore is an essential part of college and career readiness. College and career readiness is defined as an individual has the knowledge, skills and experiences necessary for success in postsecondary education and economically viable career pathways in a 21st century economy</p>
3.	<i>What's the difference between the state's current graduation requirements and MassCore</i>	<p>Currently, the state high school graduation requirements include aspects of American history/civics, physical education taught as a required subject and earning a competency determination that includes passing scores on the Grade 10 English language arts and mathematics and high school level science and technology/engineering MCAS tests. All other graduation requirements are determined by the local education agency (district or charter school).</p> <p>MassCore is not a state graduation requirement; it is a recommended program of studies of 22 high school units.</p>

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4.	<i>Don't most school districts already have similar graduation requirements as recommended by MassCore?</i>	While all districts have established local graduation requirements, the number of core courses and total units required to earn a high school diploma vary widely throughout the state. For example, some districts require that students earn four units of math while others require three units and others only two. Further, some districts require students earn the equivalent of 16 units to graduate while others require 22 units or more. MassCore establishes a common set of coursework expectations for all districts.
5.	<i>Does the MassCore allow decisions to be made by local school districts?</i>	Yes. MassCore is a Department of Elementary and Secondary Education recommended program of studies and local school district decision-making is retained. Local school committees are also encouraged to establish additional graduation requirements such as service learning or a senior project.
6.	<i>How does integrated coursework such as Integrated Math Program or cross-curricular coursework such as humanities or American studies classes fit into MassCore?</i>	Curricula innovation, such as cross-curricular/interdisciplinary studies, applied learning and creative teaching methods are encouraged in order to engage student interest and higher order thinking. Students should be given credit for demonstrating the content skills and knowledge outlined in the Massachusetts Curriculum Frameworks. School districts determine if the coursework has met the grade level standards outlined in the Massachusetts Curriculum Frameworks.
7.	<i>What is the relationship between MassCore, the Competency Determination and Educational Proficiency Plan?</i>	The courses and units in MassCore provide excellent preparation for developing high school skills and content knowledge measured by MCAS. For students who do not meet the 10 th grade proficiency level on the mathematics and/or English language arts MCAS tests, an Educational Proficiency Plan is developed for the subject matter area(s) in which a student did not score at least 240. MassCore may meet or exceed local course requirements as well as ensure students meet course requirements for an EPP.
8.	<i>Is this an unfunded mandate for schools?</i>	No. MassCore is not a required course of study. It is recommended.
9.	<i>Is this a move away from standards-based instruction?</i>	No. All courses in the MassCore should be based on the standards in the Massachusetts Curriculum Frameworks. Schools and districts are expected to continue to develop curriculum and ensure that highly qualified teachers deliver course material.
10.	<i>Who will be expected to take MassCore?</i>	All Massachusetts public high school students, including students with disabilities and English language learners, should have the opportunity to complete MassCore. In some cases, where students have severe cognitive disabilities or are late arrivals to the country, for example, there may not be an opportunity to complete such a rigorous course of study.

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11.	<i>What are the characteristics of courses included in MassCore?</i>	Courses included in MassCore should be rigorous, engaging and based on appropriate grade level standards in the Massachusetts Curriculum Frameworks and beyond.
12.	<i>Will the Department collect data on students who complete MassCore?</i>	Yes. The Department collects this information through the Student Information Management System (SIMS). Additional information on coursework is also collected through the Student Course Schedule (SCS) data submission. MassCore completion rates are reported based on end of year and summer graduates annually based on the reporting in SIMS.
13.	<i>What are the student incentives for taking the program of studies?</i>	Students completing MassCore will increase their likelihood of success in postsecondary education and a career.
14.	<i>What is the definition of a "unit"?</i>	Units or credits are defined and calculated differently from district to district. For the purposes of MassCore, a credit or unit is the equivalent of a one-year course based on the appropriate grade level standards in the Massachusetts Curriculum Frameworks. This "unit" may also consist of a combination of semester, trimester, quarter or other specific scheduling structures for coursework. This definition is not necessarily based on "seat time." Students should successfully complete ("pass") in order to obtain credit for MassCore purposes. For all intents and purposes it is the equivalent of a full year course.
15.	<i>What are the implications for the 4X4 block and other types of scheduling or calendars?</i>	The completion of MassCore allows districts the flexibility to retain their current schedule, choose a block schedule or to develop extended school days or increase the number of days in the school year calendar. The 4X4 block schedule may enable students to earn up to 32 units as opposed to 24 or 28 units in more conventional six or seven period daily schedules. School districts with block schedules should consider increasing the number of required courses to be completed beyond the MassCore recommendations.

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16.	<i>What changes have been made to the current physical education requirements?</i>	None. Mass General Law, Chapter 71: Section 3 requires that physical education be taught as a required subject in all grades. The MassCore framework includes that legal requirement. Note: State law gives school officials considerable flexibility in designing the physical education program. For example, school officials have authority to determine the hours of instruction for physical education, as they do for all other subjects of instruction. Further, school officials have discretion to determine whether and how a student, particularly at the high school level, may meet the physical education requirement through an organized program of instructional physical activity such as participation in interscholastic athletics, or skating or swimming lessons through a private instructor or a community program, or through an independent study. This discretion is similar to the authority of school officials to permit a student to fulfill the requirements of an academic course by taking a course elsewhere that they deem to be equivalent.
17.	<i>MassCore does not appear to be sufficiently rigorous to prepare students who plan to apply to highly selective colleges. Are we setting the bar too low?</i>	MassCore is designed to outline a minimum “core” of coursework that nearly all students should take in high school. Students considering applying to highly competitive colleges and universities should plan to take even more rigorous coursework including Honors, AP, early college or dual enrollment classes or participate in an International Baccalaureate (IB) program.
18.	<i>Can a student “test out” of a particular course?</i>	Students may be given credit for “testing out of,” recovering, or accelerating a course on their official high school transcript depending upon individual school district policies.
19.	<i>Can schools count courses taken in middle school toward the MassCore?</i>	<p>It remains a local decision as to whether students will be awarded high school credit for courses taken in middle school.</p> <p>Courses taught for high school credit in middle school should be equivalent to the high school course and address the same high school grade level academic standards. Grades and credit(s) for the course may be included on the student’s high school transcript.</p>

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20.	<p><i>Is the MassCore aligned with the admissions requirements of state four-year colleges and the University of Massachusetts?</i></p>	<p>MassCore meets or exceeds many of the minimum admission requirements established by the Massachusetts Board of Higher Education for four-year colleges and universities and the University of Massachusetts. However, MassCore is very closely, but not currently <i>fully</i> aligned with these admissions requirements. Massachusetts public four-year colleges and the University of Massachusetts, and many four-year college/university admissions officials recommend that students take the MassCore recommended Program of Studies as the minimum set of requirements for future success in college. Nearly all of the four year public colleges and universities in the Commonwealth have become competitive institutions. Students are encouraged to go beyond MassCore, particularly for competitive majors which may require even more advanced study.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 35%;">MassCore</th> <th style="width: 35%;">Minimum Admissions for 4-year Mass. Public State Colleges and Universities and UMass</th> </tr> </thead> <tbody> <tr> <td>English/Language Arts</td> <td>4 Units</td> <td>4 courses</td> </tr> <tr> <td>Mathematics</td> <td>4 Units (including Algebra II)</td> <td>4 courses (Algebra I & II and Geometry or Trigonometry, or comparable coursework) including mathematics in the senior year.</td> </tr> <tr> <td>Science</td> <td>3 Units of lab-based science (Note: In 2012 the Board of Higher Education changed their admissions standards to recognize technology/engineering as a science course, effective immediately.)</td> <td>3 courses (including 2 courses with laboratory work) (Note: The entering college class of 2017 will be required to have passed 3 lab science courses)</td> </tr> <tr> <td>History/Social Science</td> <td>3 Units</td> <td>2 courses (including 1 course in U.S. History)</td> </tr> <tr> <td>Foreign Language**</td> <td>2 Units</td> <td>2 courses</td> </tr> <tr> <td>The Arts**</td> <td>1 Unit</td> <td></td> </tr> <tr> <td>Additional Core Courses</td> <td>5 Units</td> <td>2 elective courses</td> </tr> <tr> <td>Total</td> <td>22 Units</td> <td>16 courses</td> </tr> </tbody> </table>		MassCore	Minimum Admissions for 4-year Mass. Public State Colleges and Universities and UMass	English/Language Arts	4 Units	4 courses	Mathematics	4 Units (including Algebra II)	4 courses (Algebra I & II and Geometry or Trigonometry, or comparable coursework) including mathematics in the senior year.	Science	3 Units of lab-based science (Note: In 2012 the Board of Higher Education changed their admissions standards to recognize technology/engineering as a science course, effective immediately.)	3 courses (including 2 courses with laboratory work) (Note: The entering college class of 2017 will be required to have passed 3 lab science courses)	History/Social Science	3 Units	2 courses (including 1 course in U.S. History)	Foreign Language**	2 Units	2 courses	The Arts**	1 Unit		Additional Core Courses	5 Units	2 elective courses	Total	22 Units	16 courses
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21.	<p><i>Can a dual enrollment course count towards MassCore?</i></p>	<p>Yes. School districts are encouraged to use dual enrollment and early college programming to help increase college readiness and educational opportunities especially for first generation college going students.</p>																											

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22.	<i>Are students enrolled in vocational technical high schools expected to complete the Massachusetts High School Program of Studies?</i>	<p>Students enrolled in Chapter 74 state-approved vocational technical programs should have the opportunity to complete MassCore. However, there is a specific “opt out” provision to enable students to not take a course in the arts and foreign language requirement and fulfill MassCore.</p> <p>The 22 course units in MassCore still allows the flexibility for students to take five or more additional units in a Career/Vocational Technical Education Pathway and/or pursue additional interests in other elective courses.</p>
23.	<i>Does MassCore apply to students enrolled in a high school charter school?</i>	<p>Yes. Students enrolled in charter high schools should have the opportunity to complete MassCore.</p>
24.	<i>How does MassCore compare with reform initiatives such as High Schools That Work or the State Scholars Initiative?</i>	<p>Many of these reform models advocate, recommend or require that students complete a rigorous curriculum similar to MassCore.</p>
MATHEMATICS		
25.	<i>Why does MassCore have 4 units of mathematics including the completion of Algebra II?</i>	<p>Studies show students taking the equivalent of four years of challenging math including Algebra Geometry, Algebra II and one additional higher-level course in high school are more likely to graduate from college. Algebra II is a key gateway course to completion of a credited college level mathematics course.</p>
26.	<i>Is there a recommended math sequence?</i>	<p>There is no recommendation about which year a student takes Algebra II, or any other math course, in either the MassCore summary or the Massachusetts Mathematics Curriculum Framework. The 2011 Massachusetts Mathematics Curriculum Framework includes two possible “pathways” - one that integrates math concepts and another that represents a “traditional” mathematics pathway.</p>
27.	<i>Why should students take math in their senior year?</i>	<p>Students should take a math course during their senior year because using mathematics throughout high school is important for success in college and the workforce. Studies show that students who do not continue learning and applying mathematics skills throughout high school oftentimes have to take developmental or remedial courses that don’t count toward earning a degree in college and spend unnecessary time being retrained by employers. There is also data to support that by taking math in the senior year students are more likely to pass their first college math course.</p>

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28.	<i>What math courses would count toward the MassCore 4-unit recommendation?</i>	Mathematics courses in MassCore should be at the Algebra I level and above. These courses should be for a full year or its equivalent, be based on high school standards or beyond (for example college level coursework), and offer mathematics credit at the school.
29.	<i>Can a science course substitute for one of the four math course requirements?</i>	No. Although some science courses and other technology courses such as computer science contain significant mathematics content, it is recommended that science courses do not take the place of math courses.
30.	<i>Can the Department recommend math options for students to take in their senior year?</i>	<p>High school mathematics standards presented by conceptual categories provide guidance on what students are expected to learn in order to be prepared for college and careers. The 2011 Massachusetts Mathematics Curriculum Frameworks (which incorporate Common Core Standards) supplies learning standards for Algebra I, Geometry, Algebra II and a three course integrated model pathway. In addition, two advanced model courses (Pre-Calculus and Advanced Quantitative Reasoning) may be used as senior year courses.</p> <p>Districts and schools are encouraged to offer engaging and rigorous coursework beyond Algebra II that builds upon these skills to develop students' quantitative and numeracy skills. These courses may include statistics and data analysis coursework and other courses that are equal or beyond to high school level coursework. Financial literacy, on its own, would not be considered a mathematics course. However these financial literacy concepts embedded in a high school level mathematics course such as advanced quantitative reasoning could be a powerful contextualized course.</p>
31.	<i>If a high school offers semester length electives- statistics or business math does a one-semester course in the senior year meet the "four year" standard?</i>	No. A student needs to take and pass a "full year of study, or its equivalent in a specific subject" to meet the standard of a unit of study as defined in MassCore. The coursework could be a combination of 2 half-year, semester courses or another scheduling configuration.
	SCIENCE	
32.	<i>Why does MassCore emphasize lab-based science courses?</i>	Laboratory-based science courses provide students with opportunities to develop scientific reasoning and inquiry skills while mastering rigorous content. Laboratory-based experiences provide opportunities for students to formulate testable questions, design investigations, safely use instruments, tools and materials to collect and analyze data, and discuss findings. Effective laboratory-based science courses are essential to developing scientific literacy.

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33.	<i>Does technology/engineering count as a science course?</i>	Yes. High school technology/engineering courses aligned with the standards in the <i>MA Science and Technology/Engineering Curriculum Framework</i> fulfill science expectations. These courses have an academic focus—students are engaged in conceptual learning of knowledge related to the standards and develop skills related to the Engineering Design Process; they have an experiential, hands-on element (a laboratory component) that enhances student academic learning of content and process skills; and they develop scientific and technological literacy.
34.	<i>Will technology/engineering courses count as science?</i>	If the school and/or district offer the technology/engineering courses for science credit. High school courses that align with the state technology/engineering standards can count as science courses for high school graduation. Students graduating with any three lab-based science courses, which can include technology/engineering, will have fulfilled the MassCore graduation expectations. Additionally, in June 2012, the Massachusetts Board of Higher Education (BHE) revised its admission standards to count technology/engineering coursework based on academic standards and taken for science credit as meeting the science admissions requirement. http://www.mass.edu/forstudents/admissions/documents/AdmissionsStandardsGuidebook-Updated2013.pdf
35.	<i>Do science courses need to be aligned to the Curriculum Frameworks? For example, what if a school offers a lab-based environmental science course?</i>	Districts and/or schools classify courses as eligible to receive “science” credit and/or be designated as “laboratory” courses. Districts should make a determination in relation to the standards, but not limited by the standards. High school science standards are only articulated for initial (9 th or 10 th grade) courses in each subject area, and do not address the range of possible science offerings, particularly upper level electives. The district and/or school classification determines whether a particular course counts as a lab science.
ADDITIONAL COURSEWORK		
36.	<i>What are the implications for the foreign language requirement for vocational schools?</i>	Vocational-technical high school graduates who do not complete the two required college preparatory foreign language courses may fulfill MassCore. See response to question 22.

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37.	<i>What are the implications for the foreign language requirement for students who are already fluent and literate in a language other than English?</i>	Schools and districts have the option to identify students who have demonstrated fluency and literacy as determined by the school and/or district in a foreign/world language(s) other than English to meet the MassCore foreign language requirement. The identification method of this fluency and literacy in a language other than English is a local (school/district) decision.
38.	<i>What is the definition of a class that gives art credit that meets MassCore requirements?</i>	To meet MassCore requirements, arts coursework should be for a full year or its equivalent and based on the Massachusetts Arts Curriculum Framework: http://www.doe.mass.edu/frameworks/arts/1099.doc Generally, the study of the arts includes dance, music, theatre, and the visual arts.
SPECIAL POPULATIONS		
39.	<i>What are the implications for students with disabilities?</i>	Studies show that students are more likely to pass high-level than low-level high school courses, including students receiving special education services. However, some high school special needs students will require extra support to meet more rigorous high school expectations. There are no waiver provisions for particular disabilities for MassCore completion, however schools and districts should pay special attention to a student’s individualized education program (IEP) and transition plan to ensure that students are enrolled in appropriate coursework.
40.	<i>What are the implications for English language learners?</i>	English language learners should be given the same opportunities to access MassCore as all other students. Additional supports such as sheltered instruction or additional English as a second language classes and academic tutoring may be needed for these students to complete MassCore. In most cases, as in the case of local graduation requirements, English as a second language (ESL) coursework can be counted for the English language arts requirements of MassCore.
41.	<i>Will MassCore cause some struggling students to drop out rather than attempt to meet the demands of a more rigorous course of study?</i>	Research indicates that most students do not drop out because they have a more rigorous curriculum and/or are asked to work harder. Rather, studies show students of all abilities are more likely to pass high-level courses than low-level courses, and that they are more likely to graduate from school, get better grades, succeed in college without requiring college-level remedial education classes, be better prepared for the workforce, and earn higher wages. For more information, go to http://www.ed.gov/about/offices/list/ovae/pi/hsinit/papers/highex.doc

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CAREER AND COLLEGE PREPARATION		
42.	<i>How does MassCore prepare a student for Science, Technology, Engineering and Mathematics (STEM) careers?</i>	Four units of mathematics and three units of lab science are an excellent preparation for students who wish to pursue a STEM career. Ideally students will likely need to take at least four units of science, additional mathematics course(s) (such as calculus), computer technology or engineering courses to have adequate preparation to major in science, technology, engineering or mathematics.
43.	<i>How will MassCore affect students who need to take many electives or other courses to fill specific interests or career pathway?</i>	MassCore provides students with some flexibility to meet these requirements. The 22 course units in MassCore allow students to take five or more additional units in a STEM concentration, Arts and Humanities concentration or Career and Technical Pathway and/or pursue additional interests in other elective courses.
44.	<i>How will this help in preparation for the SAT, ACT or another standardized college entrance exam?</i>	The best preparation for the SAT or other standardized pre-college assessments is a rigorous, standards-based course of study particularly in English and mathematics. MassCore is designed to ensure that students have this preparation.
ADDITIONAL LEARNING OPPORTUNITIES		
45.	<i>What are additional learning opportunities that will help a student be prepared for the college admissions process and college success?</i>	Additional learning opportunities help students to learn about careers and contribute to the community they live in. These opportunities may include: internship/cooperative education or other working and learning experiences; community service learning experiences; senior seminar, senior or capstone projects or research papers; clubs and other student organizations; visiting college campuses; part-time employment, and varsity and intramural athletics.
46.	<i>How many additional learning opportunities should a student complete to satisfy the requirements of MassCore?</i>	Students should take as many additional learning opportunities as is feasible. These opportunities provide the basis for a well rounded education for all students and particularly for those who are applying to competitive 4 year colleges.

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47.	<i>Why are online courses included in the core?</i>	Taking an online course or courses will likely prepare students for another modality of academic instruction that has become far more prevalent as a delivery vehicle in postsecondary education and the workplace.
48.	<i>What is service learning?</i>	Service-learning is a teaching and learning approach that integrates community service with academic study to enrich learning, teach civic responsibility, and strengthen communities. Service-learning opportunities also provide structured time for reflection, engaging both teachers and students in a thoughtful and thought-provoking process that consciously connects learning with experience.
49.	<i>What is work-based learning?</i>	Work-based learning experiences are activities that involve actual work experience or connect classroom learning to work, as sometimes available in a comprehensive high-school, this is the least intensive level of exposure to work-based learning and might occur in traditional work experience. At the highest level, there is full integration of academic and technical integration, such as that required for all chapter 74 state-approved vocational technical education program curricula and containing laboratory and/or work site experience. Additionally, cooperative education is available to all students enrolled in a chapter 74 state-approved vocational technical education program in Massachusetts. More information about work based learning can be found at http://www.doe.mass.edu/connect/
50.	<i>What is dual enrollment and how can I take advantage of it?</i>	Dual enrollment is a program of study allowing high school students to simultaneously earn credits toward a high school diploma and a postsecondary degree or certificate. Dual enrollment in some cases may be part of a larger, more comprehensive early college program in some districts.
51.	<i>What is meant by the capstone or senior project?</i>	A capstone or senior project is designed to help students develop, design or create a product, service, system or event to better prepare them for further studies or employment after high school. The project should be a demonstration of a student's achievement of higher order skills such as critical thinking, reading comprehension, and effective communication. Students are expected to demonstrate self-directed learning in the completion of this task. The project may be completed within a particular class or classes or independently, as required by the school or district.
52.	<i>Why are additional learning opportunities part of MassCore?</i>	Optimal preparation for post-secondary education and careers in the 21 st century requires work and learning beyond a core course of study. Students should be encouraged to access educational activities that will make them more college and career ready.

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53.	<i>What potential changes lie ahead in relation to career readiness?</i>	A Massachusetts Board of Elementary and Secondary Education (BESE) led <i>Task Force for the Integration of College and Career Readiness</i> has identified a definition of "career readiness" and has charged the Department with implementing a set of recommendations identifying career ready standards and assessments. The full report and recommendations can be found at: http://www.mass.edu/library/documents/2013College&CareerReadinessDefinition.pdf .Information concerning career development education can be found at http://www.doe.mass.edu/connect/cde/
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