MICHIGAN'S TEACHER PREPARATION SYSTEM

PRESENTATION TO THE MICHIGAN
HOUSE OF REPRESENTATIVES
EDUCATION COMMITTEE

APRIL 19, 2006

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Director of the Office of
Professional Preparation Services

THE STATE OFFICE

Michigan law requires that a person employed in an elementary or secondary school with instructional responsibilities shall hold a certificate, permit or vocational/authorization valid for the positions to which he is assigned. The Office of Professional Preparation Services (OPPS) and the Michigan Department of Education foster the educational achievement of all Michigan youth and adults, Pre-K through 12th grade, by ensuring that all professional school personnel complete quality preparation and professional development programs which meet standards established by the Michigan Legislature and the State Board of Education.

Types of Certificates Available

Michigan currently issues the following certificates:

- Provisional Certificate (initial teaching license)
- Professional Education Certificate (advanced teaching license)
- Temporary Vocational Authorization (initial vocational license)
- Occupational Education Certificate (advanced vocational license)
- Preliminary School Psychologist Certificate (initial license)
- School Psychologist Certificate (advanced license)
- Temporary Teacher Employment authorization (one year non-renewable authorization issued to candidates with valid out-of-state teaching certificates)
- School Guidance Counselor License

Michigan no longer issues the following certificates, however they are still valid for those who hold them:

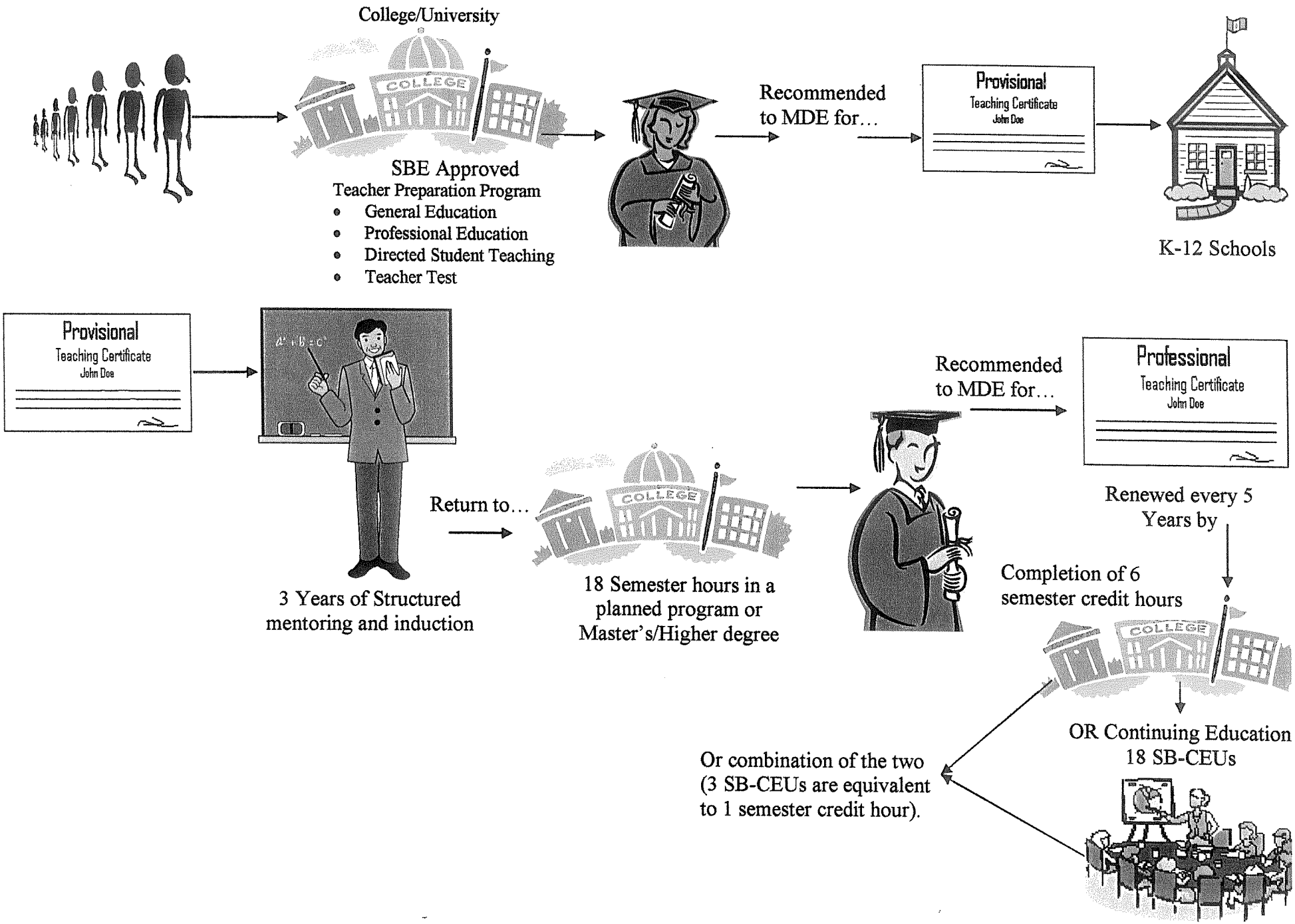
- 18-Hour and 30-Hour Continuing Certificate
- Permanent Certificate
- School Administrator

VALIDITY LEVELS

- ***Elementary***: An elementary certificate issued after September 1, 1988, is valid for teaching all subjects grades K-5, all subjects grades K-8 in a self-contained classroom, and subject area endorsements in grades 6 through 8.

- ***Secondary***: A secondary certificate issued after September 1, 1988, is valid for teaching subject area endorsements in grades 7 through 12.

Flow Chart of Teacher Preparation and Certification in Michigan



ENTRY-LEVEL STANDARDS FOR MICHIGAN TEACHERS

1. An understanding and appreciation of the liberal arts (the humanities, the social sciences, the mathematical and natural sciences, and the arts).
2. A commitment to student learning and achievement.
3. Knowledge of subject matter and pedagogy.
4. The ability to manage and monitor student learning, based on best practice.
5. The ability to systematically organize teaching practices and learn from experiences.
6. Commitment and willingness to participate in learning communities.
7. An ability to use information age learning and technology operations and concepts to enhance learning and personal/professional productivity.

PERIODIC REVIEW

Periodic Review/Program Evaluation (PR/PE) is a process designed to ensure that Michigan teacher preparation institutions are offering appropriate and dynamic programs to potential teachers and other education personnel.

This process is authorized by Administrative rule 390.1151(1): "The state board approves certain institutions and their programs for the purposes of preparing applicants for certification. Upon request of the state board, a teacher education institution shall present a report of its teacher education curricula and definitions of majors and minors. The programs of an approved teacher education institution are subject to periodic review by the state board."

NATIONAL ACCREDITATION

There are only two national teacher education accreditation associations that are recognized by the United States Department of Education:

National Council on- Accreditation of Teacher Education (NCATE)
Teacher Education Accreditation Council (TEAC)

Michigan teacher preparation institutions that select national accreditation will not be required to participate in the state periodic review process. All of their content programs must still meet state and/or national standards and all new programs must be approved via the state review process. Any program weaknesses identified in the national review must be addressed in order for the institution to retain its status as a teacher preparation institution.

TITLE II of the HIGHER EDUCATION ACT REPORTING

All states are required to report information on the quality of their teacher preparation institutions to the USDOE. States are required to report teacher test scores and identify low performing teacher preparation institutions. MDE has proposed a performance score for the teacher preparation institutions which it expects to be approved by the State Board by August 2006.

Institutional Choices for Unit Review

NCATE Accreditation	TEAC Accreditation	State Review
Andrews University	Albion College	Adrian College
Calvin College	Aquinas College	Alma College
Central Michigan University	Ferris State University	Cornerstone University
Concordia College	Michigan State University	Hillsdale College
Eastern Michigan University	Oakland University	Lake Superior State University
Grand Valley State University	University of Michigan – Ann Arbor	Marygrove College
Hope College		Michigan Technological University
Madonna University		Olivet College
Northern Michigan University		Siena Heights University
Saginaw Valley State University		University of Detroit Mercy
Spring Arbor University		University of Michigan – Dearborn
Wayne State University		University of Michigan – Flint
Western Michigan University		

2005-2012 Institutional Choices for Unit Review C140797 A156150.doc

STANDARD I.D

Professional and Pedagogical Studies for Initial Teacher Preparation
The unit ensures that teacher candidates acquire and learn to apply the professional and pedagogical knowledge and skills to become competent to work with all students.

Indicators:

I.D.1 Candidates complete a well-planned sequence of courses and/or experiences in professional studies in which they acquire and learn to apply knowledge about:

- the social, historical, and philosophical foundations of education, including an understanding of the moral, social, and political dimensions of classrooms, teaching, and schools;
- the impact of technological and societal changes on schools;
- theories of human development and learning;
- inquiry and research;
- school law and educational policy;
- professional ethics; and
- the responsibilities, structure, and activities of the profession.

I.D.2 Candidates complete a well-planned sequence of courses and/or experiences in pedagogical studies that help develop understanding and use of:

- research and experience-based principles of effective practice for encouraging the intellectual, social, and personal development of students;
- different student approaches to learning for creating instructional opportunities adapted to learners from diverse cultural backgrounds and with exceptionalities;
- variety of instructional strategies for developing critical thinking, problem solving, and performance skills;
- individual and group motivation for encouraging positive social interaction, active engagement in learning, and self-motivation;
- effective verbal, nonverbal, and media communications for fostering active inquiry, collaboration, and supportive interactions in the classroom;
- planning and management of instruction based on knowledge of the content area, the community, and curriculum goals;
- formal and informal assessment strategies for evaluating and ensuring the continuous

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Content Guidelines/Standards Matrix

College/University: _____ Code: EX

Source of Guidelines/Standards: Michigan State Board of Education, 2000 Program/Subject Area: Mathematics, Elementary K–8

DIRECTIONS: **List required courses on matrix and provide additional narrative to explain how standards are met. If electives are included, they should be clearly indicated. Adjust size of cells as needed.**

Note: Standards 1.5.3, 1.5.6, 1.5.7, and 1.5.11 in this document have been updated in response to the questions and comments presented by the review panel on January 10, 2006. The updated pieces are in red text.

Note: Baker College offers English as both a major and minor for elementary and secondary teacher certification candidates. Courses listed in the narrative are required for the elementary and secondary major and minor, except where otherwise noted.

#	Standard/Guideline	Narrative Explaining How Required Courses and/or Experiences Fulfill the Standards for Programs
1.0	MATHEMATICS PREPARATION	
1.1	Problem Solving: Submit a narrative that describes how the requirements of your program provide opportunities for your candidates to mature in their problem solving ability. What evidence indicates that this is being accomplished?	Problem solving is an integral part of our elementary mathematics program. Below are course outcomes from several courses which address problem solving. EDU481 Directed Teaching I and EDU482 Directed Teaching II CO PP#1: Demonstrate the knowledge of and ability to effectively present subject area content appropriate to his/her intended state certification. MTH124 Trigonometry CO #8: Solve problems involving right triangles. CO #12: Solve problems using the trigonometric identities. MTH140 Pre-Calculus CO #11–15: Solve real-world problems involving polynomial functions, exponential functions, rational functions, logarithmic functions and trigonometric functions. MTH211 Learning and Teaching Number Concepts CO #1: Solve problems through exploration, conjecture, reasoning – deductive and inductive – and a variety of mathematical techniques. MTH315 Algebraic Thinking and Proportional Reasoning CO #5: Solve real-life mathematical problems. CO #7: Create problem solving tools using a variety of problem solving strategies. CO #9: Solve routine and multi-step problems. MTH340 Discrete Mathematics *(major only)* CO #6: Solve and verify problems relating to number theory. CO #11: Analyze and solve problems involving counting techniques. MTH491 Senior Seminar: Elementary Mathematics CO #5: Apply problem solving strategies to problems taken from all of the MTTC competencies. CO #6: Integrate mathematical models of real-world problems with the teaching of mathematical concepts. This is the capstone course in which students review and demonstrate that they have met the state standards for mathematics. Successful completion of all coursework does give evidence that students have met these standards. Successful completion of student teaching shows that they can incorporate them into their teaching.

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1.5.2	demonstrate number sense and knowledge of number systems; apply numerical computation and estimation techniques and extend them to algebraic expressions; model the use of the four basic operations (addition, subtraction, multiplication, and division) in multiple contexts; use a variety of mental computation techniques; apply estimation strategies to quantities, measurements, and computation to determine the reasonableness of results; model, explain, and develop a variety of computational algorithms;	MTH211 Learning and Teaching Number Concepts CO #2: Understand mathematical concepts and appropriate notation. CO #3: Construct a sense of number and numeration, using manipulatives, models and representations. CO #6: Distinguish patterns and apply appropriate algorithms to solve problems. The first week of this course is spent working with students on problem solving strategies and techniques. Mental arithmetic and estimation are also included as part of this course. MTH315 Algebraic Thinking and Proportional Reasoning CO #2: Demonstrate an understanding of mathematical concepts and procedures. CO #3: Explain the "why" of mathematical concepts verbally and in writing. CO #4: Compare the connections between concepts studies in class and national and state standards. CO #5: Solve real life mathematical problems. CO #7: Create problem-solving tools using a variety of problem solving strategies. CO #8: Crete and check hypotheses and generalizations. CO #10: Demonstrate through active learning, discussing, justifying and revising the crucial role of definitions and concepts of mathematics. MTH491 Senior Seminar: Elementary Mathematics CO #6: Integrate mathematical models of real-world problems with the teaching of mathematical concepts.
1.5.3	apply the process of measurement to two- and three-dimensional objects using non-standard, customary and metric units;	MTH331 Geometry for Elementary Teachers Course Description: Introduces a variety of materials, activities and physical models and manipulatives, and dynamic software as learning tools. Analyzes characteristics and properties of two and three dimensional geometric objects and their measurement using different representational systems, analyzes mathematical situations and using visualization and spatial reasoning to solve problems both within and outside mathematics. CO #3: Evaluate and categorize the relationships among types of two and three dimensional objects using their defining properties. CO #5: Interpret relationships among the angles, perimeters, areas and volumes of objects. CO #6: Interpret geometric terms and figures: line, point, plan, angle, and parallel. CO #9: Use geometry tools including the Geometer's Sketchpad® Version 4 to measure, copy, and construct geometric figures. Students in this course construct perpendicular and angle bisectors, duplicate segments and angles, construct perpendiculars to a line, study the properties of kites, trapezoids, parallelograms, and circles. They also study volume of common solids including prisms, cylinders, spheres, pyramids, and cones. They also do exercises on indirect measurement.
1.5.4	use geometric concepts and relationships to describe and model mathematical ideas and real-world constructs;	MTH331 Geometry for Elementary Teachers CO #1: Interpret and apply geometric ideas, patterns and relationships in other disciplines and other areas such as art, science, architecture, and everyday life.
1.5.5	understand the major concepts of Euclidean geometry from a variety of perspectives including coordinate and transformational;	MTH331 Geometry for Elementary Teachers CO #2: Use the Cartesian Coordinate system to graph segments, lines and points. CO #4: Create and critique inductive and deductive arguments concerning geometric ideas and relationships such as congruence, similarity, sequencing, and the Pythagorean relationship. CO #7: Assess and analyze the relationship between the sides and angles of triangles and congruent angles. CO #8: Compare the properties of polygons and the relationships among their sides and angles. CO #9: Use geometry tools including the Geometer's Sketchpad to measure, copy, and construct geometric figures. Transformations and tessellations are an integral part of this course.

DRAFT

Initial Approval of Specialty Program

Recommendations from Review Panel Regarding Programs to Prepare Teachers of Mathematics (EX)

January 10, 2006

Institution:

Program Level	Major (# Credits)	Minor (# Credits)	Group Major (# Credits)	Group Minor (# Credits)	Endorsement Only (# Credits)
Elementary	31.5	28.8			24.8
Secondary	36.9	31.5			28.8
K-12					

Source of Standards/Guidelines: Michigan State Board of Education | Pub. Date: Apr. 13, 2000

Program Assessment Summary/Recommendation

	Meets all standards and requirements	X	Not all standards and requirements are met	X	Insufficient documentation for program review
	Approval	X	Program is not Approvable as Presented		

Standards/Requirements Not Met:

Standard 1.5.3 – *apply the process of measurement in two and three-dimensional objects.* Reviewers found the course outcomes listed lacking in detail. Provide additional concepts, activities, and description within the narrative that supports this standard.

Please provide syllabi for courses cited in matrix. Standards cited as covered by some courses could not be confirmed due to missing syllabi. Still needed are course syllabi for courses other than those listed on Form XX, Application Attachment 3, such as, EDU 481 *Directed Teaching I.*

Reviewers are concerned that all standards will not be covered for teachers seeking an endorsement in elementary or secondary mathematics. For example, several EDU courses are cited throughout the matrix. Please explain how the institution ensures all standards are covered for teachers seeking an elementary or secondary endorsement.

Additional information needed/action to be taken:

CS111 *Introduction to Programming* can be required for teacher candidates, but can not be included in the semester hour totals for mathematics majors and minors as indicated on Form XX, Application Attachment 3. Please provide updated semester hour totals for programs without including CS111.

Reviewers struggle with the range of faculty qualifications, from B.A. to PhD, among campuses, and the assurance that the specialty programs achieve consistency among sites. Therefore, reviewers request an additional spreadsheet be submitted that would identify administration and faculty for each site. Include the names and qualifications for SYSTEM VICE PRESIDENT, SYSTEM DEPARTMENT COORDINATORS, SYSTEM PROGRAM COODINATORS, CAMPUS DEANS, and CAMPUS FACULTY. This would assist reviewers in identifying the qualifications of those in charge of each program and those that instruct on each campus. See attached sample.

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