

**The American Diploma Project (ADP) and
Partnership for 21st Century Skills (P21) Leadership Team
English Language Arts & Mathematics Design Teams**

Standards Review Process

Since Wisconsin's Model Academic Standards were approved in 1998, numerous changes have occurred, from student, parent, and community expectations to careers and the workplace to delivery systems. Wisconsin's goal in reviewing its standards is to ensure that state standards were still targeted to successfully prepare students for work, education, and citizenship in the 21st century.

- The critique and guidance from both Achieve's American Diploma Project (ADP) and the Partnership for 21st Century Skills (P21) shaped a review of Wisconsin's Model Academic Standards for high school English language arts and mathematics.
- A leadership team representing PK-16 educational institutions and organizations framed the policy questions.
- Design teams of educators in English language arts and mathematics revisited Wisconsin's standards in those subject areas and developed recommendations for increasing both the rigor and the relevance of Wisconsin's high school standards, as well as recommendations related to the impact of revisions to the standards on their implementation.
- The Department of Public Instruction (DPI) sought input from Wisconsin's educational community, business leaders, parents, postsecondary faculty, high school graduates, and other interested parties through online surveying and focus group discussions.
- The design teams created a blueprint for revising the standards and outlined the best approaches to deal with key issues central to successful implementation.
- These findings were presented to State Superintendent Burmaster in June 2008.

The combination of ADP and P21 viewpoints helped the design teams simultaneously examine the sequence and depth of content as well as real world applications.

**Recommendations for Successful Implementation of Revised Wisconsin Model
Academic Standards (WMAS)**

Strategies and Needs

In order to successfully implement revisions to Wisconsin's Model Academic Standards:

1. Revise the Wisconsin Model Academic Standards in English language arts and mathematics.

Revision of the Grade 12 standards requires a simultaneous rigorous process be implemented to revise all English language arts and mathematics standards K-12. The standards should reflect consistent content and formatting. In addition, the standards should be vertically aligned through explicit connections. The design team recommends developing grade band standards (e.g. PK-2, 3-5, 6-8, 9-12) as well as developing grade level (PK-8) and course (9-12) expectations. Set forth an appropriate timeline to ensure attainment of quality results.

2. Identify “power” or “essential” standards for classroom instruction and assessment
Cluster performance standards to provide a clear focus for instruction and assessment. Use language more specific than the broad content standards and more general than the specific performance indicators or standards to describe the most important and crucial content of these performance clusters. Show within each grade band (e.g. PK-2, 3-5, 6-8, 9-12) the grade-by-grade progress that is targeted for each “power” standard.

3. Integrate 21st century skills and foster cross curricular connections among disciplines
Embed essential skills that cross all disciplines by creating related standards for each discipline; embed the essential skills in the context of each content standard by adding integrated performance standard(s); and/or provide specific unit-level examples through grade-level guidance in a “Foundations” guide. The skills of the framework of the Partnership for 21st Century Skills should be infused into the standards of each discipline.

The design teams are concerned about having a stand alone standard for 21st century skills because of the need for the state to assess all content standards. We are unsure of how state exams would be able to assess skills such as creativity and innovation. Preliminary thoughts about how these 21st century skills might be embedded in the strands are provided via examples in the standards revision document. For mathematics, we recommend that the skills of the framework of the Partnership for 21st Century Skills be infused into the Mathematics Process Standard A unless their specificity suggests that they should be included within a particular content strand.

4. Align assessments with standards and develop a meaningful system of accountability
Evaluate the timing and content of high school and college assessments (e.g., WKCE and UW System Placement) to ensure alignment between standards and the assessment. It is critical that assessments are revised to reflect the changes to the standards. Use meaningful indicators of progress, formative assessments, and curriculum-embedded measures as elements of a PK-16 state system of accountability.

5. Promote comprehensive, varied and authentic assessment

Promote a balanced and student-focused assessment system at the local level that values deep mastery, thematic integration, metacognitive awareness, and skills alignment as expressed in the standards, employing:

- formative assessment
- performance-based assessment
- student portfolios
- technology enhanced assessment

In mathematics, particularly, attention to technology-enhanced assessment should address far more than whether calculators are allowed on portions of tests; it should include consideration of the extent to which technology affects the subject content, making some topics less important, others more so, and some possible.

Informing teaching and student learning, such assessments provide the means to achieve a meaningful system of accountability.

6. Facilitate high school students' transition to postsecondary credit-bearing coursework
Enhance communication between the PK-12 system, the two- and four-year colleges and universities, the technical colleges, and business and industry, in order to:

- Identify the common competencies for admission to college-level, credit-bearing coursework in English language arts, mathematics, and other disciplines, based on policies, curriculum, and coursework at Wisconsin Technical Colleges, University of Wisconsin campuses, and Wisconsin's private colleges and universities
- Help high school students know specifically what is required and how best to be prepared for postsecondary educational opportunities
- Coordinate the curriculum and rigor between high school and postsecondary coursework, facilitating the earning of college credits while in high school and reducing the need for remedial courses in postsecondary institutions.

7. Provide professional development

In order to achieve our vision of high expectations for all, professional development is necessary to enhance the ability of teachers to meet the needs of all students. Professional development must be sustained. Wisconsin's Model Academic Standards provide a focus on the rationale (the "why") and the content of a discipline (the "what"), with strong implications for pedagogy (the "how"). Professional development should focus on a depth of understanding of the subject area content, motivating and helping students to learn, differentiating instruction, and charting students' progress. Provide statewide coordination of professional development for educational leaders, teachers PK-12, faculty and staff within higher education as well as state agencies. Sustained, relevant professional development will ensure the successful implementation of the revisions. Monetary support from the state will be required to assist districts through this transition.

8. Create a portal to resources for teachers and curriculum planners

Provide access for teachers and curriculum planners to sample lessons/units, student work, and other resources that illustrate the pedagogies, assessments, levels of student proficiency, ways of thinking, and college/workplace skills that are identified in the standards documents. Educators need ready access to materials and other resources, organized and filtered by the standards addressed.

9. Involve postsecondary teacher education and content faculty with PK-12 educators

Involve postsecondary content and teacher education faculty plus PK-12 educators in exploring the implications of the new emphases of the standards document in relation to pedagogies—e.g., those that foster collaboration, authentic and applied application of subject area-specific skills, multiple perspectives, multiple learning systems, and higher order thinking skills—and cross curricular connections among English language arts, mathematics, and other disciplines.

Specific to English Language Arts:

1. Maintain the integration of English Language Arts and reading

Specific to Mathematics:

1. Expand time required and provide multiple pathways to meet standards

Presently, it is extremely difficult to achieve the current standards in two credits of high-school mathematics within the existing PK-12 system. With only two credits of mathematics, it would be even more difficult to ensure deep understanding and retention of the additional mathematical content necessary to more closely align WMAS with the ADP Benchmarks. While attainment of appropriate standards is more important than the number of credits required for mastery of the content, the committee recognizes that the proposed revisions- even more so than the current standards- will be difficult to meet with two credits of high school math, and **so recommends a state requirement of at least three credits of mathematics for graduation.** The ADP/P21 Mathematics Design Team recommends multiple pathways for meeting the standards with three credits (might include cross-curricular coursework that meets the standards).

Examples of Options For Meeting the WMAS		
Option A:	Option B:	Option C:
Algebra 1	Integrated Math 1	Algebra
Geometry	Integrated Math 2	Geometry/Trigonometry
Algebra 2	Integrated Math 3	Statistics/Probability
In order to meet the standards, Algebra 2 would begin from the study of quadratics and move beyond. This course should include more statistics and probability than many traditional textbooks. Basic Trigonometry should be included either in Geometry or Algebra 2.	In order to meet the standards, each course should integrate the following strands of mathematics: algebra and functions, geometry and trigonometry, and probability and statistics.	In order to meet the standards, the Algebra course would need to cover topics traditionally introduced in Algebra 2 and not address topics that will be covered in Geometry/Trig and Statistics. Another possibility is to have 1 ½ years of Algebra, 1 year of Geometry/Trig and ½ year of Statistics/Probability.

A suggestion for curriculum mapping should be added to a revised version of the Guide to Curriculum Planning in Mathematics to demonstrate how all of the standards could be covered in a three credit sequence.

2. Encourage continuity of mathematics study

Ideally students *should* study mathematics each year in high school to promote retention of mathematical concepts and to encourage in depth study beyond the standards.

3. Address how to identify a next tier of content in a document of standards intended for all students

Discuss the philosophical and programmatic implications for including standards in the WMAS that are not intended for all students. For example, we have considered creating additional standards for advanced or continuing study in order to better align to ADP. This

set of standards would be a narrow focus beyond the required elements. Since calculus is not the goal for all students, we resist identifying such standards as only for “Calculus-bound” students. We further question whether these narrowly focused standards should be included in the WMAS, a document for all students. Another example is those elements of probability, statistics, and discrete mathematics that are beyond the WMAS standards, but are not necessarily calculus prerequisites and could be included in a standards document.

Examples for courses beyond the standards may include:

Pre-Calculus
 Calculus
 Advanced Placement Calculus
 Integrated Math 4
 Discrete Mathematics
 Advanced Placement Statistics
 Transcribed or Dual-Credit Course
 Project Lead the Way (Engineering and Mathematics)
 International Baccalaureate Mathematics

Timeline

Phase I:

- January 2007 Wisconsin joins the Partnership for 21st Century Skills and the American Diploma Project
- March 2007 PK-16 Leadership Council and Competitive Wisconsin, Inc., host Business Summit on Education
- May 2007 ADP/P21 Leadership Team and Design Teams (English language arts and mathematics) convened
- October 2007 Design Team submits recommendations for standards revisions to ADP and P21 for Quality Review I
- Spring 2008 Solicit feedback on draft recommendations from business, postsecondary, and PK-12 constituencies via online survey and focus groups
- June 2008 ADP/P21 Leadership Team and Design Teams (English language arts and mathematics) present recommendations to State Superintendent Burmaster

Phase II:

- Fall 2008 Writing Teams convene to draft specific language changes for K-12 standards (English language arts and mathematics)
- Spring 2009 Submit draft changes to ADP and P21 for Quality Review II
 Solicit statewide feedback on revised standards; changes incorporated into final versions; revised standards submitted

