

SECONDARY (9-12) MATHEMATICS REPORT



MEREDITH COLLEGE **Department of Education**

3800 Hillsborough St.
Raleigh, NC 27607

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Timothy M Hendrix, Mathematics Education Program Coordinator

HendrixT@meredith.edu

<http://www.meredith.edu/math/>

Toni Parker, NCDPI Coordinator

parkerw@meredith.edu

<http://www.meredith.edu/education/>

Table of Contents

Program Overview	3
Conceptual Framework	20
Standard 1: Candidate Knowledge, Skills, and Dispositions	28
Core Standards	29
Diversity Standards	40
Technology Standards	50
Specialty Area Standards	60
Candidate Work with Families and Communities	72
Standard 1A: Undergraduate Qualifications	73
Standard 1B: Licensure-Only Students	74
Standard 2: Assessment System and Evaluation	76
Standard 3: Field Experiences and Clinical Practice	85
Standard 4: Diversity	91
Standard 5: Faculty Qualifications, Performance, Development	101
Standard 5A: Faculty Assignment	108
Standard 6: Program Governance and Resources	120
Standard 6A: Working Conditions	122

Mathematics Education Program - Secondary

The Mathematics Education teacher licensure program offers a course of study leading to licensure for Mathematics Education 9 – 12 and for Middle Grades Mathematics Education 6 – 8. (Please note that information about the 6 – 8 licensure is contained within the Middle Grades Area Report.)

Program Overview

The Department of Mathematics & Computer Science provides *for all Meredith College students* a strong foundation for active participation in an increasingly technological society. To participate fully in today's society, we recognize that quantitative literacy and technology fluency, along with the ability to solve problems through a process of conceptual and logical reasoning, are essential. Towards these ends, the department strives to educate *our mathematics majors* to be creative, capable, ethical and confident in applying mathematical reasoning and technology to solve problems. Our departmental goals for mathematics majors are listed below:

A student who completes a degree in mathematics will:

- ◆ *Reason mathematically to construct logical arguments and solve problems*
- ◆ *Work collaboratively to solve problems*
- ◆ *Communicate mathematics both orally and in writing with precision and clarity*
- ◆ *Understand a branch of mathematics in depth*
- ◆ *Make connections within mathematics*
- ◆ *Use technology for conceptual understanding and significant computation*
- ◆ *Apply mathematics across disciplines (for Bachelor of Science majors only)*

For *licensure candidates in secondary (9 – 12) mathematics*, the above-stated goals provide a foundation in both mathematical content and processes of mathematical thought in order to build both conceptual and procedural knowledge of mathematics. Graduates of the 9 – 12 mathematics education licensure program at Meredith College are prepared to teach all areas of mathematics offered in secondary schools, including algebra, geometry, integrated mathematics, statistics, advanced functions and modeling, and calculus.

The curriculum for prospective secondary mathematics educators includes general studies, a mathematics major, mathematics education coursework, and professional education coursework. The candidate may choose to complete either a Bachelor of Arts (BA) or a Bachelor of Science (BS) degree in mathematics. Courses required for the BA or the BS in mathematics vary slightly and are detailed in the program requirements given in the next section on pages five and six.

In the completion of all mathematics coursework, students are taught that mathematics is a language and a tool for understanding quantitatively the world in which we live.

Students are encouraged to investigate mathematical phenomena, to seek patterns, to think both critically and logically, and to develop confidence in problem-solving.

Levels Offered

The teacher education program at Meredith College offers Initial Licensure in 9 – 12 Secondary Mathematics.

Special Characteristics

Secondary mathematics licensure students may complete either a Bachelor of Arts (BA) or a Bachelor of Science (BS) degree. The BA degree requires a total of 33 hours in mathematics and the BS degree requires a total of 54 – 62 total credit hours, including 42 total hours in mathematics and computer science, 8 hours in either chemistry or physics, plus an additional 4 – 12 hours in a related field chosen from biology, chemistry and physics, accounting, business and economics, or computer science.

Additionally, secondary licensure candidates in mathematics have specific licensure-required courses that must be used in the fulfillment of the mathematics major, including *introductory statistics*, *modern abstract algebra*, *modern college geometry*, and *mathematical probability and statistics*. All secondary licensure candidates also complete an *introductory course in computer programming*.

Licensure-only candidates may take courses in mathematics to fulfill requirements that meet the secondary licensure program. Licensure-only candidates receive an audit of previous educational experiences and coursework to determine the appropriate courses needed to fulfill those licensure requirements.

Program of Study

There are two degree paths for mathematics majors, a Bachelor of Arts (BA) degree and a Bachelor of Science (BS) degree. While there are differences between the upper-level requirements for the two degree programs, there is a **Core Curriculum** that all mathematics majors complete that includes 18 credit hours in *Calculus I, II, and III* (4, 4, and 4); *Linear Algebra*(3); and *Introduction to Mathematical Reasoning* (3).

Below are the general education requirements for all students, the core mathematics curriculum, the content requirement for the BA and BS degrees including specific content courses required for secondary mathematics licensure, mathematics education coursework, and professional education coursework.

1. Program requirements

Below are the General Education requirements of the College. More information about these requirements may be found at the General Education website:

<http://www.meredith.edu/academics/gened/>.

General Education Requirements

Core Curriculum
CORE 100: The Context of Culture, (4 credits)—To be completed freshman year.
CORE 200x: Cultural Connections, (variable credit) Approved study abroad experience OR a CORE 200-level learning community. To be completed during sophomore or junior year. At least one of the courses in the CORE 200-level linkages will also fulfill a Fields-of-Knowledge requirement.
CORE 400: Global Perspectives, (3 credits) A senior-level inquiry into questions of global importance.
ENG 111: Principles of Writing, (3 credits)
ENG 200: Texts & Contexts, (3 credits)
HIS 101 or 102: Western Civilization, or HIS 103: The World in the 20th Century, (3 credits)
REL101, 102, 103, 104, OR 105: An introductory Religion course, (3 credits)
Fields of Knowledge:
<i>Data Analysis, Abstract Reasoning and Problem Solving</i> Mathematics (3 credits) Quantitative elective (3 credits)
<i>World Cultures and Languages</i> Foreign Language competency at the intermediate--mid level (0–12 credits) Literature elective (3 credits) Cultural Perspectives elective (3 credits)
<i>Scientific Literacy</i> <u>Natural Sciences</u> Laboratory Sciences (4 credits) Science in Society elective (3 credits) Behavioral and Social Sciences (6 credits)
<i>Aesthetics and the Arts</i> Art, dance, music, or theater (3 credits)
<i>Health and Physical Learning</i> Physical Education or Dance activity courses (4–5 credits) (One health class and three activity courses or four activity courses)
Across-the-Curriculum "Thread" Courses:
<i>Thread Courses to include:</i> Writing Intensive (2), Oral communication (1), Ethics (1), and Information Literacy (1)
<i>Independent and Experiential Learning</i> <ul style="list-style-type: none"> • Attendance at convocations and cultural events (12) • Experiential learning through internships, research, service learning, study abroad, student teaching, etc (1). • Fundamental Technology Competency

Within the General Education requirements of the College, the following Behavioral and Social Science courses are taken by licensure students to meet specific licensure requirements:

Course	Hours
PSY 312 The Psychology of Exceptional Individuals	3
SOC 335 Race and Ethnic Relations	3

a) Content requirements:

1. Core Curriculum for all mathematics majors:

Course	Hours
MAT 211 Calculus I	4
MAT 212 Calculus II	4
MAT 314 Calculus III	4
MAT 220 Linear Algebra	3
MAT 250 Introduction to Mathematical Reasoning	3

2. Bachelor of Arts in Mathematics with 9-12 Mathematics Licensure:

Course	Hours
Core Curriculum:	18
MAT 211 Calculus I	4
MAT 212 Calculus II	4
MAT 314 Calculus III	4
MAT 220 Linear Algebra	3
MAT 250 Introduction to Mathematical Reasoning	3
Upper Level Coursework:	6
*MAT 321 Modern Abstract Algebra	3
MAT 490 Senior Seminar	3
Upper Level Mathematics Electives at 200 level or above:	9
*MAT 245 Statistics I	3
*MAT 334 Modern College Geometry	3
*MAT 340 Mathematical Probability and Statistics	3
Additional Course in Beginning Programming for Licensure:	
*CSC 101 Beginning Programming	3
TOTAL HOURS for BA with Secondary Licensure:	36
<i>*—Course is specifically required for licensure</i>	

3. Bachelor of Science in Mathematics with 9-12 Mathematics Licensure:

Course	Hours
Core Curriculum:	18
MAT 211 Calculus I	4
MAT 212 Calculus II	4
MAT 314 Calculus III	4
MAT 220 Linear Algebra	3
MAT 250 Introduction to Mathematical Reasoning	3
Upper Level Coursework:	12
MAT 410 Advanced Calculus	3
*MAT 321 Modern Abstract Algebra	3
MAT 3xx or 4xx One additional upper level theory course	3
MAT 490 Senior Seminar	3
Upper Level Mathematics Electives at 200 level or above:	9
*MAT 245 Statistics I	3
*MAT 334 Modern College Geometry	3
*MAT 340 Mathematical Probability and Statistics	3
Beginning Programming:	
*CSC 101 Beginning Programming	3
Science Sequence:	8
CHE 111 – 112 General Chemistry I and II	8
PHY 211 – 212 General Physics I and II	8
Additional Coursework in Related Area:	4 - 12
One related area chosen from biology, chemistry and physics, computer science, accounting, business and economics (may include the required courses above in either science or computer science)	
TOTAL HOURS for BA with Secondary Licensure:	36
<i>*—Course is specifically required for licensure</i>	

b) Content (Mathematics) Education requirements:

Course	Hours
MAT 764 Methods of Teaching Secondary/Middle Mathematics	3

c) Professional Education requirements:

Course	Hours
EDU 232 Foundations of American Education	3
EDU 234 Educational Psychology	3
EDU 241 Instructional Media	1
EDU 440 Seminar in Education	1
EDU 450 Reading in the Content Area	1
EDU 466 Preadolescent and Adolescent Behavior	3
EDU 467 Secondary School	3
EDU 490 Observation and Directed Teaching (9-12)	3

Table 1.0a - Matrix - 9-12 Mathematics Licensure

Standard 1: Number sense, numeration, and numerical operation.

Mathematics teachers have an in depth understanding of concrete algebraic systems and applications.

Standards and Indicators:	All courses required for major in mathematics with secondary licensure, including the following:											
	MAT 211	MAT 212	MAT 220	MAT 245	MAT 250	MAT 314	MAT 321	MAT 334	MAT 340	MAT 490	MAT 764	CSC 101
Standard 1: Number												
Indicator 1: Properties of and operations on:												
<i>Real and complex #'s</i>	X	X	X		X	X						
<i>Polynomials</i>	X	X				X	X					
<i>Vectors</i>						X						
<i>Matrices</i>			X									
<i>Concrete algebraic systems</i>							X					
Indicator 2: Algebraic Systems:												
<i>Linear algebra</i>			X									
<i>Abstract Algebra</i>							X					
Indicator 3: Elementary Number Theory					X		X					
Indicator 4: Set Theory					X							
Indicator 5: Computational Tools and Strategies	X	X	X	X		X						
<i>Estimate appropriately</i>				X							X	
Possible Assessment Experiences and Artifacts	Exams, projects; GPA >=2.5 in content and overall; Professional Technology Portfolio											

Table 1.0b - Matrix - 9-12 Mathematics Licensure

Standard 2: Spatial sense, measurement, and geometry.

Mathematics teachers understand measurement, spatial sense, and the properties of relationships of two- and three-dimensional space.

Standards and Indicators:	All courses required for major in mathematics with secondary licensure, including the following:											
	MAT 211	MAT 212	MAT 220	MAT 245	MAT 250	MAT 314	MAT 321	MAT 334	MAT 340	MAT 490	MAT 764	CSC 101
Standard 2: Geometry & Measurement												
Indicator 1: Euclidean and non-Euclidean geometry								X				
Indicator 2: Deductive System								X				
Indicator 3: Deductive Proof					X			X				
Indicator 4: Connect Geometry to solve problems								X				
Indicator 5: Properties of figures								X				
Indicator 6: Vectors in two- and three-dimensional space						X						
Indicator 7: Other coordinate systems												
Indicator 8: Trigonometric relationships to solve problems	X	X						X				
Indicator 9: Use technology to solve geometric problems	X	X				X		X				
Possible Assessment Experiences and Artifacts	Exams, projects; GPA >=2.5 in content and overall; Professional Technology Portfolio											

Table 1.0c - Matrix - 9-12 Mathematics Licensure

Standard 3: Patterns, relations, and functions.

Mathematics teachers understand patterns, relationships, functions, symbols and models.

Standards and Indicators:	All courses required for major in mathematics with secondary licensure, including the following:											
	MAT 211	MAT 212	MAT 220	MAT 245	MAT 250	MAT 314	MAT 321	MAT 334	MAT 340	MAT 490	MAT 764	CSC 101
Standard 3: Patterns and Functions												
Indicator 1: Model/analyze using multiple representations	X	X				X						
Indicator 2: Methods of proof to verify conjectures					X					X		
Indicator 3: Analyze tables and graphs to identify properties and relationships	X	X				X					X	
Indicator 4: Differential and integral calculus	X	X				X						
Indicator 5: Ability to use mathematical and technological tools to solve problems	X	X				X					X	
Indicator 6: Classes of functions	X	X				X					X	
<i>Use of technology to investigate</i>	X	X				X					X	
Possible Assessment Experiences and Artifacts	Exams, projects; GPA >=2.5 in content and overall; Professional Technology Portfolio											

Table 1.0d - Matrix - 9-12 Mathematics Licensure

Standard 4: Data, Probability, and Statistics.

Mathematics teachers understand the major concepts of probability and statistics including collecting, displaying, analyzing, and drawing conclusions from data.

Standards and Indicators:	All courses required for major in mathematics with secondary licensure, including the following:											
	MAT 211	MAT 212	MAT 220	MAT 245	MAT 250	MAT 314	MAT 321	MAT 334	MAT 340	MAT 490	MAT 764	CSC 101
Standard 4: Data, probability & statistics												
Indicator 1: Standard techniques for:												
<i>Organizing and displaying data</i>				X								
<i>Detecting patterns and departures</i>				X								
Indicator 2: Statistical Inference:												
<i>Population estimates</i>				X					X			
<i>Hypothesis Testing</i>				X					X			
Indicator 3: Probability Distribution models				X					X			
Indicator 4: Use Probability models									X			
Indicator 5: Discrete Mathematics:												
<i>Finite Differences</i>											X	
<i>Graph/network theory</i>												
<i>Combinatorics</i>									X			
<i>Models for social decision-making</i>												
Indicator 6: Use of technology for data analysis				X					X		X	
Indicator 7: Develop computer programs in a structured language												X
Possible Assessment Experiences and Artifacts	Exams, projects; GPA >=2.5 in content and overall; Professional Technology Portfolio											

Table 1.0e - Matrix - 9-12 Mathematics Licensure

Standard 5: Mathematical Process Skills.

Mathematics teachers understand and use the processes of problem-solving, reasoning and proof, communication, connection, and representation as the foundation for the teaching and learning of mathematics.

Standards and Indicators:	All courses required for major in mathematics with secondary licensure, including the following:											
	MAT 211	MAT 212	MAT 220	MAT 245	MAT 250	MAT 314	MAT 321	MAT 334	MAT 340	MAT 490	MAT 764	CSC 101
Standard 5: Mathematics Processes Skills												
Problem-Solving:												
<i>Indicator 1: Build new mathematical knowledge through problem-solving</i>					X			X		X	X	
<i>Indicator 2: Solve problems that arise in mathematics and other contexts</i>	X	X	X	X	X	X	X	X	X	X	X	
<i>Indicator 3: Apply and adapt a variety of strategies</i>	X	X	X	X	X	X	X	X	X	X	X	
<i>Indicator 4: Monitor and reflect on the process of problem-solving</i>										X	X	
Reasoning and Proof:												
<i>Indicator 5: Recognize fundamental nature of reasoning and proof</i>					X			X				
<i>Indicator 6: Make and investigate mathematical conjectures</i>					X			X				
<i>Indicator 7: Develop and evaluate mathematics arguments and proofs</i>					X		X	X	X	X	X	
<i>Indicator 8: Select and use various types of reasoning and methods of proof</i>					X		X	X	X	X	X	
Communication:												
<i>Indicator 9: Organize and consolidate thinking through communication</i>				X	X	X	X	X	X	X	X	

Standards and Indicators:	All courses required for major in mathematics with secondary licensure, including the following:											
	MAT 211	MAT 212	MAT 220	MAT 245	MAT 250	MAT 314	MAT 321	MAT 334	MAT 340	MAT 490	MAT 764	CSC 101
Standard 5: Mathematics Processes Skills												
<i>Indicator 10: Communicate mathematical thinking coherently and clearly</i>				X	X	X	X	X	X	X	X	
<i>Indicator 11: Analyze and evaluate others' mathematical thinking and strategies</i>					X					X	X	
<i>Indicator 12: Use language to express mathematical ideas precisely</i>					X					X		
Connections:												
<i>Indicator 13: Recognize and use connections among mathematical ideas</i>	x	x	x	x	x	x	x	x	x	X		
<i>Indicator 14: Understand how mathematical ideas interconnect and build a coherent whole</i>	x	x	x	x	x	x	x	X	x	X		
<i>Indicator 15: Recognize and apply mathematics in contexts outside of mathematics</i>	x	x		X		x						
Representation:												
<i>Indicator 16: Create and use representations to organize and communicate mathematical ideas</i>	x	x				x					x	
<i>Indicator 17: Select and apply mathematical representations to solve problems</i>	x	x		x		x					x	
<i>Indicator 18: Use representations to model and interpret physical, social, and mathematical phenomena</i>	x	x		x		x				x	x	

Standards and Indicators:	All courses required for major in mathematics with secondary licensure, including the following:											
Standard 5: Mathematics Processes Skills	MAT 211	MAT 212	MAT 220	MAT 245	MAT 250	MAT 314	MAT 321	MAT 334	MAT 340	MAT 490	MAT 764	CSC 101
Possible Assessment Experiences and Artifacts	Exams, projects; GPA ≥ 2.5 in content and overall; Professional Technology Portfolio NOTE: Standard 5 addresses mathematical process skills, which are dispositions that are inherent in every mathematics major. These standards align with the goals that our department has for every major.											

Table 1.0f - Matrix - 9-12 Mathematics Licensure

Standard 6: Curriculum pacing and alignment

Mathematics teachers are aware of the importance of and implement effective instructional pacing and alignment.

Standards and Indicators:	All courses required for major in mathematics with secondary licensure, including the following:											
Standard 6: Curriculum Pacing and Alignment	MAT 211	MAT 212	MAT 220	MAT 245	MAT 250	MAT 314	MAT 321	MAT 334	MAT 340	MAT 490	MAT 764	CSC 101
Indicator 1: Knowledge of:												
<i>NC SCS</i>											X	
<i>LEA standards and pacing guides</i>											X	
<i>NCTM Standards</i>											X	
Indicator 2: Locate and use various resources that support daily classroom practices											X	
Possible Assessment Experiences and Artifacts	Projects; GPA ≥ 2.5 in methods coursework; Professional Technology Portfolio											

Table 1.0g - Matrix - 9-12 Mathematics Licensure

Standard 7: Instructional strategies.

Mathematics teachers use a variety of instructional strategies to promote student understanding of mathematics. They recognize students' level of mathematical understanding in order to implement the appropriate instructional practice.

Standards and Indicators:	All courses required for major in mathematics with secondary licensure, including the following:											
	MAT 211	MAT 212	MAT 220	MAT 245	MAT 250	MAT 314	MAT 321	MAT 334	MAT 340	MAT 490	MAT 764	CSC 101
Standard 7: Instructional Strategies												
Indicator 1: Used varied strategies											X	
<i>Problem-based learning</i>											X	
<i>Inquiry</i>											X	
<i>Investigations</i>											X	
<i>Direct instruction, exposition</i>											X	
Indicator 2: Knowledgeable of current research on best practices											X	
Indicator 3: Match strategies and tools											X	
Indicator 4: Knowledgeable of and sensitive towards various learning styles											X	
Indicator 5: Aware of the need for varied teaching methods											X	
Possible Assessment Experiences and Artifacts	Projects; GPA \geq 2.5 in methods coursework; Professional Technology Portfolio											

Table 1.0h - Matrix - 9-12 Mathematics Licensure

Standard 8: Instructional Tools.

K-12 mathematics teachers understand and use effectively the hierarchy of the use of instructional tools.

Standards and Indicators:	All courses required for major in mathematics with secondary licensure, including the following:											
	MAT 211	MAT 212	MAT 220	MAT 245	MAT 250	MAT 314	MAT 321	MAT 334	MAT 340	MAT 490	MAT 764	CSC 101
Standard 8: Instructional Tools												
Mathematics teachers are able to identify, prescribe and use appropriate:												
Indicator 1: Hands-on tools											X	
Indicator 2: Representational tools											X	
Indicator 3: Transitional Tools											X	
Indicator 4: Symbolic tools											X	
Possible Assessment Experiences and Artifacts	Projects; GPA ≥ 2.5 in methods coursework; Professional Technology Portfolio											

Program Goals

The goal of the mathematics licensure program for secondary school teachers is to ensure competency of the teaching of mathematics by prospective mathematics teachers by achieving the following competencies. The secondary education program in mathematics at Meredith College supports the Conceptual Framework, which are the Department of Education program goals and prepare prospective high school mathematics teachers who:

- Demonstrate a broad general knowledge of the humanities, arts, and sciences, and their interrelatedness.
- Demonstrate knowledge and skills in all mathematical disciplines including algebra, geometry, advanced functions and modeling, calculus, and statistics, stressing the interrelatedness of the major concepts within the various mathematical areas.
- Demonstrate various methods of instruction and the use of materials suitable for teaching mathematics in secondary school.
- Understands and demonstrates the role of technology in the classroom
- Demonstrate competence in working with diverse populations.
- Demonstrate the basic use of communication skills when relating mathematical concepts and knowledge to others.
- Demonstrate the commitment for continued learning in the field of mathematics.
- Develop various methods of assessment of students in the mathematics classroom.
- Demonstrate competency for the teaching of mathematics in the secondary school classroom.
- Engage in reflective thinking about teaching and learning.

Program Coordinator

The person required for coordinating the mathematics education program will be Dr. Timothy Mark Hendrix, Associate Professor of Mathematics, a faculty member since 2002, and who is licensed in mathematics (and in music). Dr. Hendrix has two years of experience teaching high school in North Carolina, and over 15 years of experience teaching and working with pre-service mathematics teachers in both North Carolina and Illinois. Dr. Hendrix is active in the professional mathematics education community, actively involved in the North Carolina Council of Teachers of Mathematics (NC-CTM), National Council of Teachers of Mathematics (NCTM), and the Association of Mathematics Teacher Educators (AMTE). Currently, he serves as Eastern Regional Vice-President for Colleges in the NC-CTM with responsibility to build connections between the K-12 mathematics community and the higher education mathematics and mathematics education communities in the Eastern Region of NC. Additionally, he is serving a second tenure as the Chair of the Membership Committee of the AMTE national organization.

As Program Coordinator for mathematics education, Dr. Hendrix serves as the advisor for all mathematics education teacher candidates, teaches the mathematics methods courses for both middle grades and secondary grades (MAT 264 and MAT 764), and supervises teacher candidates in their student teaching internships. Additional responsibilities of all program coordinators of licensure programs are included in the Program Standard 5A of this report.

Aggregate PRAXIS Pass Rates for the Specialty Area

Below are the number of teacher candidates who have taken the PRAXIS II in each academic year beginning in 2001 – 2002. One hundred percent of the candidates taking the PRAXIS II exam have passed the exam.

Licensure Area	Year	Pass Rates	
		N	% Passing
9 – 12 Mathematics	2001 – 02	3	100%
	2002 – 03	1	100%
	2003 – 04	4	100%
	2004 – 05	2	100%
	2005 – 06	0	NA
	2006 – 07	1	100%
6 – 9 Mathematics	2001 – 02	0	NA
	2002 – 03	2	100%
	2003 – 04	0	NA
	2004 – 05	3	100%
	2005 – 06	0	NA
	2006 – 07	1	100%

Number of Program Completers since the last visit:

Academic Year	# Candidates Enrolled in 9 – 12 Mathematics Program	# of Program Completers
2001 – 02	3	3
2002 – 03	3	2
2003 – 04	3	3
2004 – 05	2	2
2005 – 06	2	2
2006 – 07	2	2
Academic Year	# Candidates Enrolled in 6 – 9 Mathematics Program	# of Program Completers
2001 – 02	0	0
2002 – 03	2	2
2003 – 04	1	1
2004 – 05	2	2
2005 – 06	1	1
2006 – 07	0	0

Number of Candidates currently enrolled and admitted to the program:

As of fall 2007, four (4) students have been admitted to the 9 – 12 mathematics education program. Two of those students are candidates scheduled to complete the program in May 2008. The two remaining candidates have just been admitted with junior status are scheduled to complete the program in May 2009.

Enrollment Trends

Enrollment in the secondary mathematics licensure program has been steady over the last six years, with an average of 2 – 3 secondary licensure teacher candidates and 1 – 2 middle grades licensure candidates in methods courses and student teaching per year. Currently, nine (9) students have declared intent to receive licensure in mathematics, eight (8) of whom are preparing for secondary grades (9 – 12) licensure and one middle grades (6 – 9) licensure.

Conceptual Framework

Our Conceptual Framework was developed by the professional community invested in teacher preparation at Meredith College including public school partners as well as Meredith faculty. The conceptual framework that guides the work of the Department of Education is research-based and is aligned with professional and state standards as illustrated by our initial licensure alignment chart, advanced licensure alignment chart, [INTASC Standards](#), [NBPTS Standards](#), North Carolina Core, Diversity, and Technology Standards, and North Carolina Masters Standards. It embraces the vision of globalization set forth by both the College under [Vision 2010](#) and the [State Board of Education](#) and is focused on preparing teachers who are well-equipped to meet the needs of the diverse students found in our schools.

The Conceptual Framework is comprised of the following ideas, which guide course development and delivery and fieldwork experiences as well as teacher candidate and program assessment. The Department of Education prepares candidates to be teachers who will:

- **Exhibit culturally relevant and inclusive teaching.** Teacher candidates recognize that they participate in a diverse global community and maintain high expectations for all students. In making instructional decisions, they consider the needs of all students and are inclusive of every student. They practice culturally relevant teaching, are open to cultures and ideas other than their own, and affirm the cultural diversity that their students bring to their classrooms. They know how to modify instruction to support the unique learning needs of each student and provide a relevant and rigorous education to all students (Delpit, 2006; Gibson, 2004; Jenlink & Jenlink, 2005; Ladson-Billings, 1995, 2001; Ryan, 2006).
- **Practice connected pedagogy.** Teacher candidates understand that teaching and learning must be relevant to the students. As such they connect the content they teach to the lives of their students. Candidates lead student-centered classrooms designed with an understanding of their students' development and consideration of the needs of their students. They are able to design instruction to address individual differences and learning preferences, and when appropriate, respond to diversity in cultural practices and exceptionalities (Hamachek, 1987; Noddings, 2005; Rogers & Renard, 1999; Stears & Malcolm, 2005).
- **Engage in reflective teaching.** Teacher candidates believe that reflection is essential to improving the quality of their teaching. They are able to examine the dilemmas of classroom practice within the cultural contexts in which they teach. They are able to question the assumptions they bring to teaching and strive to understand how their actions impact their students. Teacher candidates are able to engage in reflection not only within their own classroom but also within a community of professionals who have the common goal of improving student learning (Dewey, 1933; Schon, 1987; Sneed, 2005; Valli, 1993, 1997; Zeichner, 1996).
- **Utilize continuous assessment.** Teacher candidates are knowledgeable in the use of formal and informal assessment and use this data to inform instruction. They are able to use a variety of authentic and traditional forms of assessment to determine their students' understanding and are able to interpret this information and use it to meet the instructional needs of each student. Teacher candidates know how to use appropriate technology in both collecting assessment data and recording that data for analysis (Alexandrin, 2003; Guskey, 2001; Otero, 2006; Quintero & Cooks, 2002).

- **Demonstrate leadership.** Teacher candidates demonstrate the professional dispositions necessary to become teacher leaders. They provide leadership by collaborating with colleagues, participating in and forging community-school partnerships, and structuring classrooms as communities of learners (Lieberman & Miller, 2004; Middlebrooks, 2004; Patterson, 2001; Sherrill, 1999; Wynne, 2001).
- **Understand content.** Teacher candidates demonstrate strong content knowledge learned in their general education and liberal arts or professional majors and are able to combine that content knowledge with professional knowledge of pedagogy and best practices. They are able to utilize technology effectively in both helping students understand content as well as expanding their own content knowledge. In addition, teacher candidates are able to connect content to the student's community, and understand how cultural diversity and diversity in learning needs can interact with content understandings (Bain & Mirel, 2006; Gudmundsdottir, 1990; Osana, Lacroix, Tucker, & Desrosiers, 2006; Shulman, 1986).



Changes to Conceptual Framework

The basic components of the Conceptual Framework as last revised in 2000-2001 have not been changed. Our campus and public school communities continue to believe that the ideas represented in the Conceptual Framework are both relevant and desirable for both our initially licensed teacher candidates and the experienced teachers we serve in our masters programs. The Conceptual Framework paper has been updated to reflect current literature and to clarify our meaning in some areas. These revisions were reviewed by Department of Education faculty.

In the fall of 2004 and spring of 2005, we requested that cooperating teachers provide us with feedback on both the importance of each component of the Conceptual Framework and the extent to which they believed we were meeting each goal. These surveys confirmed for us that our public school partners share our beliefs regarding the continued appropriateness of our conceptual framework.

Based upon feedback from our faculty both within the department and across the College, however, we redesigned its visual representation. Working with a Meredith College graphic design student during the summer of 2006, we updated our graphic to one that reflects our department's revised mission statement as well as our college's and our state's global emphasis. The new visual was shared with education and campus faculty before its formal adoption.

Shared Vision & Coherence

The Conceptual Framework embodies a vision of quality in teacher education and education in general that is based on the values of the college. It embraces a vision of teaching and learning that is relational, personal, and responsive to particular individual students and groups of students. It encourages innovative and rigorous practices that are responsive to the needs of students and the larger community. These are ideas that not only guide our work with teacher candidates, but form the basis for faculty student relationships and instruction across campus.

Our Conceptual Framework is firmly aligned with both our vision and mission statements, which were reviewed and revised during the spring and fall of 2006. This process ensured that our vision and mission statements are aligned with the College's [Vision 2010](#) plan as well as with our Conceptual Framework. It also strengthened our common sense of purpose as the statements were vetted and discussed by fulltime and adjunct education faculty, program coordinators and methods faculty across campus, undergraduate and graduate students, and community partners on our Teacher Education Committee. Our work led to the following vision and mission statements:

The Meredith College Department of Education seeks to become the premier teacher education program in the Southeast with a reputation that attracts intelligent, dedicated, and diverse students. To achieve this vision, the department will work collaboratively with a variety of professionals to develop and implement quality undergraduate and graduate programs that are innovative, responsive to the needs of public schools, and rigorous in both content and pedagogy. Our faculty will serve as leaders and role models and our graduates will be sought after nationwide as the best prepared in the field.

The mission of the Department of Education is to prepare educators who have the knowledge, skills, and values to effectively teach all students. With a foundation in the liberal arts, Meredith College students are transformed by a rigorous education that fosters leadership, promotes reflective practice, and cultivates passion for learning and the art of teaching. We develop teachers who appreciate their significant role in a diverse society.

Sharing common vision and mission statements as well as a common Conceptual Framework unites our undergraduate and graduate programs. It is appropriate given our small size and the fact that all of our programs lead to teaching licenses (either initial or advanced). While expectations regarding our candidates' facility with the components of the Conceptual Framework vary for the two levels of study, our students, both graduate and undergraduate, receive the same message from us about what is important.

Professional Commitments and Dispositions

The Department of Education has adopted the following statement which conveys our professional expectations to our students. This statement appears in all education and methods syllabi as well as in our Teacher Education Program Handbook and our Internship Handbook for Teacher Candidates.

We, at Meredith, are very proud of the professional educators we graduate. Becoming a professional is a process that involves more than just coursework; it also involves the continual development of behaviors and attitudes that will enable a person to make a strong positive contribution to the teaching profession. We expect the following:

A respect for the people with whom you are working: While on campus this is reflected in classroom behaviors such as attending classes regularly and on time, notifying the instructor of absences and turning in adequately prepared work in a timely fashion. Such standards should also be maintained while conducting fieldwork.

A respect for the diversity represented by the people with whom you are working: This involves demonstrating attitudes and behaviors that indicate fairness and sensitivity to all people and openness to other cultures and ideas.

An awareness of the significance of the individual's role in social interactions: This involves developing an awareness of how to communicate effectively and an understanding of how your manner of communication affects others.

A consistent demonstration of professional behavior: This is reflected in such behaviors as assuming responsibility for behavior, demonstrating initiative, displaying enthusiasm and a positive attitude toward professional responsibilities, and a willingness to make ethical decisions.

Candidate dispositions are evaluated at multiple points during their progression through initial licensure programs: at admission, before the internship and again at the end of the internship. Advanced licensure students are expected to have developed these dispositions already in their careers. Any shortcomings are handled on an individual basis.

Commitment to Diversity

Meredith College is committed to diversity as reflected in the [Vision 2010](#) plan, in the curriculum, in college programs, and in its organizational structure. The [CORE Curriculum](#) of the new [General Education](#) program begins with a common freshman level class titled “*Context of Culture*” that examines cultural identity in the United States. The intermediate level course emphasizes cultural connections and cross-cultural perspectives. The senior level course explores global perspectives through inquiry into questions of global importance. One way in which students can fulfill the intermediate level CORE requirement is to study abroad. The number of students participating in the [Study Abroad](#) program has increased significantly (from 82 in 2000-01 to 137 in 2006-07) over the last six years and the college continues to look for ways to further increase these numbers. Our teacher candidates have been directly affected in that the college has begun to include a study abroad experience in the package of financial support it gives to all incoming Teaching Fellows. As of August, 2007, 59 Teaching Fellows have benefited from this experience, some of them more than once. The [Diversity Council](#) was formed in January 2004 as a result of a recommendation from the President’s Diversity Task Force with the explicit charge of facilitating Meredith’s diversity initiatives with a special emphasis on increasing the diversity of our students, faculty and staff; researching, identifying and implementing diversity training opportunities for the Meredith community; identifying programs, services and facilities that will make Meredith a more welcoming environment; identifying diversity resources, and evaluating Meredith’s progress towards its diversity goals. The [Student Government Association](#) also maintains an active [Unity Council](#) which works to increase diversity education and awareness on campus through open forums and sponsored

programs. These initiatives have helped to increase the College's enrollment of diverse students from 12 percent in the fall of 2001 to 23 percent in the fall of 2006.

The Department of Education further supports this commitment to diversity, which is both explicitly and implicitly evident throughout our conceptual framework. First, culturally relevant and inclusive teaching is one of the six dimensions of quality teaching articulated in the framework. Furthermore, each of the dimensions includes understandings, practices, and dispositions related to diversity. Additionally, one of our professional expectations is a "respect for the diversity represented by the people with whom you are working." As noted above, these dispositions are monitored throughout the candidate's program. Our partner schools have been selected to help ensure that our candidates have broadly defined diverse experiences. Our initial teacher candidates must either successfully complete the full CORE sequence or take [SOC 335](#), *Race and Ethnic Relations*, as part of their required program of study. In addition to study abroad experiences, candidates can fulfill the intermediate CORE requirement by taking a section of EDU 232, *Foundations of American Education*, that is linked with [SOC 273](#), *Education and Family in Mexico*. At the graduate level, both EDU 620, *Education and Society*, and EDU 625, *Inclusion in the General Classroom*, have diversity as a primary focus. In addition, the entire ESL sequence addresses culturally and linguistically diverse students.

Commitment to Technology

Our commitment to technology is also evident across the college, within our Conceptual Framework, and throughout our programs. The Meredith College [Technology Initiative](#) began in 2001-02. This initiative provides laptops and technology training to all incoming first year students and a second laptop in their junior year that the students are then able to take with them when they graduate. Most of the campus is wireless. Technology continues to be a priority as evidenced in the college's [Vision 2010](#) plan. Demonstration of basic computer competencies has been added to the [General Education requirements](#) of the college and each department on campus is in the process of developing appropriate advanced competency requirements.

All teacher candidates, both initial and advanced, complete numerous technology-enhanced presentations and projects in their Education classes and nearly all Education classes use Blackboard to support instruction. In response to concerns raised by students during our last accreditation visit, EDU 241, *Introduction to Instructional Media*, was redesigned around the North Carolina Technology Standards, which are based on the [NETS-T technology standards](#). Additionally, teacher candidates are required to demonstrate technology use as well as complete an electronic portfolio during their internship. Most of our advanced licensure students take EDU 605, *Design and Evaluation of Instructional Materials*, and all use technology in a variety of course assignments.

Program Standard 1: Candidate Knowledge, Skills, and Dispositions

Candidates preparing to work in schools as teachers or other professional school personnel know and demonstrate the content, pedagogical, and professional knowledge, skills, and dispositions necessary to help all students learn. This includes working with families to support student learning. Assessments indicate that candidates meet the state-approved standards and indicators for all teachers (core standards, diversity standards, and technology standards) and state-approved standards and indicators for the specialty area.

Initial Licensure Programs

Teacher preparation at Meredith College is embedded in a liberal arts context; Meredith College undergraduate teacher candidates in mathematics education develop content knowledge as they fulfill general education requirements; major requirements in mathematics for a Bachelor of Arts or a Bachelor of Science degree; and, general professional education and methods courses. Licensure-only applicants submit transcripts, which are reviewed before admission, to ensure that programs of study are designed to include all necessary courses. All courses for initial preparation are aligned with state licensure standards as required by the State Board of Education.

General Education. All undergraduate students at Meredith College are required to complete Meredith's general education curriculum, entitled *Making Connections – Making a Difference*. The General Education program encourages students to develop a breadth of skills and knowledge for the 21st century, to serve their communities through civic engagement, and to become independent and lifelong learners. Students combine Core Curriculum courses and Fields of Knowledge courses to meet most academic criteria.

- **The Core Curriculum** (18-24 hours) includes the three culture-focused **CORE** courses, English composition, English literature, History, and Religion.
- **Fields of Knowledge** (32-46 hours) are comprised of: (1) Data Analysis, Abstract Reasoning, and Problem Solving – a mathematics course and an approved Quantitative elective; (2) World Cultures and Languages – demonstrated competency or 12 hours in a foreign language, an approved Literature elective, and an approved Cultural Perspectives elective; (3) Scientific Literacy – a lab science course, an approved Science in Society course, and a Social/Behavioral Science course; (4) Aesthetics and the Arts – three credits in art, dance, music, or theater; and (5) Health and Physical Learning – four to six credits in physical education or dance activity courses and a Health Education course.

1. Provide evidence that the candidates meet the core standards.

The 9-12 mathematics education program meets the Core Standards set for all teacher education programs in North Carolina. The program of study is designed to meet the current standards that have been specified by the national, state, and professional organizations that influence mathematics teaching, and follows the guidelines outlined for licensure programs in North Carolina. Teacher candidates in mathematics education have a broad knowledge of content and its relevance.

Evidence shows that the Meredith College mathematics education teacher candidates know and demonstrate the knowledge, skills, and dispositions necessary to help all students learn. Multiple assessments are used to evaluate these areas of competence in teacher candidates. Then, program completers are asked to reflect on their knowledge, skills, and dispositions as they move into the workforce and after having teaching experience. All general professional education and methods

courses are fully aligned with INTASC, as are our Professional Teaching Portfolio assessment and Teacher Candidate Evaluation Rubric (TCER), which is used to evaluate the student interns. Table 1.1 shows the alignment of the learning outcomes for all teacher candidates as assessed by the Teacher Candidate Evaluation Survey (TCER), the Conceptual Framework, the dispositions expected of all teacher education candidates, the Core, Diversity, and Technology Standards, and NCATE Standard 1.

Table 1.1 Alignment of TCER/INTASC Standards, Conceptual Framework, Dispositions, NCATE Standard 1, and North Carolina Core, Diversity & Technology Standards for Initial Licensure Candidates

Learning Outcomes: INTASC Standards (TCER) The teacher candidate...	Conceptual Framework	Dispositions	NCATE Standard 1 *	NC Core Standards for all teachers **	NC Core Diversity Standards	NC Core Technology Standards
1. Understands the central concepts, tools of inquiry, and structures of the discipline(s) she teaches and can create learning experiences that make these aspects of subject matter meaningful to students.	Understand content Practice connected pedagogy		CK, PCK	1	1	1, 6
2. Understands how children learn and develop, and creates learning opportunities to support their intellectual, social, and personal development.	Exhibit culturally relevant and inclusive teaching	Respect for people	PPKS	2, 4, 6	2	2
3. Understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to diverse learners.	Exhibit culturally relevant and inclusive teaching	Respect for diversity	PPKS, D	2, 3, 6	1, 2, 4	2, 3, 6
4. Understands and uses varied instructional strategies to encourage students' critical thinking, problem solving, and performance skills.	Practice connected pedagogy		PCK	2	1, 2	3
5. Uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation.	Practice connected pedagogy Exhibit culturally relevant and inclusive teaching	Respect for people Awareness in social interactions	PPKS, D	2,6	1	
6. Uses knowledge of effective verbal, non-verbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.	Exhibit culturally relevant and inclusive teaching	Awareness in social interactions	PPKS, D	2	1	1, 2, 3, 6
7. Understands the importance of instructional planning and designs instruction based upon knowledge of the discipline, students, the community, and curriculum goals.	Understand content Practice connected pedagogy		CK, PPKS	2, 3	2	2, 3

Learning Outcomes: INTASC Standards (TCER) The teacher candidate...	Conceptual Framework	Dispositions	NCATE Standard 1 *	NC Core Standards for all teachers **	NC Core Diversity Standards	NC Core Technology Standards
8. Understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner.	Utilize continuous assessment		PPKS, SL	2	1,2	4
9. Is a reflective practitioner who continually evaluates the effects of her choices and actions on others and who demonstrates a professional commitment to teaching.	Engage in reflective teaching	Awareness in social interactions Professional and ethical behaviors	PPKS, D	5	6	5
10. Fosters relationships with parents, school colleagues and agencies in the larger community to support students' learning and well being.	Demonstrate leadership	Respect for people Respect for diversity Awareness in social interactions Professional and ethical behaviors	PPKS, D	3, 4, 6	3,4, 5	5

* CK = Content Knowledge; PCK = Pedagogical Content Knowledge; PPKS = Professional and Pedagogical Knowledge and Skills; D = Dispositions; SL = Student Learning

** Standards text available in supporting documents

CORE Standards

Mathematics teachers have a broad knowledge of the content, its relevance, and how it relates to the overall curriculum. This broad knowledge is measured several times during the program.

All candidates in mathematics education are required to have the following to qualify for a North Carolina teaching license:

- PRAXIS II. All mathematics education teacher candidates in the mathematics licensure programs who have taken the PRAXIS II have had a pass rate of 100% since fall 2001.
- Acceptable Final Evaluations: All mathematics education teacher candidates receive satisfactory evaluations by their (a) cooperating teacher, (b) college supervisor, and (c) specialty area supervisor.
- A minimum of 2.5/4.0 grade point average in content (mathematics) and overall.

PRAXIS II - Students in Mathematics since 2001

Number of Students	Timeframe	PRAXIS II Average Scores	Average GPA
n = 15	2001 – 2007	Mathematics 9 – 12 (295)	In content – 3.27/4.0 Overall 3.37/4.0

All traditional undergraduate students at Meredith College are expected to show competence in foreign language, mathematics, foreign language, English, the social sciences, and the arts. In addition, students are expected to have experiences that permit them to demonstrate writing, technology, and understand and demonstrate ethical behavior. The teacher education program at Meredith College embraces the General Education program, and uses the competencies from General Education to ensure a globally competent teacher for the 21st century classroom.

Teacher education candidates in 9 – 12 mathematics are required to take a full major in mathematics, including the core curriculum of Calculus I, II, and III, Linear Algebra, and an Introduction to Mathematical Reasoning. Within the requirements and electives of upper-division coursework for the major in mathematics, all 9 – 12 mathematics licensure students take coursework in both Modern Abstract Algebra and Modern College Geometry, providing a foundation of algebraic structures and of axiomatic, deductive systems of mathematical thought. Licensure students take both the introductory Statistics I course and an upper-division course in Mathematical Probability and Statistics, providing the foundation for understanding the connections between descriptive statistics and exploratory data analysis as well as between probability and statistical inference. All mathematics licensure students complete a course in computer programming to introduce basic programming skills and logical structures in computing. This broad preparation ensures that candidates receive background in the major areas of (a) algebra, patterns, and functions; (b) geometry and measurement; and (c) data, probability, and statistics that will prepare them to teach in 9 – 12 mathematics.

In 2005 – 2006, the department set program goals that each major will be creative, capable, ethical and confident in applying mathematical reasoning and technology to solve problems. These goals, restated below, address the major process standards that 9 – 12 mathematics licensure candidates experience and will be able to emphasize in their future teaching.

A student who completes a degree in mathematics will:

- ◆ *Reason mathematically to construct logical arguments and solve problems*
- ◆ *Work collaboratively to solve problems*
- ◆ *Communicate mathematics both orally and in writing with precision and clarity*
- ◆ *Understand a branch of mathematics in depth*
- ◆ *Make connections within mathematics*
- ◆ *Use technology for conceptual understanding and significant computation*
- ◆ *Apply mathematics across disciplines (for Bachelor of Science majors only)*

Field experiences and clinical practice give students a variety of experiences in schools. As demonstrated in the field experiences table, mathematics teacher candidates have four basic experiences in the schools, and receive assignment of a cooperating teacher the semester before student teaching during methods. The opportunity to observe in their classroom the semester before offers mathematics education candidates the opportunity to learn the culture of the school, establish a relationship with the cooperating teacher, and work on unit plans during methods.

Licensure-only candidates in mathematics education demonstrate knowledge, skills, and dispositions the same as the traditional undergraduates. Though not required to take the General Education Core, expectations for demonstrating the competencies in technology and diversity are the same. Through the successful completion of the required sciences, SOC 335, Race and Ethnic Relations and EDU 241, Introduction to Instructional Media, plus EDU 232, Foundations of American Education and EDU 234, Educational Psychology, licensure-only teacher candidates are held to the same standards as traditional undergraduates. To date, there has been only one licensure-only candidate to complete the program in the last six years.

Core Standard 1: Candidates know the content they teach

The following table illustrates the knowledge base of mathematics education candidates. For admission to the teacher education program, candidates must have a content area and overall GPA of 2.5, acceptable scores on PRAXIS I, an acceptable essay outlining experiences with diverse populations, and acceptable recommendation letters. If a candidate's overall GPA or content GPA falls below the 2.5, they must retake courses or take additional courses in content. Candidates complete unit and daily lesson plans in methods and during the student internship. During the student internship, lesson plans are submitted weekly for assessment and input. All lesson plans are to indicate how differentiation is to take place in the classroom.

***Denotes Student Teacher Evaluation Instrument used academic years fall 2001-spring 2006**

Core Standard 1: Candidates know the content they teach		
Indicator 1.1: Candidates have a broad knowledge of content.		
Indicator 1.2: Candidates know the content appropriate to their teaching specialty		
Indicator 1.3: Candidates understand the ways in which their teaching area connects to the broad curriculum		
Indicator 1.4: Candidates know relevant applications of the content they teach		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
Student Teacher Final Evaluations*, Standard 1 (Content Pedagogy) TCER Standard 1 Content Pedagogy	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 3.55/5.0 100% acceptable or above
	2004-2005	(n = 2) 3.58/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.67/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.17/4.0 100% acceptable or above
Overall GPA, Student interns	2002-2006	3.37/4.0
GPA in Content Area of Student Interns	2001-2002 2002-2003 2003-2004 2004-2005 2005-2006 2006-2007	2.87/4.0 (3 interns) 4.0/4.0 (1 intern) 3.58/4.0 (4 interns) 3.22/4.0 (2 interns) 3.43/4.0 (2 interns) 2.80/4.0 (2 interns)
PRAXIS II Scores of student interns (if applicable)	2001-2002	281 Average (n=3)
	2002-2004	297 Average (n=5)
	2005-2007	306 Average (n=4)
NCTM Standards Project from MAT 764—Teaching Middle/Secondary Mathematics (Sample evidence located online)	2002 – 2007	100% pass rate with B or better

Core Standard 2: Candidates know to teach students

Pedagogy is a major focus of the mathematics education program, and the evidence shows that teacher candidates in the program know how to teach students. A number of courses focus on pedagogy including EDU 234, Educational Psychology that focuses on the intellectual, physical, social, and emotional development of the students they plan to teach. Field experiences in educational psychology focus on the knowledge of the learner. EDU 241, Introduction of Instructional Media assists students in identifying appropriate technology for inclusion in the classroom, and MAT 764, Teaching Middle/Secondary Grades Mathematics and EDU 490, Observation and Directed Teaching allow students to demonstrate knowledge of instructional and assessment strategies.

Core Standard 2: Candidates know how to teach students		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % at acceptable or above
Indicator 2.1: Candidates know the ways in which learning takes place, and they know the appropriate levels of intellectual, physical, social, and emotional development of the students they teach.		
Indicator 2.2: Candidates use a variety of methods to teach students.		
Indicator 2.3: Candidates are expert communicators.		
Indicator 2.4: Candidates are able to use communication skills to circumvent or manage conflict as it arises in the classroom.		
Indicator 2.5: Candidates have strong and current technology skills.		
Indicator 2.6: Candidates plan instruction that is appropriate for the students they teach.		
Indicator 2.7: Candidates use a variety of methods to assess what students have learned.		
Indicator 2.8: Candidates teach communication, thinking, and problem solving skills.		
Indicator 2.9: Candidates help students develop skills of teamwork, leadership, and cooperation in their classrooms and schools. They understand the importance of building a positive classroom climate through emphasizing constructive communication.		
Indicator 2.10: Candidates instill a love of learning and self-confidence based on achievement.		
Indicator 2.11: Candidates align their instruction with the required curriculum.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % at acceptable or above
Grades in methods class(es) (i.e.)	2001-2002	3.0/4.0 100% passing
	2002-2003	3.5/4.0 100% passing
	2003-2004	4.0/4.0 100% passing
	2004-2005	4.0/4.0 100% passing
	2005-2006	4.0/4.0 100% passing
	2006-2007	3.5/4.0 100% passing
	Grades in EDU 241, Introduction to Instructional Media	2004-2005
2005-2007		100% "A" grade—letter grades only
Student Teacher Final Evaluations*, Standard 1 (Content Pedagogy)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 3.55/5.0 100% acceptable or above
	2004-2005	(n = 2) 3.58/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.67/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.17/4.0 100% acceptable or above
TCER Standard 1 Content Pedagogy		
	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 3.55/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.67/5.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 2 (Student Development)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 3.55/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.67/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above
TCER Standard 2, Student Development		

Core Standard 2: Candidates know how to teach students		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % at acceptable or above
Student Teacher Final Evaluations* Standard 3 (Diverse Learners) TCER Standard 3, Diverse Learners	2001-2002	(n = 3) 4.11/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.67/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.17/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.00/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.17/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 4 (Instructional Strategies) TCER Standard 4, Instructional Strategies	2001-2002	(n = 3) 4.11/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.67/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.00/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.00/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 5 (Management & Motivation) TCER Standard 5, Management & Motivation	2001-2002	(n = 3) 3.67/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 3.92/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.33/5.0 100% acceptable or above
	2006-2007	(n = 2) 2.83/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 6 (Communication) TCER Standard 6, Communication & Media	2001-2002	(n = 3) 4.11/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.18/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.83/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 7 (Planning) TCER Standard 7, Planning	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 3.86/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.17/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.33/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 8 (Assessment) TCER Standard 8, Assessment	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.67/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.18/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.20/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.67/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above
E Portfolio--Portfolio at a Glance (total grid):	2004-2005	100% acceptable or above
	2005-2006	100% acceptable or above
	2006-2007	100% acceptable or above
Final Unit Plans from MAT 764—Teaching Middle/Secondary Mathematics: (Sample evidence located online)	2002-2007	100% passing with B or A grade

Core Standard 3: Candidates are successful at teaching a diverse population of students.

Teacher education candidates in mathematics create classroom environments that value diversity and address the needs of all students. Teacher candidates develop an understanding of the complexity of supporting all learners by working in classroom settings with students whose cultures and ways of viewing the world are different from their own; exhibiting behaviors that demonstrate value those differences; creating environments where diversity is appreciated; and, working with others to bring about lasting changes in the attitudes and dispositions of others.

Evidence presented in the professional portfolios, final evaluations, and lesson plans show that students are conscious of the importance of developing strategies for teaching in diverse settings.

Core Standard 3: Candidates are successful at teaching a diverse population of students.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % at acceptable or above
Indicator 3.1: Candidates demonstrate their belief that diversity in the classroom, in the school, and in the society is a strength.		
Indicator 3.2: Candidates treat students as individuals.		
Indicator 3.3: Candidates know and respect the influence of race, ethnicity, gender, religion and other aspects of culture on a child's development and personality. They understand how an individual's belief system affects behavior.		
Indicator 3.4: Candidates adapt their teaching for the benefit of students with special needs.		
Indicator 3.5: Candidates work collaboratively with the families and significant adults in the lives of their students.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % at acceptable or above
Grades in methods class	2002-2007	100% pass rate with B or A
Grades in Core 100, Context of Culture	2004-2007	100% passing (N = 1, 4.0/4.0)
Grades in EDU 232, Foundations of American Education and Grades in EDU 232 + SOC 273 Link	2002-2007 2005-2007	100% passing with B or A (3.64/4.0 GPA) Not applicable
Grades in EDU 234, Educational Psychology	2002-2007	100% passing with C or better (3.21/4.0 GPA)
Grades in SOC 335, Race and Ethnic Relations	2002-2007	100% passing with C or better (3.57/4.0 GPA)
Grades in EDU 345, Language Minorities in K-12 Classrooms	2005-2007	Not Applicable for completers in this time period
Student Teacher Final Evaluations* Standard 2 (Student Development)	2001-2002 2002-2003 2003-2004 2004-2005 2005-2006 2006-2007	(n = 3) 3.89/5.0 100% acceptable or above (n = 1) 5.00/5.0 100% acceptable or above (n = 4) 3.55/5.0 100% acceptable or above (n = 2) 4.33/5.0 100% acceptable or above (n = 2) 3.67/5.0 100% acceptable or above (n = 2) 3.00/4.0 100% acceptable or above
TCER Standard 2, Student Development		
Student Teacher Final Evaluations* Standard 3 (Diverse Learners)	2001-2002 2002-2003 2003-2004 2004-2005 2005-2006 2006-2007	(n = 3) 4.11/5.0 100% acceptable or above (n = 1) 4.67/5.0 100% acceptable or above (n = 4) 4.00/5.0 100% acceptable or above (n = 2) 4.17/5.0 100% acceptable or above (n = 2) 4.00/5.0 100% acceptable or above (n = 2) 3.17/4.0 100% acceptable or above
TCER Standard 3, Diverse Learners		
Student Teacher Final Evaluations* Standard 7 (Planning)	2001-2002 2002-2003 2003-2004	(n = 3) 3.89/5.0 100% acceptable or above (n = 1) 5.00/5.0 100% acceptable or above (n = 4) 3.86/5.0 100% acceptable or above

Core Standard 3: Candidates are successful at teaching a diverse population of students.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % at acceptable or above
TCER Standard 7, Planning	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.17/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.33/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 11 (Collaborative Relationships)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 5.00/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.50/5.0 100% acceptable or above
TCER Standard 10, School & Community Involvement	2006-2007	(n = 2) 3.25/4.0 100% acceptable or above
E Portfolio--Portfolio at a Glance (total grid): (Sample evidence located online)	2004-2005	100% acceptable or above
	2005-2006	100% acceptable or above
	2006-2007	100% acceptable or above

Core Standard 4: Candidates are leaders.

Meredith College stresses the development of women leaders, and it is natural that the Conceptual Framework of the teacher education program emphasizes that its teacher candidates demonstrate those qualities necessary for them to be teacher leaders. The teacher education program at Meredith College expects its students to collaborate with colleagues, participate in and forge community school partnerships, and structure their classrooms as communities of learners. In addition, the teacher education program accumulates data on program completers who are asked to report on their leadership in their current positions.

Core Standard 4: Candidates are leaders		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % at acceptable or above
Indicator 4.1: Candidates lead in their classes.		
Indicator 4.2: Candidates lead in the school.		
Indicator 4.3: Candidates lead in advocating for school and children.		
Indicator 4.4: Candidates function effectively in complex, dynamic environments.		
Indicator 4.5: Candidates meet high ethical standards.		
Indicator 5.5: Candidates support the teaching profession.		
Student Teacher Final Evaluations* Standard 2 (Student Development)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 3.55/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.67/5.0 100% acceptable or above
TCER Standard 2, Student Development	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 10 (Reflective Practice)	2001-2002	(n = 3) 4.22/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.18/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.17/5.0 100% acceptable or above
TCER Standard 9, Reflective Practice	2006-2007	(n = 2) 3.17/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 11 (Collaborative Relationships)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 5.00/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.50/5.0 100% acceptable or above
TCER Standard 10, School & Community Involvement	2006-2007	(n = 2) 3.25/4.0 100% acceptable or above
EDU 467, Secondary School, Students' Philosophy on Teaching (Student teachers' philosophy of teaching is a part of the electronic portfolio and samples can be seen online)	2001-2007	100% acceptable or above

Core Standard 5: Candidates are reflective about their practice.

Teacher candidates in mathematics education are reflective in practice. In being reflective, they are open about what they do, implement instructional strategies that demonstrate best practices, reflect on why what they do works, and ask for feedback on what works and what doesn't. Analysis of data shows that all candidates were at or above standard in all assessed areas.

Core Standard 5: Candidates are reflective about their practice.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % at acceptable or above
Indicator 5.1: Candidates analyze the results of teaching.		
Indicator 5.2: Candidates collaborate with their colleagues.		
Indicator 5.3: Candidates use research in their classrooms.		
Indicator 5.4: Candidates continue to grow professionally.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % at acceptable or above
Grades in EDU 490, Observation and Directed Teaching	2001-2007	(n= 14) 100% Pass rate
EDU 440, Seminar – Sample <u>Student Journal Reflections</u>	2001-2007	100% pass rate
Student Teacher Final Evaluations* Standard 10 (Reflective Practice)	2001-2002	(n = 3) 4.22/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.18/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.17/5.0 100% acceptable or above
TCER Standard 9, Reflective Practice	2006-2007	(n = 2) 3.17/4.0 100% acceptable or above
First Year Program Completers Survey	2005 2006	Self-report data: 2 secondary mathematics responded to survey and reported being well-prepared for reflective practice
E Portfolio--Portfolio at a Glance (total grid): (Sample evidence online)	2004-2005	100% acceptable or above
	2005-2006	100% acceptable or above
	2006-2007	100% acceptable or above

Core Standard 6: Candidates respect and care about students.

Evidence shows that teacher candidates in science education communicate, care, and enthusiastically present active learning opportunities for all students. Through a variety of field experiences and clinical practice, teacher candidates demonstrate mastery of student relationship skills by observing and assisting in classrooms, tutoring diverse students, and designing and implementing multiple strategies in teaching.

Core Standard 6: Candidates respect and care about students.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % at acceptable or above
Indicator 6.1: Candidates enjoy spending time in the company of children and young adults.		
Indicator 6.2: Candidates learn all they can about each of their students.		
Indicator 6.3: Candidates maintain the dignity of each student.		
Indicator 6.4: Candidates express pride in their students' accomplishments.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % at acceptable or above
Grades in EDU 232, Foundations of American Education and	2002-2007	100% pass rate with B or A
Grades in EDU 232 + SOC 273 Link	2005-2007	Not applicable
Grades in EDU 234 – Educational Psychology	2002-2007	100% pass rate with C or better
Grades in SOC 335 – Race and Ethnic Relations	2002-2007	100% pass rate with C or better
EDU 440, Seminar – <u>Sample Student Journal Reflections</u>	2001-2007	Individual sample evidence
Student Teacher Final Evaluations* Standard 2 (Student Development)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 3.55/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.67/5.0 100% acceptable or above
TCER Standard 2, Student Development	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 3 (Diverse Learners)	2001-2002	(n = 3) 4.11/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.67/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.17/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.00/5.0 100% acceptable or above
TCER Standard 3, Diverse Learners	2006-2007	(n = 2) 3.17/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 5 (Management & Motivation)	2001-2002	(n = 3) 3.67/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 3.92/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.33/5.0 100% acceptable or above
TCER Standard 5, Management & Motivation	2006-2007	(n = 2) 2.83/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 11 (Collaborative Relationships)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 5.00/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.50/5.0 100% acceptable or above
TCER Standard 10, School & Community Involvement	2006-2007	(n = 2) 3.25/4.0 100% acceptable or above
Grades in EDU 490, Observation and Directed Teaching	2001-2007	(n=14) 100% Pass rate

Links for Core Standards	
Digital Locker in Xythos	
Sample E-portfolio 2005: Paige Avery **Portfolio-at-a-Glance Standards Grid	Methods Course NCTM Standards Project: Fall 2004 Class Standards Project Fall 2005 Class Standards Project Fall 2006 Individual Standards Project
Sample E-Portfolio 2006: Megan Shore **Portfolio-at-a-Glance Standards Grid	Methods Course Final Unit Plans: Sample from Fall 2004 Sample 1 from Fall 2005 Sample 2 from Fall 2005 Sample from Fall 2006
Sample E-Portfolio 2007: Kenya Lawrence **Portfolio-at-a-Glance Standards Grid	MAT 764 Course syllabus

Diversity Standards

Meredith College a community where people are encouraged to express their individuality. The community recognizes the benefit of providing an environment that affirms difference as we promote lives of thoughtful inquiry and service, and our commitment to “educate women to excel” impels us to create a diverse climate that assures equity, moves beyond tolerance, and fosters community. At Meredith College, we work to build inclusiveness by promoting a climate of understanding and trust for learning, living, and growing. To that end, the teacher education program has laid out the following dispositions for its candidates:

All teacher candidates at Meredith College are expected to evidence the following:

- A respect for the diversity represented by the people with whom you are working. This involves demonstrating attitudes and behaviors that indicate fairness and sensitivity to and openness to other cultures and ideas; and,
- An awareness of the significance of the individual’s role in social interactions. This involves developing an awareness of how to communicate effectively and an understanding of how your manner of communication affects others.

The same commitment is reflected in the Conceptual Framework -

- Teacher candidates recognize that they participate in a diverse global community and maintain high expectations for all students. In making instructional decisions, they consider the needs of all students and are inclusive of every student. They practice culturally relevant teaching, are open to cultures and ideas other than their own, and affirm the cultural diversity that their students bring to their classrooms. They know how to modify instruction to support the unique learning needs of each student and provide a relevant and rigorous education to all students.

And, in its Mission –

- The mission of the Department of Education is to prepare educators with the knowledge, skills and values to teach all students. With a foundation in the liberal arts, Meredith College students are transformed by a rigorous education that fosters leadership, promotes reflective practice and cultivates passion for learning and the art of teaching. We develop teachers who embrace their significant role in a diverse society.

Diversity Standard 1: Candidates understand the central concepts, tools of inquiry, and structures of the discipline(s) they teach and can create classroom environments and learning experiences that make these aspects of subject matter accessible, meaningful and culturally relevant for diverse learners.

Teacher candidates in mathematics education understand that mathematics is understood and learned from symbolic, visual, concrete and numerical perspectives. Candidates understand that diverse learners bring to the classroom a multitude of experiences (cultural and non-cultural) that impact the ways in which students understand and learn mathematics. Methods coursework focuses on the role of multiple representations of concepts and attention to diverse learners.

***Denotes Student Teacher Evaluation Instrument used academic years fall 2001-spring 2006**

Diversity Standard 1: Candidates understand the central concepts, tools of inquiry, and structures of the discipline(s) they teach and can create classroom environments and learning experiences that make these aspects of subject matter accessible, meaningful and culturally relevant for diverse learners.		
Assessments (Knowledge, Skills, Dispositions)	Timeframe	Findings: % acceptable or above
Indicator 1.1: Candidates evaluate and incorporate unbiased instructional materials.		
Indicator 1.2: Candidates use multiple strategies to address the needs of individual learners.		
Indicator 1.3: Candidates create a safe, inclusive and caring environment in which all students can learn.		
Indicator 1.4: Candidates understand and utilize anger management and conflict resolution strategies as appropriate in the classroom.		
Indicator 1.5: Candidates use a variety of assessment procedures/instruments.		
Assessments (Knowledge, Skills, Dispositions)	Timeframe	Findings: % acceptable or above
Lesson Plans— E Portfolio--Portfolio at a Glance (total grid):	2006-2007	100% acceptable or above
Student Teacher Final Evaluations*, Standard 1 (Content Pedagogy)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 3.55/5.0 100% acceptable or above
	2004-2005	(n = 2) 3.58/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.67/5.0 100% acceptable or above
TCER Standard 1 Content Pedagogy	2006-2007	(n = 2) 3.17/4.0 100% acceptable or above
Student Teacher Final Evaluations*Standard 3 (Diverse Learners)	2001-2002	(n = 3) 4.11/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.67/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.17/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.00/5.0 100% acceptable or above
TCER Standard 3, Diverse Learners	2006-2007	(n = 2) 3.17/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 4 (Instructional Strategies)	2001-2002	(n = 3) 4.11/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.67/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.00/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.00/5.0 100% acceptable or above
TCER Standard 4, Instructional Strategies	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 5 (Motivation & Management)	2001-2002	(n = 3) 3.67/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 3.92/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.33/5.0 100% acceptable or above

Diversity Standard 1: Candidates understand the central concepts, tools of inquiry, and structures of the discipline(s) they teach and can create classroom environments and learning experiences that make these aspects of subject matter accessible, meaningful and culturally relevant for diverse learners.		
Assessments (Knowledge, Skills, Dispositions)	Timeframe	Findings: % acceptable or above
TCER Standard 5, Motivation and Management	2006-2007	(n = 2) 2.83/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 6 (Communication Skills)	2001-2002	(n = 3) 4.11/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.18/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.83/5.0 100% acceptable or above
TCER Standard 6, Communication Skills	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 8 (Assessment)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.67/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.18/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.20/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.67/5.0 100% acceptable or above
TCER Standard 8, Assessment	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above

Diversity Standard 2: Candidates understand how students’ cognitive, physical, socio-cultural, linguistic, emotional, and moral development influences learning and address these factors when making instructional decisions.

Secondary mathematics teacher candidates demonstrate an understanding of how students learn, construct knowledge, and develop, including students with special needs. They design and provide learning experiences that support the intellectual, social, and personal development of all students. Teacher candidates value students’ existing background by linking new learning with prior experiences, and build new background knowledge when appropriate. Analysis of the data presented shows that all candidates are at or above average in this area.

Diversity Standard 2: Candidates understand how students’ cognitive, physical, socio-cultural, linguistic, emotional, and moral development influences learning and address these factors when making instructional decisions.		
Assessments (Knowledge, Skills, Dispositions)	Timeframe	Findings: % acceptable or above
Indicator 2.1: Candidates seek and apply good matches among instructional goals, methods, and materials, and students’ skills and abilities.		
Indicator 2.2: Candidates assist students in developing multiple learning strategies to address discipline specific content, communication, critical thinking, and problem solving skills.		
Indicator 2.3: Candidates modify instruction and assessment to meet the needs of individual student.		
Assessments (Knowledge, Skills, Dispositions)	Timeframe	Findings: % acceptable or above
Lesson Plans on E-portfolios: E Portfolio--Portfolio at a Glance (total grid)	2006-2007	100% students include differentiation in lesson plans
Student Teacher Final Evaluations*Standard 2 (Student Learning & Development)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 3.55/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.67/5.0 100% acceptable or above
TCER Standard 2, Student Development	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 9 (Respectful Environment)	2001-2002	(n = 3) 4.44/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.55/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.83/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.67/5.0 100% acceptable or above
TCER Standard 3, Diverse Learners	2006-2007	(n = 2) 3.17/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 4 (Instructional Strategies)	2001-2002	(n = 3) 4.11/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.67/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.00/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.00/5.0 100% acceptable or above
TCER Standard 4, Instructional Strategies	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above

Diversity Standard 2: Candidates understand how students' cognitive, physical, socio-cultural, linguistic, emotional, and moral development influences learning and address these factors when making instructional decisions.		
Assessments (Knowledge, Skills, Dispositions)	Timeframe	Findings: % acceptable or above
Student Teacher Final Evaluations* Standard 7 (Planning) TCER Standard 7, Planning	2001-2002 2002-2003 2003-2004 2004-2005 2005-2006 2006-2007	(n = 3) 3.89/5.0 100% acceptable or above (n = 1) 5.00/5.0 100% acceptable or above (n = 4) 3.86/5.0 100% acceptable or above (n = 2) 4.33/5.0 100% acceptable or above (n = 2) 4.17/5.0 100% acceptable or above (n = 2) 3.33/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 8 (Assessment) TCER Standard 8, Assessment	2001-2002 2002-2003 2003-2004 2004-2005 2005-2006 2006-2007	(n = 3) 3.89/5.0 100% acceptable or above (n = 1) 4.67/5.0 100% acceptable or above (n = 4) 4.18/5.0 100% acceptable or above (n = 2) 4.20/5.0 100% acceptable or above (n = 2) 3.67/5.0 100% acceptable or above (n = 2) 3.00/4.0 100% acceptable or above
E Portfolio Portfolio at a Glance (INTASC Standard 3)	2005-2006 2006-2007	100% acceptable or above 100% acceptable or above
Grades in SOC 335, EDU 345, PSY 312	2001-2002 2002-2003 2003-2004 2004-2005 2005-2006 2006-2007	100% passing with C or better in all 3 100% passing with C or better in all 3 100% passing with C or better in all 3 100% passing with C or better in all 3 100% passing with C or better in all 3 100% passing with C or better in all 3

Diversity Standard 3: Candidates work collaboratively to develop linkages with parents/caretakers, school colleagues, community members and agencies that enhance the educational experiences and well being of diverse learners.

Teacher candidates in the mathematics education program at Meredith College recognize how stereotypes and one’s own personal biases limit effective teaching, and exhibit behaviors that are inclusive and equitable. They model consciously an appreciation of all students and expect their students to model the same behavior. Teacher candidates understand schools as organizations within a larger community context and that this context can affect students at school. They establish cooperative partnerships with parents/guardians, faculty and staff that support student learning. Analysis of the data presented shows that all candidates are at or above average in this area.

Diversity Standard 3: Candidates work collaboratively to develop linkages with parents/caretakers, school colleagues, community members and agencies that enhance the educational experiences and well being of diverse learners.		
Assessments (Knowledge, Skills, Dispositions)	Timeframe	Findings: % acceptable or above
Indicator 3.1: Candidates develop strategies to communicate with the families of their students, help them understand and value the educational process and encourage their participation in a variety of school activities.		
Indicator 3.2: Candidates recognize and value the family’s role in education and offer them suggestions on how to help their children complete school-related tasks.		
Indicator 3.3: Candidates make links with the learners’ other environments on behalf of students, by working with in-school personnel, and community professionals and agencies.		
Indicator 3.4: Candidates talk with and listen to the student, are sensitive and responsive to clues of distress or conflict, investigate situations, and seek outside help as needed and appropriate to remedy problems.		
Assessments (Knowledge, Skills, Dispositions)	Timeframe	Findings: % acceptable or above
Case study, EDU 466 – Preadolescent/Adolescent Behavior	2005-2007	
E Portfolio—Portfolio at a Glance (INTASC Standard 3 + ISTE Standard 6):	2005-2006 2006-2007	100% acceptable or above
Student Teacher Final Evaluations* Standard 11 (Collaborative Relationships)	2001-2002 2002-2003 2003-2004 2004-2005 2005-2006	(n = 3) 3.89/5.0 100% acceptable or above (n = 1) 4.00/5.0 100% acceptable or above (n = 4) 4.00/5.0 100% acceptable or above (n = 2) 5.00/5.0 100% acceptable or above (n = 2) 4.50/5.0 100% acceptable or above
TCER Standard 10, School & Community Involvement	2006-2007	(n = 2) 3.25/4.0 100% acceptable or above

Diversity Standard 4: Candidates acknowledge and understand that diversity exists in society and utilize this diversity to strengthen the classroom environment to meet the needs of individual learners.

Traditional undergraduates in the teacher education program have completed the [CORE General Education](#) program, and those in the secondary mathematics program have completed other courses focusing on diverse populations. The purpose of all the courses at Meredith College that address diversity and multiculturalism is to develop the knowledge, skills, and dispositions to work within the global community. The teacher education program supports the CORE General Education program and other courses on diverse populations by ensuring that teacher candidates are placed in diverse settings for field and clinical practice. Analysis of the data presented shows that all candidates are at or above average in this area.

Diversity Standard 4: Candidates acknowledge and understand that diversity exists in society and utilize this diversity to strengthen the classroom environment to meet the needs of individual learners.		
Assessments (Knowledge, Skills, Dispositions)	Timeframe	Findings: % acceptable or above
Indicator 4.1: Candidates become knowledgeable of diverse cultures and encourage families to share the richness of their backgrounds.		
Indicator 4.2: Candidates provide opportunities for students and their families to share their diversities.		
Indicator 4.3: Candidates promote appreciation and respect for diversity by rejecting the use of stereotypes.		
Indicator 4.4: Candidates provide P-12 students with the skills necessary for evaluating their beliefs, attitudes, and behaviors to enable them to understand how their attitudes affect their behaviors.		
Assessments (Knowledge, Skills, Dispositions)	Timeframe	Findings: % acceptable or above
Grades in CORE 100	2004-2005 2005-2006 2006-2007	Not applicable Not applicable 4.0/4.0 (N=1) 100% acceptable or above
Sample "Admission Essay" with rubric	2002-2007	
Sample EPG Projects from EDU 232, Foundations of American Education	2001-2007	
Grades, EDU 232, Foundations from Amer. Edu.	2001-2002 2002-2003 2003-2004 2004-2005 2005-2006 2006-2007	100% with B or A 100% with B or A 100% with B or A 100% with B or A 100% with B or A 100% with B or A
Grades in SOC 335, Race & Ethnic Relations	2001-2002 2002-2003 2003-2004 2004-2005 2005-2006 2006-2007	100% pass rate with C or better 100% pass rate with C or better 100% pass rate with C or better 100% pass rate with C or better 100% pass rate with C or better 100% pass rate with C or better
Grades in PSY 312, Psy. of Excep. Indiv.	2001-2002 2002-2003 2003-2004 2004-2005 2005-2006 2006-2007	100% pass rate with C or better 100% pass rate with C or better 100% pass rate with C or better 100% pass rate with C or better 100% pass rate with C or better 100% pass rate with C or better
Student Teacher Final Evaluations* Standard 3 (Diverse Learners)	2001-2002 2002-2003	(n = 3) 4.11/5.0 100% acceptable or above (n = 1) 4.67/5.0 100% acceptable or above

Diversity Standard 4: Candidates acknowledge and understand that diversity exists in society and utilize this diversity to strengthen the classroom environment to meet the needs of individual learners.		
Assessments (Knowledge, Skills, Dispositions)	Timeframe	Findings: % acceptable or above
TCER Standard 3, Diverse Learners	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.17/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.00/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.17/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 11 (Collaborative Relationships)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 5.00/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.50/5.0 100% acceptable or above
TCER Standard 10, School & Community Involvement	2006-2007	(n = 2) 3.25/4.0 100% acceptable or above
E Portfolio—Portfolio at a Glance (online) (INTASC Standard 3 + ISTE Standard 6):	2005-2007	100% pass rate acceptable or above

Diversity Standard 5: Candidates who teach diverse students demonstrate leadership by contributing to the growth and development of their colleagues, their school and the advancement of educational equity.

Teacher candidates in the secondary mathematics program at Meredith demonstrate leadership by contributing to the development of their peers, becoming involved in community partnerships in their schools, and promoting and fostering respect among all students. Analysis of the data presented shows that all candidates are at or above average in this area.

Diversity Standard 5: Candidates who teach diverse students demonstrate leadership by contributing to the growth and development of their colleagues, their school and the advancement of educational equity.		
Indicator 5.1: Candidates become strong advocates for educational equity.		
Indicator 5.2: Candidates continually refine practices that address the individual needs of diverse learners.		
Indicator 5.3: Candidates are proactive and deliberate in promoting and fostering respect among students.		
Assessments (Knowledge, Skills, Dispositions)	Timeframe	Findings: % acceptable or above
Lesson Plans found in electronic portfolios online: E Portfolio--Portfolio at a Glance (total grid)	2006-2007	100% student interns include differentiation plans in lesson plans
Student Teacher Final Evaluations* Standard 11 (Collaborative Relationships)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 5.00/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.50/5.0 100% acceptable or above
TCER Standard 10, School & Community Involvement	2006-2007	(n = 2) 3.25/4.0 100% acceptable or above

Diversity Standard 6: Candidates of diverse students are reflective practitioners who are committed to educational equity.

Teacher candidates in mathematics education reflect on practice, and are committed to educational equity. As demonstrated by EPG Projects completed in EDU 232, Foundations in American Education, final evaluations, and professional portfolios, teacher candidates recognize the importance of providing equal access to all students in their classroom and school. Analysis of the data presented shows that all candidates are at or above average in this area.

Diversity Standard 6: Candidates of diverse students are reflective practitioners who are committed to educational equity.		
Indicator 6.1: Candidates identify own biases and reflect on them in terms of practice.		
Indicator 6.2: Candidates provide equity and access to learning in classroom.		
Assessments (Knowledge, Skills, Dispositions)	Timeframe	Findings: % acceptable or above
Sample EPG Projects from EDU 232, Foundations of American Education	2001-2007	
Grades in EDU 232, Foundations of American Education and	2002-2007	100% passing with B or A (3.64/4.0 GPA)
Grades in EDU 232 + SOC 273 Link	2005-2007	Not applicable
Student Teacher Evaluations* Standard 10 (Reflective Practice)	2001-2002	(n = 3) 4.22/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.18/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.17/5.0 100% acceptable or above
TCER Standard 9 (Reflective Practice)	2006-2007	(n = 2) 3.17/4.0 100% acceptable or above
E Portfolio--Portfolio at a Glance (total grid) online	2005-2007	100% acceptable or above

Links for Diversity Standards	
Digital Locker in Xythos	
Sample E-portfolio 2005: Paige Avery **Portfolio-at-a-Glance Standards Grid	Specific example of differentiation in lesson plans: Reading in Content Area Unit Plan (Lawrence—2007)
Sample E-Portfolio 2006: Megan Shore **Portfolio-at-a-Glance Standards Grid	Specific example of case study: Case study of student in internship (Shore—2006)
Sample E-Portfolio 2007: Kenya Lawrence **Portfolio-at-a-Glance Standards Grid	Specific example of grading rubric: Functions Unit Plan (Shore—2006)
	Specific example of technology lesson: Fractals in RCA Unit Plan (Lawrence—2007)

Technology Standards

Secondary (mathematics) teacher candidates demonstrate a sound understanding of technology operations and concepts. Portfolios have been used by the Department of Education to assess student competence in technology since 1996. The original technology portfolios were paper copies. This seems ironic now in that programs were looking at and assessing technology competence by evaluating paper in notebooks.

However, since that time, Meredith College has moved into the 21st century with a [laptop initiative](#), and the Department of Education moved into the direction of E-Portfolios on compact discs, and during Fall 2006, offered students the option of uploading their portfolio online, into Digital Lockers on Xythos, a server space with management and tracking capabilities.

In response to our last accreditation visit in the fall 2001, a new course, EDU 241, Introduction to Instructional Media, was designed and offered to teacher candidates beginning in the summer 2004. The course is designed for students to apply their knowledge of technology, designing scavenger hunts on ethics, evaluating software for their area of licensure, using different assessment tools offered, evaluating webpages for use in a diverse classroom, and creating lessons to encourage higher order thinking in students. Some of the products designed in EDU 241 are used in their methods classes and during their internship, and the skills are definitely used throughout the program.

The E-Portfolio with the Portfolio-at-a-Glance is used to assess candidate performance in the areas delineated in the core technology standards and the technology standards throughout the individual specialty area standards. The Portfolio-at-a-Glance grid of the portfolio is assessed for completion at the midterm during the internship semester. This gives student interns an opportunity to use some of their projects in their classrooms, and assess their effectiveness. The final completion of the E-Portfolio is assessed at the conclusion of the internship. Any deficiencies found at midterm are to be corrected by the final completion of the portfolio.

The E-Portfolios have been an option for student interns since Fall 2004; however, the greatest number of E-Portfolios was assessed in Spring 2005. The students continued to have the option of submitting paper; however, none have been completed via paper since Spring 2005. The following tables illustrate how candidate knowledge, and dispositions in technology are measured.

Technology Standard 1: Teachers demonstrate a sound understanding of technology operations and concepts.

In secondary mathematics education, technology is an important component of the program and standard of competency. Mathematics is understood in multiple representations (tabular, graphical, verbal, symbolic) and much of school mathematics can be learned via exploration of these multiple representations. Teacher candidates completing a mathematics education program in the 21st century need to understand what technologies are available for mathematics teaching and learning, and how those tools can be used effectively to promote conceptual understanding and computational efficiency. Many times, newly licensed teachers in mathematics are called upon to serve as technology leaders and even agents of change within the schools where they teach. Understanding the role of, value of, and limitations of emergent technologies for teaching is imperative and it is incumbent upon mathematics education programs to address throughout the teacher candidates' preparation for teaching.

In secondary mathematics education, teacher candidates have had a wide range of experience with content-specific technologies such as graphing calculators, dynamic geometry software, statistical application software, data collection probes, and computer algebra systems. In addition, secondary mathematics education candidates developed and submitted most of their methods coursework via HTML online through a server system; this server space was hosted remotely from years 2002 – 2005 at the instructor's previous institution. Teacher candidates in mathematics completed E-Portfolios online since Spring 2004 on the remote server as well as E-Portfolios on compact discs. The Fall 2006 methods course did not put methods coursework online in 2006 as we transitioned to the Xythos-based server space, Digital Locker, described above; however, the 2005 – 2007 graduates did complete their E-Portfolios on Digital Locker.

***Denotes Student Teacher Evaluation Instrument used academic years fall 2001-spring 2006**

Technology Standard 1: Teachers demonstrate a sound understanding of technology operations and concepts.		
Indicator 1.1: Teachers demonstrate introductory knowledge, skills, and understanding of concepts related to technology (as described in the ISTE National Education Technology Standards for Students).		
Indicator 1.2: Teachers demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
E-Portfolio—Portfolio at a Glance (total grid): (Sample portfolios are available online)	2004-2005	(n=2) 100% acceptable or above
	2005-2006	(n=2) 100% acceptable or above
	2006-2007	(n=2) 100% acceptable or above
Student Teacher Final Evaluations*, Standard 1 (Content Pedagogy)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 3.55/5.0 100% acceptable or above
	2004-2005	(n = 2) 3.58/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.67/5.0 100% acceptable or above
TCER Standard 1 Content Pedagogy	2006-2007	(n = 2) 3.17/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 6 (Communication)	2001-2002	(n = 3) 4.11/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.18/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.83/5.0 100% acceptable or above
TCER Standard 6, Communication	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above
Grades in EDU 241 – Introduction to Instructional Media	2004-2005	(n=2) 100% Pass on a Pass/Fail system
	2005-2006	(n=2) 4.0/4.0 100% acceptable or above
	2006-2007	(n=2) 4.0/4.0 100% acceptable or above

Technology Standard 2: Teachers plan and design effective learning environments and experiences supported by technology.

Lesson plans included in the Portfolio-at-a-Glance and the student teacher final evaluations, standard 6, are used to show that secondary mathematics candidates plan and design effective learning environments and experiences supported by technology. For example, the artifacts that are evident in Technology Standard 2 and INTASC Standard Pedagogy show the candidate’s ability to design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners. Analyses of the portfolios show that all teacher candidates meet the competency.

Technology Standard 2: Teachers plan and design effective learning environments and experiences supported by technology.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
Indicator 2.1: Teachers design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.		
Indicator 2.2: Teachers apply current research on teaching and learning with technology when planning learning environments and experiences.		
Indicator 2.3: Teachers identify and locate technology resources and evaluate them for accuracy and suitability.		
Indicator 2.4: Teachers plan for the management of technology resources within the context of learning activities.		
Indicator 2.5: Teachers plan strategies to manage student learning in a technology-enhanced environment.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
E Portfolio--Portfolio at a Glance (total grid): (Sample portfolios are available online)	2004-2005	(n=2) 100% acceptable or above
	2005-2006	(n=2) 100% acceptable or above
	2006-2007	(n=2) 100% acceptable or above
Student Teacher Final Evaluations* Standard 2 (Student Development) TCER Standard 2, Student Development	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 3.55/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.67/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 3 (Diverse Learners) TCER Standard 3, Diverse Learners	2001-2002	(n = 3) 4.11/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.67/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.17/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.00/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.17/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 6 (Communication) TCER Standard 6, Communication & Media	2001-2002	(n = 3) 4.11/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.18/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.83/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 7 (Planning) TCER Standard 7, Planning	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 3.86/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.17/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.33/4.0 100% acceptable or above

Technology Standard 2: Teachers plan and design effective learning environments and experiences supported by technology.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
Grades in EDU 241 – Introduction to Instructional Media	2004-2005 2005-2006 2006-2007	(n=2) 100% Pass on a Pass/Fail system (n=2) 4.0/4.0 100% acceptable or above (n=2) 4.0/4.0 100% acceptable or above
Unit Plans and Standards Project from MAT 764— Teaching Middle/Secondary Mathematics These can be accessed online through the teacher candidates' E-portfolio as artifacts used in their portfolio	2004 - 2007	(n=10, 6 of the 10 are secondary teacher candidates) 100% acceptable or above with B or A grades

Technology Standard 3: Candidates implement curriculum plans that include methods and strategies for applying technology to maximize student learning.

Secondary mathematics teacher candidates implement curricula that include methods and strategies for applying technology to maximize student learning. Examples in the E-Portfolio show that they facilitate technology-enhanced experiences that address content standards and student technology standards. Final unit plans in methods courses required the use of technology as a component of learning, and most of the unit plans were employed subsequently in student teaching internships. Web quests that were designed and used by teacher candidates show how candidates use technology in their content to develop students' higher order skills and creativity. Teacher candidates understand the importance of using technology in meaningful ways, as a vehicle to enhance and/or reinforce instruction. Data show that all candidates meet the standard.

Technology Standard 3: Candidates implement curriculum plans that include methods and strategies for applying technology to maximize student learning.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
Indicator 3.1: Candidates facilitate technology enhanced experiences that address content standards and student technology standards.		
Indicator 3.2: Candidates use technology to support learner-centered strategies that address diverse needs of students.		
Indicator 3.3: Candidates apply technology to develop students' higher order skills and creativity.		
Indicator 3.4: Candidates manage student learning activities in a technology-enhance environment.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
E Portfolio--Portfolio at a Glance (total grid): (Sample portfolios are available online)	2004-2005	(n=2) 100% acceptable or above
	2005-2006	(n=2) 100% acceptable or above
	2006-2007	(n=2) 100% acceptable or above
Student Teacher Final Evaluations* Standard 3 (Diverse Learners)	2001-2002	(n = 3) 4.11/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.67/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.17/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.00/5.0 100% acceptable or above
TCER Standard 3, Diverse Learners	2006-2007	(n = 2) 3.17/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 4 (Instructional Strategies)	2001-2002	(n = 3) 4.11/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.67/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.00/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.00/5.0 100% acceptable or above
TCER Standard 4, Instructional Strategies	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 6 (Communication)	2001-2002	(n = 3) 4.11/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.18/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.83/5.0 100% acceptable or above
TCER Standard 6, Communication	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 7 (Planning)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 3.86/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.17/5.0 100% acceptable or above
TCER Standard 7, Planning	2006-2007	(n = 2) 3.33/4.0 100% acceptable or above

Technology Standard 3: Candidates implement curriculum plans that include methods and strategies for applying technology to maximize student learning.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
Grades in EDU 241 – Introduction to Instructional Media	2004-2005 2005-2006 2006-2007	(n=2) 100% Pass on a Pass/Fail system (n=2) 4.0/4.0 100% acceptable or above (n=2) 4.0/4.0 100% acceptable or above
Unit Plans and Standards Project from MAT 764— Teaching Middle/Secondary Mathematics These can be accessed online through the teacher candidates' E-portfolio as artifacts used in their portfolio	2004 - 2007	(n=10, 6 of the 10 are secondary teacher candidates) 100% acceptable or above with B or A grades

Technology Standard 4: Candidates apply technology to facilitate a variety of effective assessment and evaluation strategies.

Teacher candidates demonstrate their ability to use technology to assess and evaluate in various ways. Whether it is using the schools assessment system to report grades of students or designing rubrics to assess projects that their students complete, teacher candidates show that they use a variety of effective assessment and evaluation strategies to assess their students.

Technology Standard 4: Candidates apply technology to facilitate a variety of effective assessment and evaluation strategies.		
Indicator 4.1: Candidates apply technology in assessing student learning of subject matter using a variety of assessment techniques.		
Indicator 4.2: Candidates use technology resources to collect, analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.		
Indicator 4.3: Candidates apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
E Portfolio--Portfolio at a Glance (total grid): (Sample portfolios are available online)	2004-2005 2005-2006 2006-2007	(n=2) 100% acceptable or above (n=2) 100% acceptable or above (n=2) 100% acceptable or above
Student Teacher Final Evaluations* Standard 8 (Assessment)	2001-2002 2002-2003 2003-2004 2004-2005 2005-2006 2006-2007	(n = 3) 3.89/5.0 100% acceptable or above (n = 1) 4.67/5.0 100% acceptable or above (n = 4) 4.18/5.0 100% acceptable or above (n = 2) 4.20/5.0 100% acceptable or above (n = 2) 3.67/5.0 100% acceptable or above (n = 2) 3.00/4.0 100% acceptable or above
TCER Standard 8, Assessment		
Grades in EDU 241 – Introduction to Instructional Media	2004-2005 2005-2006 2006-2007	(n=2) 100% Pass on a Pass/Fail system (n=2) 4.0/4.0 100% acceptable or above (n=2) 4.0/4.0 100% acceptable or above
Unit Plans from MAT 764—Teaching Middle/Secondary Mathematics These can be accessed online through the teacher candidates' E-portfolio as artifacts used in their portfolio—each unit plan must include assessments both formative and summative. Not all assessment items were technology-based however.	2004 - 2007	(n=10, 6 of the 10 are secondary teacher candidates) 100% acceptable or above with B or A grades

Technology Standard 5: Candidates use technology to enhance their productivity and professional practice.

Teacher candidates are adept at using technology communicate with peers, parents, and the larger community. Several artifacts are evident in the Portfolio-at-a Glance portion of their E Portfolios that show that this competency is met. Mathematics teacher candidates use technology in the MAT 764 methods class to submit all assignments, including weekly metalessons, which are meta-analytical reflections of the methods course. These reflections are informal (not graded, but read and discussed) formative assessments that demonstrate the reflective growth of the candidates over time.

Technology Standard 5: Candidates use technology to enhance their productivity and professional practice.		
Indicator 5.1: Candidates use technology resources to engage in ongoing professional development and lifelong learning.		
Indicator 5.2: Candidates continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning.		
Indicator 5.3: Candidates use technology to communicate and collaborate with peers, parents, and the larger community in order to nurture student learning.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
E Portfolio--Portfolio at a Glance (total grid): (Sample portfolios are available online)	2004-2005	(n=2) 100% acceptable or above
	2005-2006	(n=2) 100% acceptable or above
	2006-2007	(n=2) 100% acceptable or above
Student Teacher Final Evaluations* Standard 10 (Reflective Practice)	2001-2002	(n = 3) 4.22/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.18/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.17/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.17/4.0 100% acceptable or above
TCER Standard 9, Reflective Practice		
Student Teacher Final Evaluations* Standard 11 (Collaborative Relationships)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 5.00/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.50/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.25/4.0 100% acceptable or above
TCER 10, School & Community Involvement		
Grades in EDU 241 – Introduction to Instructional Media	2004-2005	(n=2) 100% Pass on a Pass/Fail system
	2005-2006	(n=2) 4.0/4.0 100% acceptable or above
	2006-2007	(n=2) 4.0/4.0 100% acceptable or above
Metalessons—online reflective journals are a required piece of formative assessment in MAT 764—Teaching Middle/Secondary Mathematics (samples of their journals are contained in online evidence)	2002-2003	(n=2) 100% acceptable or above
	2003-2004	(n=3) 100% acceptable or above
	2004-2005	(n=2) 100% acceptable or above
	2005-2006	(n=2) 100% acceptable or above
	2006-2007	(n=2) 100% acceptable or above

Technology Standard 6: Candidates understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply these principles in practice.

The ethical and legal use of technology is critical to the teacher education program at Meredith College. Teacher candidates design a scavenger hunt not only for their students, but also for their students' parents that stresses the ethical use of technology. In addition, teacher candidates research good websites that they can use in planning lessons for their diverse students. Artifacts are evident that show that teacher candidates meet this standard. Mathematics teacher candidates research and include summaries and reflections of school acceptable use and technology policies. Samples of these artifacts are linked in the Portfolio-at-a-Glance under the Technology Standards 5 and 6, which are closely related.

Technology Standard 6: Candidates understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply these principles in practice.		
Indicator 6.1: Candidates model and teach legal and ethical practice related to technology use.		
Indicator 6.2: Candidates apply technology resources to enable and empower learners with diverse background, characteristics, and abilities		
Indicator 6.3: Candidates identify and use technology resources that affirm diversity.		
Indicator 6.4: Candidates promote safe and healthy use of technology resources.		
Indicator 6.5: Candidates facilitate equitable access to technology resources for all students.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
E Portfolio--Portfolio at a Glance (total grid): (Sample portfolios are available online)	2004-2005 2005-2006 2006-2007	(n=2) 100% acceptable or above (n=2) 100% acceptable or above (n=2) 100% acceptable or above
Student Teacher Final Evaluations* Standard 3 (Diverse Learners)	2001-2002 2002-2003 2003-2004 2004-2005 2005-2006 2006-2007	(n = 3) 4.11/5.0 100% acceptable or above (n = 1) 4.67/5.0 100% acceptable or above (n = 4) 4.00/5.0 100% acceptable or above (n = 2) 4.17/5.0 100% acceptable or above (n = 2) 4.00/5.0 100% acceptable or above (n = 2) 3.17/4.0 100% acceptable or above
TCER Standard 3, Diverse Learners		
Student Teacher Final Evaluations* Standard 6 (Communication)	2001-2002 2002-2003 2003-2004 2004-2005 2005-2006 2006-2007	(n = 3) 4.11/5.0 100% acceptable or above (n = 1) 5.00/5.0 100% acceptable or above (n = 4) 4.18/5.0 100% acceptable or above (n = 2) 4.33/5.0 100% acceptable or above (n = 2) 3.83/5.0 100% acceptable or above (n = 2) 3.00/4.0 100% acceptable or above
TCER Standard 6, Communication		
Grades in EDU 241 – Introduction to Instructional Media	2004-2005 2005-2006 2006-2007	(n=2) 100% Pass on a Pass/Fail system (n=2) 4.0/4.0 100% acceptable or above (n=2) 4.0/4.0 100% acceptable or above

Links for Technology Standards	
Digital Locker in Xythos	
Sample E-portfolio 2005: Paige Avery **Portfolio-at-a-Glance Standards Grid	Methods Course NCTM Standards Project: Fall 2004 Class Standards Project Fall 2005 Class Standards Project Fall 2006 Individual Standards Project
Sample E-Portfolio 2006: Megan Shore **Portfolio-at-a-Glance Standards Grid	Methods Course Final Unit Plans: Sample from Fall 2004 Sample 1 from Fall 2005 Sample 2 from Fall 2005 Sample from Fall 2006
Sample E-Portfolio 2007: Kenya Lawrence **Portfolio-at-a-Glance Standards Grid	Methods Class Metalessons—online reflective journals: Sample from Fall 2004 Methods Class
	MAT 764 Course syllabus
Specific examples of technology-based lessons:	**Concept Attainment Activity (Shore—2006) **Fractals in RCA Unit Plan (Lawrence—2007)

Secondary Mathematics Specialty Area Standards

Overview of Standards, Assessments, and Evidence Provided:

The standards for secondary mathematics teacher candidates address the major content strands of mathematics: (1) number and operation, (2) geometry and measurement, (3) patterns and functions, and (4) data, probability, and statistics. Standard 5 addresses the processes of mathematical thought—problem-solving, logic and reasoning, communication, making connections, and using representations. Standards 6, 7, and 8 address the preparation of and the ability of the teacher candidate to implement and deliver meaningful instruction in a variety of modes and with a variety of tools.

These standards are assessed naturally within the mathematics licensure program and the mathematics major. Each of the major content areas is represented by coursework that is required for the major. Those courses and the final grades in those courses provide one source of checkpoints for the major content strands. Recognizing the need to provide experiences with and assessment of mathematical process standards led to the department revising its student outcome goals for all majors in 2005. In the future, secondary licensure candidates will experience and have assessment checkpoints for process standards (Standard 5) throughout the mathematics major curriculum along with all mathematics majors. To date, the department has implemented an oral communication rubric that is used in the Senior Seminar MAT 490 to assess final presentations.

In content education coursework, *MAT 764—Teaching Middle/Secondary Mathematics*, students are engaged with the content and process standards as articulated by NCTM in the *2000 Principles and Standards for School Mathematics* document. As a class, they evaluate the standards and engage in activities that exemplify the standards. Subsequently, their final unit plans, their student teaching internships, and their electronic portfolios all provide evidence of meeting these standards as well as their final grades in the courses.

Standard 1: Number sense, numeration, and numerical operation.
Mathematics teachers have an in depth understanding of concrete algebraic systems and applications.

Mathematics teacher education candidates gain a sense of number, operation and of algebraic systems through coursework in Calculus, Linear Algebra and Abstract Algebra. These courses build on the prerequisite knowledge the candidates bring to college with them as potential mathematics majors. In addition, all teacher candidates in methods coursework examine the NCSCS and the NCTM Principles and Standards for School Mathematics to unpack the ideas of number and operation from their mathematics major into the context of 9 – 12 mathematics.

Standard 1: Number sense, numeration, and numerical operation. Mathematics teachers have an in depth understanding of concrete algebraic systems and applications.		
Mathematics teachers:		
<i>Indicator 1: Demonstrate an understanding of the properties of, and operations on real and complex numbers, polynomials, vectors, matrices, and other concrete algebraic systems;</i>		
<i>Indicator 2: Demonstrate an understanding of algebra and algebraic systems, including linear and abstract algebra;</i>		
<i>Indicator 3: Demonstrate an understanding of elementary number theory;</i>		
<i>Indicator 4: Demonstrate an understanding of set theory;</i>		
<i>Indicator 5: Use computational tools and strategies and estimate appropriately.</i>		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
Passing Final Grades in MAT 211, 212, and 314— Calculus I, II, and III (required courses in major) (sample final exams provided in evidence box)	2002 – 2007	MAT 211: (n=9) 3.33/4.00 100% pass rate of C or better MAT 212: (n=11) 3.0/4.0 100% pass rate of C or better MAT 313: (n=13) 3.54/4.0 100% pass rate of C or better
Passing Final Grades in MAT 250—Introduction to Mathematical Reasoning (required courses in major)	2002 – 2007	(n=14) MAT 250: 3.07/4.0 100% pass rate of C or better (One student needed to retake the course, but obtained a “B” upon retake.)
Passing Final Grades in MAT 220—Linear Algebra and MAT 321—Abstract Algebra (sample final exams and student projects provided in evidence box)	2002 – 2007	(n=14) MAT 220: 3.07/4.0 100% pass rate of C or better MAT 321: 3.0/4.0 100% pass rate of C or better
Final Unit Plans from MAT 764—Teaching Middle/Secondary Mathematics: (Sample evidence may be found in electronic portfolios online)	Fall 2004 Fall 2005 Fall 2006	100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A
NCTM Standards Project from MAT 764—Teaching Middle/Secondary Mathematics: (Sample evidence may be found in electronic portfolios online)	Fall 2002 Fall 2003 Fall 2004 Fall 2005 Fall 2006	100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A

Standard 2: Spatial sense, measurement, and geometry.

Mathematics teachers understand measurement, spatial sense, and the properties of relationships of two- and three-dimensional space.

Mathematics teacher education candidates gain a sense of geometry, measurement, and spatial understanding primarily through the College Geometry course, MAT 334. This course surveys both Euclidean and non-Euclidean geometry and builds upon the foundation of axiomatic deductive systems. Technology is employed throughout the course in both java applets and with dynamic geometry software. Also, spatial visualization and problems in two- and three-dimensions are addressed in multivariable calculus, MAT 313(314 now). In MAT 250, students receive a foundation in proof and deductive reasoning that prepares them for study in geometry. In addition, all teacher candidates in methods coursework examine the NCSCS and the NCTM Principles and Standards for School Mathematics to unpack the ideas of number and operation from their mathematics major into the context of 9 – 12 mathematics.

Standard 2: Spatial sense, measurement, and geometry. Mathematics teachers understand measurement, spatial sense, and the properties of relationships of two- and three-dimensional space.		
Mathematics teachers:		
<i>Indicator 1: Demonstrate an understanding of Euclidean and non-Euclidean geometry;</i>		
<i>Indicator 2: Recognize geometry as an example of a deductive system, built from undefined terms, axioms, definitions, and theorems;</i>		
<i>Indicator 3: Use deduction to establish the validity of geometric conjectures and to prove theorems;</i>		
<i>Indicator 4: Demonstrate an ability to connect geometry to other strands of mathematics and use it to solve problems;</i>		
<i>Indicator 5: Demonstrate an understanding of the properties of two- and three-dimensional geometric objects;</i>		
<i>Indicator 6: Demonstrate an ability to solve geometric problems using vectors in two- and three-dimensions;</i>		
<i>Indicator 7: Demonstrate an understanding of other coordinate systems and representational models and their uses;</i>		
<i>Indicator 8: Demonstrate an ability to use trigonometric relationships to solve problems;</i>		
<i>Indicator 9: Use appropriate technology to explore geometric concepts.</i>		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
Passing Final Grades in MAT 334 (required courses in major) (sample final exams provided in evidence box)	2002 – 2007	MAT 334: (n=14) 3.36/4.0 100% pass rate with C or better
Proof Portfolio project in MAT 250	Spring 2003 Fall 2004 Spring 2005	100% pass rate of C or better 100% pass rate of C or better 100% pass rate of C or better
Tessellation and tiling project in MAT 334 (samples provided in evidence box)	Fall 2002 Fall 2004	100% pass rate with B or A 100% pass rate with B or A
Conics Section Project in MAT 334 (samples provided in evidence box and online)	Fall 2002 Fall 2004	100% pass rate with C or better 100% pass rate with C or better
Successful completion of or credit given for MAT 144—assumes that trigonometric knowledge is fundamental for collegiate mathematics study	2001 – 2002 2002 - 2007	MAT 144: (n=3) 3.67/4.0 100 % pass rate with B or A 100 % students entered Meredith College with credit for MAT 144
NCTM Standards Project from MAT 764—Teaching Middle/Secondary Mathematics: (Sample evidence may be found in electronic portfolios online)	Fall 2002 Fall 2003 Fall 2004 Fall 2005 Fall 2006	100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A

Standard 3: Patterns, relationships, and functions
Mathematics teachers understand patterns, relationships, functions, symbols and models.

The core curriculum for mathematics majors and for teacher candidates in secondary mathematics emphasizes functional relationships. Students enter the major having completed MAT 144—Functions and Graphs (pre-Calculus) or take it early in their careers. This level of functional understanding is built upon in the Calculus sequence, and undergirds all of the upper level mathematics coursework for the major. Beginning in Fall 2005, the department has also added application projects and Fundamental Technology Competency in all entry level courses through MAT 313(now 314). In addition, all teacher candidates in methods coursework examine the NCSCS and the NCTM Principles and Standards for School Mathematics to unpack the ideas of number and operation from their mathematics major into the context of 9 – 12 mathematics.

Standard 3: Patterns, relationships, and functions Mathematics teachers understand patterns, relationships, functions, symbols and models.		
Mathematics teachers:		
<i>Indicator 1: demonstrate an ability to model and analyze situations and number patterns with numerical, graphical, and symbolic representations; and explore their connections;</i>		
<i>Indicator 2: demonstrate an ability to use methods of proof to prove theorems and verify conjectures;</i>		
<i>Indicator 3: demonstrate an ability to analyze tables and graphs to identify properties and relationships;</i>		
<i>Indicator 4: demonstrate an understanding of differential and integral calculus;</i>		
<i>Indicator 5: demonstrate the ability to use mathematics and technological tools to solve “real world” problems that arise in social sciences, biological sciences, physical sciences, and other mathematical sciences;</i>		
<i>Indicator 6: demonstrate an understanding of different classes of functions and relations and the use of technology to investigate their properties.</i>		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
Successful completion of or credit given for MAT 144—assumes that trigonometric knowledge is fundamental for collegiate mathematics study	2001 – 2002 2002 - 2007	MAT 144: (n=3) 3.67/4.0 100 % pass rate with B or A 100 % students entered Meredith College with credit for MAT 144
Passing Final Grades in MAT 211, 212, and 314—Calculus I, II, and III (required courses in major)	2002 – 2007	MAT 211: (n=9) 3.33/4.00 100% pass rate of C or better MAT 212: (n=11) 3.0/4.0 100% pass rate of C or better MAT 313: (n=13) 3.54/4.0 100% pass rate of C or better
Passing Final Grades in MAT 250—Introduction to Mathematical Reasoning (required course in major)	2002 – 2007	(n=14) MAT 250: 3.07/4.0 100% pass rate of C or better (One student needed to retake the course, but obtained a “B” upon retake.)
Motion Detector Explorations in MAT 211—Calculus I (project requiring use of technology to model calculus concepts—samples in evidence box)	Fall 2002 2005 – 2007	100% pass rate with C or better 100% pass rate with C or better
Final Unit Plans from MAT 764—Teaching Middle/Secondary Mathematics: (Sample evidence may be found in electronic portfolios online)	Fall 2004 Fall 2005 Fall 2006	100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A
NCTM Standards Project from MAT 764—Teaching Middle/Secondary Mathematics: (Sample evidence may be found in electronic portfolios online)	Fall 2002 Fall 2003 Fall 2004 Fall 2005 Fall 2006	100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A

Standard 4: Mathematics teachers understand and use the major concepts of probability and statistics including collecting, displaying, analyzing, and drawing conclusions from data.

Secondary mathematics teacher candidates take two courses in mathematical statistics, MAT 245—Statistics I and MAT 340—Mathematical Probability and Statistics. Beginning in Fall 2005, the department has employed the use of Fathom Dynamic Statistics software for exploration and data analysis in MAT 245. In MAT 340, a variety of appropriate technologies have been employed for simulations and programming of data analysis. In addition, all teacher candidates in methods coursework examine the NCSCS and the NCTM Principles and Standards for School Mathematics to unpack the ideas of number and operation from their mathematics major into the context of 9 – 12 mathematics.

Standard 4: Mathematics teachers understand and use the major concepts of probability and statistics including collecting, displaying, analyzing, and drawing conclusions from data.		
Mathematics teachers:		
<i>Indicator 1: Demonstrate the ability to use a variety of standard techniques for organizing and displaying data in order to detect patterns and departures from patterns;</i>		
<i>Indicator 2: Demonstrate the ability to use surveys to estimate population characteristics and experiments to test conjectured cause-and-effect relationships;</i>		
<i>Indicator 3: Demonstrate the ability to use theory and simulations to produce, analyze, and apply probability distribution models;</i>		
<i>Indicator 4: Demonstrate the ability to use probability models to draw conclusions from data and measure the uncertainty of those conclusions;</i>		
<i>Indicator 5: Demonstrate an understanding of topics in discrete mathematics such as finite difference equations, graph and network theory, combinatorics, and models for social decision-making;</i>		
<i>Indicator 6: Use appropriate technology to collect, display, organize, and interpret data;</i>		
<i>Indicator 7: Develop computer programs in a structured language.</i>		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
Passing Final Exams and Final Grades in MAT 245—Statistics I (required course in licensure)	2002 – 2007	(n=14) MAT 245: 3.43/4.0 100% pass rate of C or better
Passing Final Exams and Final Grades in MAT 340—Mathematical Probability and Statistics (required course in licensure)	2002 – 2007	(n=14) MAT 340: 2.93/4.0 92.8% pass rate with C or better
Data collection and analysis projects in MAT 245 (Sample files included in evidence box)	2005 – 2007	100% pass rate of acceptable or above
Homework assignments in MAT 245—now all sections of MAT 245 implement the use of Fathom software for data analysis (Sample files included in evidence box)	2005 - 2007	100% pass rate of acceptable or above
NCTM Standards Project from MAT 764—Teaching Middle/Secondary Mathematics: (Sample evidence may be found in electronic portfolios online)	Fall 2002 Fall 2003 Fall 2004 Fall 2005 Fall 2006	100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A

Standard 5: Process Skills

Teachers understand and use the processes of problem solving, reasoning and proof, communication, connection, and representation as the foundation for the teaching and learning of mathematics.

The process skills of mathematical thought are the heart of doing and understanding mathematical content—at all levels and in all areas. It is the intent of the Department of Mathematics and Computer Science that these mathematical processes permeate all mathematics coursework. Towards that goal, the department revised its student outcomes goals for mathematics majors to emphasize these very process skills in 2006. We are beginning to implement checks within the program for all majors to assess these skills and ways of thinking. To date, MAT 490—Senior Seminar has served as a capstone course where we can reflect on the mathematical knowledge students have gained and focus on processes of mathematical thought. In addition, all teacher candidates in methods coursework examine the NCSCS and the NCTM Principles and Standards for School Mathematics to unpack the ideas of the process standards and their implications for teaching and learning mathematics from their mathematics major into the context of 9 – 12 mathematics. These ideas re-emerge as teacher candidates complete their internship and are able to demonstrate the principles in practice in the classroom.

Standard 5: Process Skills Teachers understand and use the processes of problem solving, reasoning and proof, communication, connection, and representation as the foundation for the teaching and learning of mathematics.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
Mathematics teachers develop instructional programs that enable all students to:		
<u>Problem Solving</u>		
<i>Indicator 1: build new mathematical knowledge through problem solving;</i>		
<i>Indicator 2: solve problems that arise in mathematics and in other contexts;</i>		
<i>Indicator 3: apply and adapt a variety of appropriate strategies to solve problems;</i>		
<i>Indicator 4: monitor and reflect on the process of mathematical problem solving.</i>		
<u>Reasoning and Proof</u>		
<i>Indicator 5: recognize reasoning and proof as fundamental aspects of mathematics;</i>		
<i>Indicator 6: make and investigate mathematical conjectures;</i>		
<i>Indicator 7: develop and evaluate mathematical arguments and proofs;</i>		
<i>Indicator 8: select and use various types of reasoning and methods of proof.</i>		
<u>Communication</u>		
<i>Indicator 9: organize and consolidate their mathematical thinking through communication;</i>		
<i>Indicator 10: communicate their mathematical thinking coherently and clearly to peers, teachers, and others;</i>		
<i>Indicator 11: analyze and evaluate the mathematical thinking and strategies of others;</i>		
<i>Indicator 12: use the language of mathematics to express mathematical ideas precisely.</i>		
<u>Connections</u>		
<i>Indicator 13: recognize and use connections among mathematical ideas;</i>		
<i>Indicator 14: understand how mathematical ideas interconnect and build on one another to produce a coherent whole;</i>		
<i>Indicator 15: recognize and apply mathematics in contexts outside of mathematics.</i>		
<u>Representation</u>		
<i>Indicator 16: create and use representations to organize, record, and communicate mathematical ideas;</i>		
<i>Indicator 17: select, apply, and translate among mathematical representations to solve problems;</i>		
<i>Indicator 18: use representations to model and interpret physical, social, and mathematical phenomena.</i>		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
Passing Final Grades in MAT 764—Teaching Middle/Secondary Mathematics	Fall 2001	(n=3) 3.0/4.0 100% pass rate with B or A
	Fall 2002	(n=2) 4.5/4.0 100% pass rate with B or A
	Fall 2003	(n=3) 4.0/4.0 100% pass rate with B or A
	Fall 2004	(n=2) 4.0/4.0 100% pass rate with B or A
	Fall 2005	(n=2) 4.0/4.0 100% pass rate with B or A
	Fall 2006	(n=2) 3.5/4.0 100% pass rate with B or A

Standard 5: Process Skills		
Teachers understand and use the processes of problem solving, reasoning and proof, communication, connection, and representation as the foundation for the teaching and learning of mathematics.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
NCTM Standards Project from MAT 764—Teaching Middle/Secondary Mathematics: (Sample evidence may be found in electronic portfolios online)	Fall 2002 Fall 2003 Fall 2004 Fall 2005 Fall 2006	100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A
Final Unit Plans from MAT 764—Teaching Middle/Secondary Mathematics: (Sample evidence may be found in electronic portfolios online)	Fall 2002 Fall 2003 Fall 2004 Fall 2005 Fall 2006	100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A
Passing Final Exams and Final Grades in MAT 490—Senior Seminar (required course in major)	2002 – 2007	(n=14) MAT 490: 3.29/4.0 100% pass rate of C or better
MAT 490 Senior Seminar Final Project Oral Presentation	2002 – 2004	100% pass rate with C or better
Communication rubric implemented in Fall 2005 (Sample rubric included in evidence box)	2005 – 2007	100% pass rate with C or better
Student Teacher Final Evaluations*, Standard 1 (Content Pedagogy)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
TCER Standard 1 Content Pedagogy	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 3.55/5.0 100% acceptable or above
	2004-2005	(n = 2) 3.58/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.67/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.17/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 4 (Instructional Strategies)	2001-2002	(n = 3) 4.11/5.0 100% acceptable or above
TCER Standard 4, Instructional Strategies	2002-2003	(n = 1) 4.67/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.00/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.00/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 7 (Planning)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
TCER Standard 7, Planning	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 3.86/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.17/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.33/4.0 100% acceptable or above

Standard 6: Curriculum pacing and alignment

Mathematics teachers are aware of the importance of and implement effective instructional pacing and alignment.

Teacher candidates in secondary mathematics become familiar with the curricular recommendations of the state and national organizations in mathematics through the MAT 764 methods course. These resources, ideas of curricular structure, pacing, and alignment provide a context for all of the methods coursework. All teacher candidates in methods coursework examine the NCSCS and the NCTM Principles and Standards for School Mathematics to unpack the ideas of the content and process standards and their implications for teaching and learning mathematics from their mathematics major into the context of 9 – 12 mathematics. These ideas are implemented as teacher candidates complete their internship and are able to demonstrate the principles in practice in the classroom.

Standard 6: Curriculum pacing and alignment Mathematics teachers are aware of the importance of and implement effective instructional pacing and alignment.		
Mathematics teachers are:		
<i>Indicator 1: Knowledgeable of the NC Standard Course of Study, LEA (district) standards and pacing guides, and the NCTM standards;</i>		
<i>Indicator 2: Able to locate and use various resources that support daily classroom practices (e.g. NCDPI, LEARN-NC, NCTM Publications, etc.).</i>		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
Passing Final Grades in MAT 764—Teaching Middle/Secondary Mathematics	Fall 2001 Fall 2002 Fall 2003 Fall 2004 Fall 2005 Fall 2006	(n=3) 3.0/4.0 100% pass rate with B or A (n=2) 4.5/4.0 100% pass rate with B or A (n=3) 4.0/4.0 100% pass rate with B or A (n=2) 4.0/4.0 100% pass rate with B or A (n=2) 4.0/4.0 100% pass rate with B or A (n=2) 3.5/4.0 100% pass rate with B or A
NCTM Standards Project from MAT 764—Teaching Middle/Secondary Mathematics: (Sample evidence may be found in electronic portfolios online) In each project, students are asked to compare NCSCOS with NCTM Standards and current textbooks. Links to each standard on the project main page will lead to comparison.	Fall 2002 Fall 2003 Fall 2004 Fall 2005 Fall 2006	100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A
Final Unit Plans from MAT 764—Teaching Middle/Secondary Mathematics: (Sample evidence may be found in electronic portfolios online)	Fall 2002 Fall 2003 Fall 2004 Fall 2005 Fall 2006	100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A
E Portfolio--Portfolio at a Glance (total grid): (Sample evidence may be found in electronic portfolios online)	2004 - 2007	100% pass rate with satisfactory or higher ratings on portfolio assessment

Standard 7: Instructional strategies

Mathematics teachers use a variety of instructional strategies to promote student understanding of mathematics. They recognize students' level of mathematical understanding in order to implement the appropriate instructional practice.

Secondary mathematics teacher candidates experience throughout their mathematical careers at Meredith College a variety of instructional strategies, from direct instruction and exposition to exploration and investigation. Collaborative experiences are part of many courses as well. In MAT 764, the methods course, the teacher candidates examine, analyze, experience, and reflect on a variety of instructional strategies used to teach and learn mathematics. Analysis of the data from the program and from the evaluation of student teaching internships shows that the program is successful in promoting understanding of and readiness for implementing a variety of instructional strategies.

Standard 7: Instructional strategies		
Mathematics teachers use a variety of instructional strategies to promote student understanding of mathematics. They recognize students' level of mathematical understanding in order to implement the appropriate instructional practice.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
Mathematics teachers:		
<i>Indicator 1: use varied strategies, including problem-based learning, inquiry, investigations, direct instruction, exposition;</i>		
<i>Indicator 2: are knowledgeable of current research on best practices;</i>		
<i>Indicator 3: match the appropriate strategy with the appropriate tools;</i>		
<i>Indicator 4: are knowledgeable about and sensitive toward various teaching/learning styles;</i>		
<i>Indicator 5: are aware that it will take a variety of teaching methods to lead all students to excel in mathematics.</i>		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
Passing Final Grades in MAT 764—Teaching Middle/Secondary Mathematics	Fall 2001 Fall 2002 Fall 2003 Fall 2004 Fall 2005 Fall 2006	(n=3) 3.0/4.0 100% pass rate with B or A (n=2) 4.5/4.0 100% pass rate with B or A (n=3) 4.0/4.0 100% pass rate with B or A (n=2) 4.0/4.0 100% pass rate with B or A (n=2) 4.0/4.0 100% pass rate with B or A (n=2) 3.5/4.0 100% pass rate with B or A
NCTM Standards Project from MAT 764—Teaching Middle/Secondary Mathematics: (Sample evidence may be found in electronic portfolios online)	Fall 2002 Fall 2003 Fall 2004 Fall 2005 Fall 2006	100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A
Final Unit Plans from MAT 764—Teaching Middle/Secondary Mathematics: (Sample evidence may be found in electronic portfolios online)	Fall 2002 Fall 2003 Fall 2004 Fall 2005 Fall 2006	100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A
Concept Attainment Activities in MAT 764/264: (Sample evidence may be found in electronic portfolios online)	Fall 2003 Fall 2004 Fall 2005	100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A
Electronic Portfolios: E Portfolio--Portfolio at a Glance (total grid): (Sample evidence may be found in electronic portfolios online)	2004 - 2007	100% pass rate with satisfactory or higher ratings on portfolio assessment
Student Teacher Final Evaluations*, Standard 1 (Content Pedagogy)	2001-2002 2002-2003 2003-2004	(n = 3) 3.89/5.0 100% acceptable or above (n = 1) 5.00/5.0 100% acceptable or above (n = 4) 3.55/5.0 100% acceptable or above

Standard 7: Instructional strategies Mathematics teachers use a variety of instructional strategies to promote student understanding of mathematics. They recognize students' level of mathematical understanding in order to implement the appropriate instructional practice.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
TCER Standard 1 Content Pedagogy	2004-2005	(n = 2) 3.58/5.0 100% acceptable or above
	2005-2006	(n = 2) 3.67/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.17/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 4 (Instructional Strategies)	2001-2002	(n = 3) 4.11/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.67/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.00/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.00/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above
TCER Standard 4, Instructional Strategies		

Standard 8: Instructional Tools

K-12 mathematics teachers understand and use effectively the hierarchy of the use of instructional tools.

Secondary mathematics teacher candidates experience throughout their mathematical careers at Meredith College a variety of instructional strategies, from direct instruction and exposition to exploration and investigation. Thus, they have the opportunity to use a variety of tools at different levels of understanding. In MAT 764, the methods course, the teacher candidates experiment with and become familiar with a variety of tools used to teach and learn mathematics. These tools are presented in the context of learning theories in mathematics, moving from enactive to symbolic/abstract understanding. Analysis of the data from the program and from the evaluation of student teaching internships shows that the program is successful in promoting understanding of and readiness for implementing a variety of instructional tools.

Standard 8: Instructional tools		
K-12 mathematics teachers understand and use effectively the hierarchy of the use of instructional tools.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
Mathematics teachers are able to identify, prescribe, and use appropriate:		
<i>Indicator 1: hands-on tools (e.g. cubes, counters, rods, etc.);</i>		
<i>Indicator 2: representational tools (e.g. base-ten blocks, calculators, computer applications, algebra tiles/blocks, fraction bars, decimal squares, geometric blocks, etc.);</i>		
<i>Indicator 3: transitional tools (e.g. expanded notation, paper and pencil, calculator and computer methods, metaphors, analogies, etc.) that enable students to make connections between representational and symbolic levels of understanding;</i>		
<i>Indicator 4: symbolic tools (e.g. standard and alternative algorithms, calculator and computer applications, etc.).</i>		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
Passing Final Grades in MAT 764—Teaching Middle/Secondary Mathematics	Fall 2001 Fall 2002 Fall 2003 Fall 2004 Fall 2005 Fall 2006	(n=3) 3.0/4.0 100% pass rate with B or A (n=2) 4.5/4.0 100% pass rate with B or A (n=3) 4.0/4.0 100% pass rate with B or A (n=2) 4.0/4.0 100% pass rate with B or A (n=2) 4.0/4.0 100% pass rate with B or A (n=2) 3.5/4.0 100% pass rate with B or A
NCTM Standards Project from MAT 764—Teaching Middle/Secondary Mathematics: (Sample evidence may be found in electronic portfolios online)	Fall 2002 Fall 2003 Fall 2004 Fall 2005 Fall 2006	100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A
Final Unit Plans from MAT 764—Teaching Middle/Secondary Mathematics: (Sample evidence may be found in electronic portfolios online)	Fall 2002 Fall 2003 Fall 2004 Fall 2005 Fall 2006	100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A
Concept Attainment Activities in MAT 764/264: (Sample evidence may be found in electronic portfolios online)	Fall 2003 Fall 2004 Fall 2005	100% pass rate with B or A 100% pass rate with B or A 100% pass rate with B or A
Electronic Portfolios: E Portfolio--Portfolio at a Glance (total grid): (Sample evidence may be found in electronic portfolios online)	2004 - 2007	100% pass rate with satisfactory or higher ratings on portfolio assessment
Student Teacher Final Evaluations* Standard 4 (Instructional Strategies)	2001-2002 2002-2003 2003-2004	(n = 3) 4.11/5.0 100% acceptable or above (n = 1) 4.67/5.0 100% acceptable or above (n = 4) 4.00/5.0 100% acceptable or above

Standard 8: Instructional tools K-12 mathematics teachers understand and use effectively the hierarchy of the use of instructional tools.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % acceptable or above
TCER Standard 4, Instructional Strategies	2004-2005	(n = 2) 4.00/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.00/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.00/4.0 100% acceptable or above
Student Teacher Final Evaluations* Standard 7 (Planning)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 5.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 3.86/5.0 100% acceptable or above
	2004-2005	(n = 2) 4.33/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.17/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.33/4.0 100% acceptable or above
TCER Standard 7, Planning		

Links for Specialty Area Standards	
Digital Locker in Xythos	
Sample E-portfolio 2005: Paige Avery **Portfolio-at-a-Glance Standards Grid	Methods Course NCTM Standards Project: Fall 2004 Class Standards Project Fall 2005 Class Standards Project Fall 2006 Individual Standards Project
Sample E-Portfolio 2006: Megan Shore **Portfolio-at-a-Glance Standards Grid	Methods Course Final Unit Plans: Sample from Fall 2004 Sample 1 from Fall 2005 Sample 2 from Fall 2005 Sample from Fall 2006
Sample E-Portfolio 2007: Kenya Lawrence **Portfolio-at-a-Glance Standards Grid	Concept Attainment Activities in MAT 764/264: Sample 1 from Fall 2005 Sample 2 from Fall 2005 Sample 1 from Fall 2003 Sample 2 from Fall 2003
Conics Section Project in MAT 334 Parabola Sample from Fall 2004 Ellipse Sample from Fall 2004 Hyperbola Sample from Fall 2004	MAT 764 Course syllabus Math Courses Syllabi
Specific example of differentiation in lesson plans: Reading in Content Area Unit Plan (Lawrence—2007)	Specific example of case study: Case study of student in internship (Shore—2006)
Specific example of grading rubric: Functions Unit Plan (Shore—2006)	Specific example of technology lesson: Fractals in RCA Unit Plan (Lawrence—2007)

Candidate Work with Families

Core, diversity, technology and specialty area standards address the work that the teacher candidates at Meredith College work with families and the community. Various artifacts are used to show that the teacher candidates understand the importance of communicating with families. Core Standards 2, 4, and 6 address candidates' involvement with the larger educational community to support student learning as well as Diversity Standards 3, 4, and 5. In mathematics, teacher candidates get involved as much as possible during student internships with parent-teacher conferences, parents' night, and a variety of extra-curricular opportunities to show support to students. While our students are meeting our standards addressed above, we must continue to look for ways to involve our teacher candidates with families and with the community in meaningful ways. In 2006-2007, Meredith College Department of Education began a partnership with Broughton High School to provide algebra tutoring for students outside of normal class times. These types of opportunities could be expanded to a more community and family setting.

Candidate Work with Families		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % at acceptable or above
Learning Outcome: The teacher candidate fosters relationships with parents, school colleagues and agencies in the larger community to support students' learning and well being.		
Assessments (Knowledge, Skills, and Dispositions)	Timeframe	Findings: % at acceptable or above
Student Teacher Final Evaluations* Standard 11 (Collaborative Relationships)	2001-2002	(n = 3) 3.89/5.0 100% acceptable or above
	2002-2003	(n = 1) 4.00/5.0 100% acceptable or above
	2003-2004	(n = 4) 4.00/5.0 100% acceptable or above
	2004-2005	(n = 2) 5.00/5.0 100% acceptable or above
	2005-2006	(n = 2) 4.50/5.0 100% acceptable or above
	2006-2007	(n = 2) 3.25/4.0 100% acceptable or above
TCER Standard 10, School & Community Involvement		
Student Logs of Parent Contacts (Samples from Spring 2007 contained in the evidence box)	2005 – 2007	Records are maintained, but no assessment analysis is done of these materials
Electronic Portfolios: E Portfolio--Portfolio at a Glance (total grid): Sample from 2007 Sample from 2006 Sample from 2005	2004-2005 2005-2006 2006-2007	(n=2)100% acceptable or above (n=2)100% acceptable or above (n=2)100% acceptable or above
Newsletters or letters home to parents from student teachers: Sample from 2005 Sample from 2006 Sample from 2007	2004-2005 2005-2006 2006-2007	No assessment analysis is done of these materials other than meeting the standards in the Electronic portfolio.

Program Standard 1A: Undergraduate Candidate Qualifications

Students in the teacher education program at Meredith College have at least a minimum 2.5 cumulative grade point average at the time of admission to the program, to student teaching, and at the completion of the licensure program. Students in K-12, 6-9, and 9-12 licensure programs have at least a minimum 2.5 grade point average in their content major. Undergraduate degree-seeking students attain passing scores on the PPST (PRAXIS I) tests or have acceptable scores on the SAT/ACT for admission to the program. Progression in the program is limited until formal admission to the program has been granted. Admission to the program occurs at least one semester prior to student teaching.

1. Identify program admission criteria.

All traditional undergraduate students and licensure only students in the middle/secondary/K-12 programs at Meredith College are advised in their content area. Undergraduate students begin the formal application process for admission to the teacher education program by discussing the intent with their faculty advisor, completing a [Declaration of Major](#) form, and indicating the content major and area of licensure. Entrance to the teacher education program includes the following steps:

- Complete a [Declaration of Major](#) form, indicating major and licensure area intent. The Registrar furnishes the Department of Education a copy of the form, and in response, the department sends the intended candidate an [Application for Admission](#). Licensure-only candidates complete the application process for licensure in the office of the Department of Education. All candidates are required to have a minimum 2.5 GPA out of a possible 4.0 to be considered for admission to the teacher education program. The 2.5 GPA must be maintained overall and in the content area during the entire duration of the teacher education program. Failure to do so results in the student being counseled out of the program until the GPA has been raised. This is checked by the Director of Teacher Education.
- PRAXIS I or have acceptable SAT/ACT scores.
- Request letters of recommendation from faculty in the Department of Education and from collegiate non-education courses. These recommendations are submitted directly to the office of the Department of Education.
- Attend an *Orientation to Education* seminar. At orientation, teacher candidates are given a copy of the *Teacher Education Handbook*, and the process for admission is discussed.
- Complete a student essay on experiences with diverse populations that will guide advising and field placements.
- Submit a planned program signed by the faculty advisor.

All requirements for admission must be completed before a letter of admission is sent to the student and her advisor. Therefore, timely reminders are sent to the student each semester, explaining requirements missing in the application process. If concerns are noted with any part of the application, the advisor is notified and a meeting is scheduled with the candidate.

2. Describe how progress is limited until formal admission has been granted.

Progression in the teacher education program is limited to those candidates who have officially been admitted to the program. Teacher candidates in the mathematics education program cannot enroll in the methods class, MAT 764—Teaching Middle/Secondary Mathematics, until all requirements for admission are met. This class is always taught in the fall semester. The Office of the Registrar, through Webadvisor, prevents any student from registering for the methods class without admission.

Also, the methods professor alerts the Director of Teacher Education of students enrolled in the class. All students, other than lateral entry, who are not admitted, are dropped from the class.

3. Describe how progress is monitored to ensure that formal admission occurs no later than one semester prior to student teaching.

Students must be admitted into the program before they are admitted into MAT 764—Teaching Middle/Secondary Mathematics, which is the methods course for students in the middle and secondary methods licensure program. During the methods class for middle/secondary mathematics, students receive their placement for the student internship and begin working in the school and classroom with their cooperating teacher. Students apply for their internship using the Triangle Alliance Form, a standard form used by all IHEs in the Triangle area. Students cannot apply for student teaching until they are enrolled in and admitted to the program.

Program Standard IB: Licensure-Only Candidates

1. Describe program policies and procedures for licensure-only candidates.

Licensure-only candidates must –

- Submit a copy of their undergraduate transcript(s) to the Department of Education for evaluation.
- Have a 2.5/4.0 grade point average to be admitted. Foreign students must have a transcript that has been translated by the World Education Services, Inc.
- Have a letter requesting evaluation of credits for 9-12 science licensure.
- Meet with the DOE advisor who will work with them to plan their program and refer them to the program coordinator in science.
- PRAXIS I or have acceptable SAT/ACT scores.
- Request letters of recommendation from faculty in the Department of Education and from collegiate non-education courses. These recommendations are submitted directly to the office of the Department of Education.
- Attend an *Orientation to Education* seminar. At orientation, teacher candidates are given a copy of the *Teacher Education Handbook*, and the process for admission is discussed.
- Write an essay addressing experiences with diverse populations that guides advising and field placements.
- Have an overall 2.5 or better grade point average the semester prior to the student internship and in content area, science.

2. Other than traditional coursework, describe means through which licensure-only candidates can demonstrate they meet state standards.

The North Carolina State Board does not require licensure-only students to complete PRAXIS I; however, the teacher education program at Meredith College requires a passing score on PRAXIS I or acceptable SAT/ACT scores. The Teacher Education Committee considers those licensure-only candidates who have difficulty passing PRAXIS I, and upon recommendation of the DOE advisor of the candidate, can recommend a contract that outlines how the student can show competency in the areas that are deficient.

Holders of current class A North Carolina licenses who wish to add an area of licensure may do so through the teacher education program at Meredith. PRAXIS I scores are not required, but the applicant must take the appropriate Specialty Area portion(s) of the PRAXIS during her final semester. Student teaching will be required except when sufficient documentation of specific satisfactory experience is submitted to the Dean of the Department of Education for evaluation. Decisions are made on an individual basis.

The Department of Education works with the [Regional Alternative Licensure Center](#) (RALC) to offer courses for lateral entry teachers. RALC is notified of classes offered at Meredith, communicates the information to lateral entry teachers, and on its website.

Program Standard 1 Links
Xythos
Newsletters or letters home to parents from student teachers: Sample from 2005 Sample from 2006 Sample from 2007
Electronic Portfolios: E Portfolio--Portfolio at a Glance (total grid): Sample from 2007 Sample from 2006 Sample from 2005

Standard 2: Assessment System and Evaluation

The teacher education program at Meredith College has an assessment system that collects and analyzes data on candidate and graduate performance. A program review of the content area is conducted every 5 years, and an annual review of the education program goals is conducted every year. Data collected are applied to program improvement.

Meredith College offers licensure in 9 – 12 Secondary Mathematics; the program is housed in the School of Natural and Mathematical Sciences and is evaluated as part of the program review completed by the Department of Mathematics and Computer Science. The unit (DOE) collects and analyzes the data that is obtained from students who complete the licensure program. The expectations for students in this program is based on the academic standards of Meredith College, the School of Natural and Mathematical Sciences, the Department of Mathematics and Computer Science, the Department of Education, the mission of Meredith College and the Department of Education, the Conceptual Framework of the Department of Education, and the standards of the North Carolina Department of Public Instruction.

Data collection has focused on three areas: candidate performance data, unit performance, and program performance.

1. Describe the system for the collection and analysis of data on candidate performance.

The candidate data has been collected on students who have completed licensure in mathematics. [Table 2.0](#) illustrates the DOE system for collection and analysis of data on candidate performance. The candidate assessment system is monitored continuously and components are added or deleted based on the data results or policy decisions. Assessment decisions are vetted in the Department of Education, with program coordinators of all licensure programs, in Teacher Education Committee, and with our partners in the public schools. For example, an ad hoc committee designed the new Teacher Candidate Evaluation Rubric (TCER). In fall 2006, the pilot instrument was presented to the department; program coordinators and methods faculty at their annual meeting with the department; Teacher Education Committee, composed of public school teachers and administrators; Department of Education faculty, several program coordinators from across campus, and current students; and, fall and spring student interns. The instrument was used at the midterm and final evaluations of student interns during the fall and spring semester, and evaluated at the end of each semester by the users, supervisors (i.e. program coordinators, methods faculty), and cooperating teachers. The candidate assessment system reflects the conceptual framework, INTASC standards, and the dispositions of the teacher education program in that the teacher candidates are expected to demonstrate competence in all areas. The assessment system collects data at key transition points: admission to the program, midpoint (admission to student teaching), during the formative assessment period of the student internship, at the conclusion of the internship, and at program completion. As indicated in Table 2.0, data is collected from internal and external sources at each point in the candidate assessment process.

2. Describe the system for the collection and analysis of data on the program and program operations.

The education program has an assessment system that collects and analyzes data on the program and program operations, including candidate and graduate performance. An annual review of the specialty area is conducted and the resulting data are applied, as needed, to program improvement.

The mathematics major undergoes assessment in the following ways and this program, in which the 9-12 mathematics education licensure candidates matriculate, will continue this practice:

Program reviews of the major content areas (every five years)

Strategic plan and annual reports (annual)

Final evaluations of student interns and cooperating teachers in the content area (annual)

PRAXIS II scores, if available (annual)

Any program changes that are recommended through this assessment process occur in a campus-wide systematic process: Needed program changes are submitted to and approved by the Department of Mathematics and Computer Science, the Dean of the School of Mathematical and Natural Sciences, the Teacher Education Committee, and the college's Academic Council. Program changes approved by Academic Council are submitted for faculty approval at the monthly faculty meeting. Program changes approved by the Meredith College faculty are then incorporated into the subsequent *Teacher Education Handbook* and the Meredith College catalogue.

Program Assessment

Various data on programs are collected upon program completion. The data collected are used, in part, for program improvement. Collected data include:

- Student intern exit surveys
- Program Completer Survey (IHE Report – NCDPI)
- Employer survey (IHE Report – NCDPI)
- Mentor survey (IHE Report – NCDPI)
- First and Fourth Year Program Completers Survey

Program completers have three opportunities to evaluate their program: immediately at the completion of the student internship, at the end of their first year teaching, and at the end of their fourth year teaching. At the end of the internship, each teacher candidate completes an evaluation on her program, cooperating teacher, and college supervisors. The Evaluation of Student Internship Experience and Teacher Education Preparation is in Likert and narrative format, and provides valuable information from candidates who have just completed their program. The evaluations are distributed at the end of the year to the appropriate program coordinators, department chairs, and Department of Education faculty. Table 2.1 shows the result of the evaluation of the student internship experience and teacher education preparation since fall 2005.

External data includes a survey conducted by the North Carolina Department of Public Instruction. On an annual basis, NCDPI administers a survey to program completers during their first year of teaching, their administrators and mentors. Data are summarized in the IHE Performance Report on Teacher Education. Data from this source are very general; however, it does provide an assessment on the quality of our teacher education program, and how competent our program graduates are in using technology and multiple instructional strategies, managing a classroom, and their ability to work with diverse students. Table 2.2 presents the data for the teacher education program at Meredith College from the 2002-2003 to 2005-2006 academic year.

As with the Evaluation of Student Internship Experience and Teacher Education Preparation, the First Year Program Completers survey is extensive, in that Likert-type items and narrative responses are expected. Two years of data from the First Year Program Completers survey and one year of information from our Fourth Year Program Completers survey are available, and a summary analysis of the First Year Program Completers Survey is presented in Table 2.3. Fourth year surveys are in a narrative format.

The Department of Education collects this data systematically and the data derived from candidates, cooperating teachers, through final evaluations of student interns; graduates of the program in their first and fourth year teaching, their mentors and administrators; and our partnership schools comprise our unit assessment. Included in this assessment also are strategic plans and annual reports that include information such as enrollment and retention of candidates. Collectively this data is used to recommend program changes and improvements. Table 2.4 notes program and candidate assessments used in unit assessment:

3. Describe the formal annual review of the program.

At the end of each academic year, all departments are asked to submit an annual report to their respective deans. All Department Heads report on (a) major highlights of the activities of the department; (b) major constraints; (c) faculty activities, including workshops and presentations, professional involvement, service to schools/community, research activity, publications; (c) student activities, including awards and scholarships, updates on recent graduates, and program completer survey data; (d) student data, including the number of students matriculating and completing the programs. Included in the major highlights from the department reports is information concerning changes in the major, faculty, and other changes that affect the department, such as department or school alignment. In turn, at the beginning of the next academic year, the program coordinator reports on any program changes to the licensure area.

In addition, each department submits an institutional effectiveness report to the College. This report responds to the same questions:

- **Strategic Planning:** Every year the strategic plan addresses the overall direction of a department, both long term, as well as short term. The direction of the department should support the initiatives and goals of the College, and the mission of the department. The strategic plan of the department reflects the strategic plan of the College, the long-range goals of the department, and how they are evaluated and reviewed; and the various ways that the department supports the learning environment and experiences of the students. In developing a yearly strategic plan, the department selects three to five goals, identifies the objectives, and describes evaluation methods. At the end of the academic year, it reports the evaluation results and makes or plans changes as a result of the evaluation.
- **Educational Outcomes Assessment:** Each year, the department identifies the educational outcomes that students are expected to be able to demonstrate at the completion of their program. Educational outcomes are what students are able to demonstrate in terms of knowledge, skills, and dispositions. Each educational outcome has established performance criteria, assessment methods, and assessment results. Departments report on how they are/have used the results of the assessment.
- **Results:** Based on the findings from the two areas above, program goals and objectives are discussed within the department, and if licensure program is involved, with the department of education, make recommendations for program revisions, and develop a plan for improvement and/or redesign of the program.

At the beginning of each semester, program coordinators for all licensure programs and the Department of Education meet to discuss updates and changes in education in North Carolina, report on changes within majors or in the departments that affect education, and plan for the upcoming year.

Table 2.0 Candidate Performance Data Collection and Analysis

Initial	Midpoint	Formative Assessment of Internship	Summative Assessment of Teaching Internship	Recommendation for Licensure
<ul style="list-style-type: none"> • PRAXIS I (Reading, Writing, Mathematics) (or acceptable scores on SAT/ACT) • Cumulative GPA (2.5 or better) • Content-area GPA - K-12, 6-9, 9-12 (2.5 or better) • 2 letters of recommendation • Attend Orientation Session • Student Essay on diversity • Planned Program signed by Advisor 	<ul style="list-style-type: none"> • Conference with program director or designates • Methods courses • Advising meeting with program coordinator/methods instructor • Cumulative GPA (2.5 or better) • Content-area GPA - K-12, 6-9, 9-12 (2.5 or better) • “C” or better in professional education courses • 2 midpoint recommendations – one from methods instructor • Updated planned program • Field experiences form • Speech competency screening form • Triangle Alliance and health form • Background check • Action plan, if necessary 	<ul style="list-style-type: none"> • Midterm conference • Midterm Internship Evaluation • Portfolio-at-a Glance portion of portfolio completed • Action plan, if necessary 	<ul style="list-style-type: none"> • Final Conference • Teacher Candidate Evaluation Completed 	<ul style="list-style-type: none"> • Professional Portfolio • “P” grade in internship • Completion of planned program • PRAXIS II, if applicable • Cumulative GPA (2.5 or better) • Content-area GPA - K-12, 6-9, 9-12 (2.5 or better) • “C” or better in professional education courses

Table 2.1 Summary of Exit Evaluation Surveys: Percentage of Candidates Rating Their Preparation “Good” or “Excellent”*

	Fall 05 (N=14)	Spring 06 (N=47)	Fall 06 (N=30)	Spring 07 (N=47)
1. Establishing/maintaining class rules/procedures	93	98	97	93
2. Discipline/behavior management	86	94	93	91
3. Teaching children with special needs	72	98	86	91
4. Teaching ESL students	79	84	69	88
5. Teaching students from diverse racial/ethnic backgrounds	93	98	90	98
6. Teaching students who are academically gifted	58	91	86	89
7. Incorporating technology into your teaching	93	98	83	94
8. Assessment	72	98	90	96
9. Establishing positive relationships with parents	86	100	97	94
10. Establishing positive relationships with students	100	100	100	100
11. Planning instruction	86	100	97	98
12. Differentiating instruction	93	100	93	100
13. Content knowledge	100	98	93	100
14. Reflecting meaningfully on teaching	100	100	100	98
15. Collaborating with colleagues	100	100	100	98
Average	87.4%	97.1%	91.6%	95.2%
Number of surveys returned		31		20
Number of surveys sent		69		56
*scale is 1 = weak; 2 = adequate; 3 = good; 4 = excellent				
**each standard consists of multiple questions				

Table 2.2 NCDPI IHE Report of Candidate and Employer Satisfaction for Initial Programs

Satisfaction with...	2002-03			2003-04			2004-05			2005-06		
	C	M	P	C	M	P	C	M	P	C	M	P
Quality of teacher preparation program	3.82	3.83	3.50	3.71	3.70	3.73	3.70	3.59	3.63	3.84	3.74	3.67
Preparation to effectively manage the classroom	3.59	3.61	3.27	3.49	3.53	3.42	3.42	3.31	3.37	3.50	3.57	3.36
Preparation to use technology to enhance learning	3.59	3.70	3.59	3.53	3.45	3.39	3.48	3.56	3.48	3.44	3.65	3.48
Preparation to address the needs of diverse learners	3.59	3.61	3.23	3.66	3.47	3.27	3.55	3.38	3.26	3.59	3.54	3.59
Preparation to deliver curriculum content through a variety of instructional approaches	3.82	3.78	3.41	3.8	3.63	3.52	3.59	3.50	3.52	3.88	3.65	3.52
Number of surveys received (N)	22	23	22	35	39	33	33	32	27	32	46	33
Scale: 1= strongly disagree; 2 = disagree; 3 = agree; 4 = strong agree						C= program completer; M = mentor; P = principal						

Table 2.3 Percentage of Program Completers Indicating “Good” or “Excellent” Preparation on the First Year Program Completers Survey*

INTASC/TCER Standard**	Summer 2005	Summer 2006
Content knowledge	76.4	83.3
Student development	88.7	92.5
Diverse learners	94.2	83.5
Instructional strategies	83.3	91.2
Motivation and management	86.0	93.3
Communication and technology	92.5	100
Planning	82.8	93.1
Assessment	82.3	86.7
Reflective practice and professional growth	97.8	91.7
School and community involvement	85.5	82.1
Average	87.0%	89.7%
Number of surveys returned	31	20
Number of surveys sent	69	56
*scale is 1 = weak; 2 = adequate; 3 = good; 4 = excellent		
**each standard consists of multiple questions		

Table 2.4 Program and Candidate Assessments

Program and Candidate Assessments			
Instrument/ Evaluation	Data Source	Data Collection/ Analysis/ Responsibility	Review Cycle
GPA at Admission	Registrar's Office	DOE Office TEC Committee	Annual
PRAXIS, SAT, ACT	ETS Admissions Office IHE Report	DOE Office TEC Committee	Annual
Field Experiences Report	Candidates	Field Experiences Coordinator (K-6) Director, Teacher Education	Semester/Annual
Program Completion Surveys	Candidates	Director, Teacher Education	Semester/Annual
Post Completion Surveys	IHE Report Graduate Surveys	NCATE Coordinator TEC Committee	Annual
Technology Standards Pass Rate	Faculty/Supervisors	Field Experiences Coordinator (K-6) Director, Teacher Education	Semester/Annual
Teacher Candidate Evaluation (TCER)	Faculty/Supervisors	Field Experiences Coordinator (K-6) Director, Teacher Education	Semester/Annual
Professional Portfolio	Faculty/Supervisors	Field Experiences Coordinator (K-6) Director, Teacher Education	Semester/Annual
Operations Assessments			
Enrollment Numbers/Program	IHE Report	Director, Teacher Education TEC Committee	Annual
Number Licensed and Employed within 1 year of graduation	IHE Report	NCDPI	Annual
Number Graduates employed in Public Schools	IHE Report	NCDPI	Annual
Analysis of Faculty Service to Public Schools	Faculty – Annual Reports	Department Head/Dean	Annual
Observation of Teaching - Faculty	Department Head	Dean	Annual
Peer Observation of Teaching - Faculty	Faculty	Department Head	Annual
Student Evaluations of Course and Instructor	Faculty/Department Head	Department Head	Semester/Annual
Candidate Complaint/Concern	Department Head, Dean, VPAA	Department Head, Dean, VPAP	Annual
Department of Education Goals, Progress Annual Report, and Institutional Effectiveness Plan	Faculty	Department Head NCATE Coordinator	Annual

Program Standard 2
Xythos
Program Review
Annual Reports

Program Standard 3: Field Experiences and Clinical Practice

Meredith College currently has a partnership with the [Wake County Public Schools System](#) (WCPSS) through the Triangle Alliance Agreement and individual school partnerships with 12 elementary schools. The K-6 program at Meredith is currently our largest program that allows individual relationships to be beneficial both to the school and to our students. The partnership with WCPSS allows the Department of Education and the mathematics program to seek out mathematics teachers who use best practices for our students.

Program Standard 3A: Field Experiences and Clinical Practice

Students in the mathematics education program will have sequentially planned field experiences that will begin early in the student's program and will culminate in a continuous and extended minimum eleven-week period of student teaching the area of 9-12 mathematics. All field experiences are supervised and formal midterm and final evaluations involving college supervisors, cooperating teachers and student teachers are collected and analyzed.

1. Describe the early field experiences and the sequence in which they occur.

Field experiences and clinical practice are intended to provide candidates with experiences that closely align themselves with the mission and the Conceptual Framework of the Department of Education and its programs.

The program begins with developing our candidates into leaders in education. During early field experiences, linked to specific course requirements, candidates begin to learn how school systems and schools work. During EDU 232, Foundations of American Education, undergraduate and licensure only mathematics education candidates work in a school, learning how school systems and individual schools within that system operate. They attend school board/advisory council meetings, talk with teachers and administrators, and study the inner workings of the school. Also, candidates are introduced early into the importance that the department places on diversity and the importance of reaching the diverse populations in our schools. A section of Foundations is linked to [SOC 273, Education and Family in Mexico](#), a sociology course that emphasizes understanding and meeting the needs of the increasing Latino population in the area. The linked course requires working with ESL students in some of our partner elementary schools, and satisfies a general education requirement, [CORE 200](#). EDU 234, Educational Psychology requires students to observe and assist a public school teacher and class in their area of licensure, and to observe in a classroom for exceptional children. Other courses, outside of the Department of Education, taken as requirements for licensure, [SOC 335, Race and Ethnic Relations](#) and [PSY 312, Psychology of Exceptional Individuals](#), often require field work as part of the course requirements.

The student internship begins the semester before the full time internship experience. Mathematics education candidates receive their school assignment and cooperating teacher the semester during methods, a semester before the internship. Having this opportunity gives candidates the opportunity to work in the school, with the cooperating teacher, and the students. Also, it allows the cooperating teacher to note the work ethic of the candidate and raise concerns that can be dealt with before the candidate begins the student internship. Feedback is solicited from the cooperating teacher at the end of the first semester of placement through informal assessment and with two formal assessments completed during the internship.

The program in 9-12 mathematics education requires carefully sequenced and highly structured field placements connected to various required courses within the program of study. Table 3.0 shows field placements for Secondary (9-12) Mathematics licensure students.

Table 3.0 Field Experiences for Comprehensive Science Licensure Students

Program	Year/Sem	Course/Number	Type of Experience	Hours in Field
All Programs	Sophomore	EDU 232 Foundations of American Education	Introductory – observation, participation	Minimum of 10 hours
All Programs	Sophomore/ Junior	EDU 234 Educational Psychology	Introductory - observations and limited participation	Minimum of 10 hours
All Middle/ Secondary Programs	Senior Fall or Spring Semester	MAT 764— Teaching Middle/Secondary Mathematics	Observation, active participation, mini teaching	Minimum of 10 hours
All Middle/Secondary Programs	Senior Fall or Spring Semester	EDU 466 – Pre-adolescent & Adolescent Behavior	Internship – Observation, case study	Minimum of 40 hours
All Secondary Programs (opt. Middle Grades)	Senior Fall or Spring Semester	EDU 467 – Secondary School	Internship – Observation, mini-teaching	Minimum of 40 hours
All Middle/Secondary Programs	Senior Fall or Spring Semester	EDU 450 – Reading in the Content Area	Internship – Mini-teaching	Minimum of 40 hours
All Programs	Senior Fall or Spring Semester	EDU 440 – Seminar in Education	Internship – Observation, journaling	Minimum of 40 hours
All Programs	Senior year Fall or Spring Semester	EDU 490 – Supervised Observation and Directed Teaching	Internship – consecutive 11-week semester	11 weeks/40 hours/week = 440 hours

2. Describe the student teaching requirement, including length of time and setting, for those seeking an initial teaching license.

During the final semester, mathematics education candidates have the opportunity to demonstrate their strong content knowledge by being able to transform the knowledge and skills learned not only in their content area, but also in their general education, into their classroom by completing a fulltime eleven week student teaching experience. In the student internship, candidates demonstrate their competence through the requirements described in the Internship Handbook for Teacher Candidates. These requirements include lesson plans and critiques, videotapes for self-assessment, planning, teaching, observation of other teachers in other mathematics classrooms, and a reflective seminar both throughout the semester and at the completion of the internship. The cooperating teacher; two college supervisors—one in content, the other in the department of education—and the candidate assess and document progress using the Teacher Candidate Evaluation Rubric (TCER). Reflection is imperative as the candidate confers with the education supervisor and content area supervisor on a weekly basis;

is part of conferencing with the cooperating teacher and the education and/or content area supervisor; attends weekly reflection seminars with her peers and education supervisor; and, has individual consultations with the education and content area supervisor. The education supervisor conducts conferences with the intern and the cooperating teacher, has consistent and constant contact with the intern and cooperating teacher, and conducts the reflection seminar with the candidate and her peers. Most 6-9 and 9-12 content area supervisors hold reflective seminars with interns also, including mathematics. This time of community-building, reflection, and group problem-solving is an important component of the mathematics internship support experience.

3. Describe the involvement of the P-12 partners in field experiences and clinical practice.

The Department of Education has a collaborative agreement through the Triangle Alliance with Wake County Public Schools (WCPSS). This agreement, which is with all IHEs in the Triangle area, sets forth the criteria and conditions for placement of candidates in P-12 field experiences settings. The Wake County Public School System has a number of inner city, suburban, and rural schools. In addition, the majority of WCPSS high schools are ethnically and economically diverse. Having a school system with such a variety of schools enables the Department of Education working with the program coordinator or methods instructor to select the school and cooperating teacher that will provide the best experiences for the teacher candidate. The Director of Teacher Education keeps a record of the mathematics education candidates' experiences while in the program. During the methods semester, the director along with the mathematics program coordinator/methods faculty, evaluates the experiences of the mathematics education candidates and works with WCPSS to assign candidates to the schools and cooperating teacher.

From past experience, the director and the mathematics education methods faculty have worked with a number of excellent cooperating teachers in WCPSS. In addition, the director relies on the recommendation of the school's department head, assistant principal for instruction (API) or the grade level assistant principal of a cooperating teacher either for early field experiences and/or student internship placement. Several WCPSS high schools have over 2000 students, and the communication with the API makes for easy placement of a mathematics education candidate. On occasion contact is made with the Director of Mathematics Education of Wake County Schools. Using this approach to placement, the Department of Education is confident in having cooperating teachers who are highly qualified in their content area. For early field experiences in the secondary education program, contact to the school is made by the Director of Teacher Education. The instructor of the early field experience course, whether it is EDU 232 or EDU 234, informs the school and teacher of the goals, objectives, and expectations for the student and the course. For the methods placement, initial contact is made by the Director of Teacher Education; then, communication among the student, mathematics methods professor, and the mathematics teacher are usually done by email so that the goals, objectives, and expectations for the student are understood. Again, at the end of the first semester of internship placement, the director requests feedback from the cooperating teacher. If problems are noted, the situation is dealt with by the director, program coordinator/methods faculty, cooperating teacher, assistant principal, and the candidate. If a change in placement is necessary, the same procedure is followed. During the 11-week fulltime internship semester, candidates request a formal evaluation from one of the assistant principals or the mathematics Department Head in the high school. Usually this assessment is completed by the administrator using the Teacher Performance Appraisal Instrument (TPAI). This assessment is usually used as part of the professional portfolio.

4. Identify the criteria and processes used for making field placements.

In some cases, such as EDU 232, Foundations of American Education, field placements for mathematics education students are made by the instructor of the course. This course is a more generalized look at public schools and the public school environment from a perspective teacher's point of view. In EDU 234, Educational Psychology, early field experience placement for all middle/secondary/K-12 teacher candidates is made by the Director of Teacher Education. Arrangements are usually made with assistant principals (middle/high schools), department heads, or individual teachers.

Cooperating teachers are identified for placements the semester before the full time student internship. For mathematics education student internship placements, the Director of Teacher Education collaborates with the mathematics education methods faculty, school administrators (assistant principals for instruction or grade level assistant principals), and department heads to identify highly qualified mathematics teachers in the WCPSS. On occasion, WCPSS principals are contacted. Other factors also go into the placement of mathematics education candidates. In addition to the early field placement list that the Director maintains, the candidate is asked about other experiences she might have had with students in a public school setting. The admission essay is used as a gauge for experiences with diverse students that the candidate might need to have during the student internship experience. The area(s) of mathematics that the cooperating teacher teaches is also used as a basis for placement. The Director works with the school system to ensure that the candidate has a diversity of students, and if possible, more than one mathematics area to teach. The Director of Teacher Education also reviews past evaluations of cooperating teachers in mathematics. After the cooperating teachers are identified, the candidate spends the first semester working in their classroom, interacting with students, teaching minilessons, attending meetings, if possible. At the end of the first semester of internship placement, the director requests feedback from the cooperating teacher. If problems are noted, the situation is dealt with by the director, program coordinator/methods faculty, cooperating teacher, assistant principal, and the candidate. If a change in placement is necessary, the same procedure is followed. If the placement is approved by the school and the cooperating teacher, the cooperating teacher receives a letter with further information concerning the student internship semester, a copy of the Internship Handbook for Teacher Candidates, other pertinent information.

5. Describe the procedures used to prepare cooperating teachers and field-based supervisors for their roles.

The school system and the individual school ensure the qualifications of the cooperating teacher. Specific qualifications of cooperating teachers include earned licensure in the teaching field, tenure, a recommendation from the school administrator, and agreement from the cooperating teacher. Cooperating teachers receive preparation and support for fulfilling their roles from the Department of Education and the mathematics methods faculty. The Director of Teacher Education meets with a beginning or new cooperating teacher to our program. During this meeting, the director provides an overview of the teacher education program at Meredith College and its philosophy of internship support, the collaborative nature of our work, the responsibilities of the cooperating teacher, student intern expectations, the assessment instruments, and answers any questions that the cooperating teacher might have. A dinner meeting is held one evening before the fulltime student internship begins with the education supervisor, student intern, and the mathematics education faculty. During this meeting, the program philosophy, including the department's Conceptual Framework and dispositions, and the partnership among the student intern, cooperating teacher, education and content area supervisor are discussed; student intern expectations are outlined, including lesson planning, videotaping, technology/professional portfolio; and, the evaluation process is reviewed.

In most cases, education and content area supervisors for all middle/secondary/K-12 programs are full time tenured faculty. If part-time faculty are hired to supervise in these programs, the criteria include a minimum of a Master's degree in a relevant field, at least three years of successful teaching in the public school classroom, experience in the subject area and/or level of licensure, evidence of on-going professional development, and recommendations of other educators. Part-time faculty who supervise are required to meet with the Director of Teacher Education and the content area methods faculty to discuss responsibilities and guidelines for working in the program.

Each semester, WCPSS asks cooperating teachers to evaluate the college supervisor and the quality of supervision provided by the institution. Student interns evaluate confidentially the education and content area supervisor. The assessment instruments include a Likert instrument as well as open-ended comments. Results are compiled by the Director of Teacher Education and are distributed to the supervisors and the appropriate Department Heads for review, once a year. If an evaluation raises concerns, the Department Head of the Department of Education consults with the Department Head of the content area on providing support and opportunities for improvement.

6. Describe how candidates in field experiences are supervised and evaluated.

Early field experiences for candidates in mathematics education are assessed through the individual classes. Their assignments are assessed by the faculty teaching the professional education courses in which the work is required. If candidate work is below standard or unsatisfactory, the faculty will contact the cooperating teacher for feedback, or the cooperating teacher contacts us with concerns. Lines of communication are always open. All cooperating teachers involved with our students in field experiences and clinical practice believe that they can comment candidly not only on the readiness and preparation of Meredith College teacher candidates, but also on whether they are demonstrating the dispositions we have carefully outlined.

During the semester before the internship, cooperating teachers are asked for feedback on the candidate. The assessment process during the student internship requires that the cooperating teacher, student intern, and both college supervisors, education and content area, each complete a midterm and final evaluation. The cooperating teacher completes informal and formal classroom assessments during the internship, and the education supervisor completes at least four formal classroom observation assessments with the content area supervisor completing two or three, using the Teacher Candidate Evaluation Rubric (TCER).

All student interns in the middle/secondary licensure program begin a reflective journal during the semester of the full time student internship. In addition, they complete a case study on a special needs student in their classroom. During the internship, there are numerous opportunities for candidates to reflect on their experiences. Cooperating teachers provide informal oral and written feedback on lesson plans, classroom management strategies, and instructional strategies. Candidates complete and critique two videotapes, and communicate with the education supervisor on a weekly basis. In addition, candidates participate in student internship seminars throughout the full time student internship period that provide opportunities to problem-solve, reflect on the week, and receive peer feedback.

Measurement and evaluation of student learning are embedded throughout the teacher education program. Candidate designed lesson plans require that candidates demonstrate the knowledge and skills in planning for the evaluation of student learning. In addition, all lesson plans must indicate differentiated instruction for exceptional students/English Language learners. During the methods and student internship semester, a variety of assessment strategies are expected. Examples of rubrics

used, informal and formal assessment strategies, and a variety of assignments are expected to be demonstrated during this period.

7. Describe how field experiences and clinical practice are evaluated.

Each semester, cooperating teachers provide an anonymous evaluation of the education supervisors using an instrument developed by WCPSS. The evaluation is sent to the Director of Field Experiences at WCPSS, who forwards them to the Director of Teacher Education.

Cooperating teachers, college supervisors, and programs are evaluated by student interns at the end of each semester. The Evaluation of the Student Internship and Teacher Education Preparation is completed by each student intern online at the completion of their internship. The form includes multiple choice items, a Likert item, and open-ended comments. Results of these evaluations are distributed to the supervisors, Director, Teacher Education Program, and the Department Heads of both Education and the content area. If an evaluation raises a concern about a supervisor's performance, the Department Heads consult with each other and with the individual supervisor. Program concerns are catalogued and if the same concerns are expressed over a period of time, the program coordinator meets with the Director of the Teacher Education and, if necessary, the Chair, Department of Education, to discuss plans of action to remedy the situation.

Program Standard 3
Xythos
Portfolio at a Glance – Case Study

Program Standard 4: Diversity

The program designs, implements, and evaluates curriculum and experience for candidates to acquire and apply the knowledge, skills, and dispositions necessary to help all students learn. These experiences include working with diverse higher education faculty and school faculty, diverse candidates, and diverse students in the public school settings.

1. Describe how diversity is addressed in the curriculum and in clinical practice.

Diversity is ingrained in the mission and general education of Meredith College, is an important part of the Mission and Conceptual Framework of the Department of Education, and is a major focus of our partner school system, the [Wake County Public School System](#) (WCPSS). The secondary mathematics program at Meredith College addresses diversity in multiple and meaningful ways. The General Education and education curriculum, field experiences, and clinical practice allow candidates to demonstrate knowledge, skills, and dispositions related to diversity. All these areas give candidates the necessary knowledge bases, and conceptualizations of diversity and inclusion so that they can apply them effectively in schools. Candidates in the mathematics education program understand and demonstrate the importance of adjusting instruction to accommodate the individual learning needs of their students, and creating a learning community respectful and inclusive of individual differences. They learn to build on students' knowledge and experiences to make learning relevant, engage all students, and through best practices in multicultural and inclusive education, use a variety of instructional strategies to support all students in meeting intended instructional outcomes. The program works to ensure that all candidates consistently embed authentic multicultural resources, and use multiple perspectives to strengthen the curriculum and engage all students.

Undergraduate students enroll in a three-component CORE general education program: CORE 100, 200, and 400.

CORE 100: Undergraduate students examine histories, myths, stereotypes, and current facts about the primary American cultural groups that participate in our democratic society. Students conduct research to discover how different cultural beliefs about economic class, race, ethnicity, religion, gender, and sexual orientation affect how citizens of the United States see themselves and how others see them. Students explore their own cultural backgrounds, read the stories of citizens from different cultural backgrounds, and attend community events that celebrate or illuminate cultural identity, then discuss and reflect on the course material with a faculty member or well-trained student reflection leader.

CORE 200: CORE 200 courses focus on cultures and cultural interaction outside the United States. CORE 200 can be completed by one of two ways. Students may take a two-course linkage, such as EDU 232, Foundations of American Education and SOC 273, Education and Family in Mexico, that will fulfill her CORE 200 requirement as well as other general education requirements, or they can study abroad. The linkage serves as a learning community to provide students with an interdisciplinary experience that includes focused study of another culture. Alternatively, students can study abroad. All Meredith Study Abroad Programs, Borderlinks semester on the border, Danish International Study, and a variety of other Meredith-approved study abroad programs fulfill the CORE 200 requirement. International students and students with experience abroad may apply to show they have fulfilled the requirement through alternative means.

CORE 400: The third course in the sequence examines a problem of global significance and then addresses the problem in the student's community. CORE 400 courses often fulfill other general education requirements. CORE 400 includes courses such as: CORE 401 Technology and Social Change, CORE 941 The Problem of Homelessness, and CORE 942 Global Questions: The Needs of Families.

All mathematics education candidates take EDU 232, Foundations of American Education. Candidates who are fulfilling their CORE 200 requirements through Study Abroad have the option of taking the linked course, SOC 273, Education and Family in Mexico. In addition, EDU 234, Educational Psychology, SOC 335, Race and Ethnic Relations and PSY 312, Psychology of Exceptional Individuals are required of the secondary education candidate's licensure program. These courses are designed to equip candidates with the knowledge and skills to make academic modifications and accommodations for diverse students, including students with exceptional learning needs, and students who are at risk for learning problems. As a culminating project to ensure that students have the skills and dispositions to work with all students, all mathematics education candidates complete a case study of an exceptional student in their student internship classroom for EDU 466, Preadolescent and Adolescent Behavior. During the final reflection week, all middle/secondary candidates come together to reflect on their case study, what worked, what did not work, and plans for the future given the types of concerns raised in the classroom setting.

The Mission and Conceptual Framework of the Department of Education stress the importance of educating all students. The Mission of the Department of Education is to prepare educators who have the knowledge, skills, and values to teach all students, and stresses the commitment of the program to develop teachers who embrace their significant role in a diverse society. Candidates recognize that teaching in a diverse global community is an integral part of our program by understanding and demonstrating the Conceptual Framework. The Conceptual Framework emphasizes that all candidates in the teacher education program at Meredith College maintain high expectations for all students, and that they practice inclusive teaching. They demonstrate culturally relevant teaching, are open to cultures and ideas other than their own, and affirm the cultural diversity that their students bring to their classrooms. They know how to modify instruction to support the unique learning needs of each student and provide a relevant and rigorous education to all students.

Assessment of candidates and their experiences begins with the student essay required for admission to the program. Candidates with limited experiences with diverse students are given an opportunity to gain that experience either on their own or through prescription. Candidate assessment is continuous throughout the program, and is used to provide feedback to candidates for improving their knowledge, skills, and dispositions. In that we are a College of many different kinds of young women who have had varied experiences with diverse populations, we are fairly prescriptive in the experiences that we try to provide for our students. The Director of Teacher Education works to provide candidates with challenging, yet rewarding experiences in schools and classroom with diverse learners. Courses that are prerequisites to the student internship include instruction and assignments that require candidates to demonstrate their abilities to work with and plan for a culturally diverse population. Assessments of candidates include evaluations of diversity proficiencies that are aligned with INTASC standards, and the student internship assessment rubric, TCER, delineates candidate expectations for demonstrating the competencies in meeting the needs of all students.

Other data validate our candidates' preparation and dispositional attitudes regarding diverse populations. According to the IHE Performance Reports for NCDPI for the past 5 years, graduates of the teacher education program at Meredith College have received ratings higher than the state's average in working with diverse learners. And, the results of the department's survey of first and

third year program graduates indicate that they were prepared well to work with diverse populations of students.

2. Describe the diversity of the higher education and P-12 faculty with whom candidates interact. Give specific numbers that reflect the ethnic, racial, and gender diversity at the institutional, unit, program, and P-12 levels.

Candidates interact and collaborate in classroom settings on campus and in schools with faculty from the College, department, professional education faculty, and school faculty from diverse ethnic, racial, and gender groups. The College and the Department of Education have a minority faculty recruitment plan that guides the institution and the department in its recruitment and retention efforts. Table 4.0 represents Meredith College faculty and professional staff demographics at Meredith College. This table includes faculty in the Department of Education as well as the Department of Mathematics and Computer Science.

The School of Natural and Mathematical Sciences, composed of the following departments: the Department of Biology and Health Sciences; the Department of Chemistry, Physics and Geoscience; and the Department of Mathematics and Computer Science has strong faculty diversity. The mathematical and natural sciences are represented by strong women in the field, with Dr. E. Jacquelin Dietz, heading the Department of Mathematics and Computer Science; an African-American woman, Dr. Walda Powell, heading the Chemistry, Physics, and Geoscience Department; and, Dr. Elizabeth Wolfinger, the Dean of Mathematical and Natural Sciences.

Candidates work in diverse P-12 school settings. Minority 9-12 school faculty in mathematics with 5 or more years in WCPSS schools is less than 10%; however, many women do have positions in mathematics education departments. Given these statistics, the Director of Teacher Education works diligently to place students in diverse classrooms. Table 4.1 depicts the demographics of the last four schools that mathematics education candidates were placed: Faculty demographics of all the schools in Wake County is represented by the chart.

3. Describe how the program provides opportunities and experiences for candidates to interact with diverse higher education and school faculty.

Faculty and professional staff in mathematics education, teacher education, and the 9-12 schools have the knowledge and experience to prepare candidates to work with students from diverse cultural backgrounds, including students with exceptionalities. Candidates interact with faculty in mathematics education in labs, research projects, advising sessions, conferences, labs, and the in-class environment.

The College continues its efforts to recruit minority faculty in all searches. In addition to advertising in national publications, such as [*The Chronicle of Higher Education*](#), [*Journal of Hispanic Higher Education*](#), and [*The Journal of Blacks in Higher Education*](#), discipline specific journals and newsletters, individual departments direct mail position announcements to historically minority institutions and to graduate schools that produce a high number of minority candidates. The area of mathematics education has had much difficulty finding candidates with both licensure and terminal degree; however, the School of Natural and Mathematical Sciences is committed to pursuing candidates wherever possible. Recognizing its limited numbers of minority faculty, the College and individual departments are committed to increasing the numbers of minority candidates brought to campus and pursued.

During the 2006-07 school year, the teacher education faculty included one minority faculty member, tenured and full-time to the institution, one full-time minority faculty member, and one adjunct faculty member teaching in the elementary program. The Director of Teacher Education, a tenured, full-time faculty member, supervises mathematics education student teachers along with the mathematics education methods faculty.

WCPSS continues the commitment to diversify its faculty, also. The most recent data indicate that the percentage of racial/ethnic minority teaching faculty in Wake County is 15.5%. The school system shares the same concern with the College about the number of experienced, tenured mathematics teaching faculty and is aggressively recruiting minority faculty. A small group of personnel in the Division of Human Resources, WCPSS, is currently focusing on strategies to recruit and retain minority teaching faculty.

4. Describe the diversity of candidates in the program. Give specific numbers that reflect the ethnic, racial, and gender diversity.

Of the three candidates who have completed licensure in 9 – 12 mathematics in the past 6 years, two have been minority candidates—one African-American and one Asian/Pacific Islander—and all have been female. The following depicts candidate diversity at the undergraduate level.

**Demographic* History of the Department of Education
2001-2007**

Undergraduates/Licensure Only for Initial Licensure

	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007
Caucasian	75	82	70	79	64	72
African-American	3	5		2	3	3
Hispanic		2			1	2
Asian		1	1		1	1
Native American		1				
Other						

*Note: All candidates were female

5. Describe how the program provides opportunities and experiences for candidates to interact with diverse candidates.

Teacher education candidates at Meredith College reflect the ethnic, racial, and socioeconomic diversity of the student body, which is reflected in the next table. Meredith College takes seriously student recruitment; however, the primary responsibility for recruitment lies with the [Office of Admissions](#). Meredith College makes intensive efforts to recruit and retain minority students on campus, works diligently to provide experiences on campus to demonstrate the inclusive nature of the environment, and sponsors College Success Workshops in the summer for minority students who have been admitted. Information sessions held during the year focus on academic offerings, financial aid, and college life. The summer workshops focus on study skills, being successful and becoming involved at Meredith College. Teacher education faculty speak with prospective students concerning teacher education, and minority student recruitment is a major emphasis of the North Carolina

Teaching Fellows program at Meredith College. Additional minority recruitment out of the Office of Admissions targets schools with higher concentrations of college-bound minority students; attending college fairs, and other programs geared to working with minority students transitioning from school to college. The Office of Admissions contacts minority graduates of the College and current minority students for prospects, and the Department of Education contacts its program graduates who are teaching in high school for minority prospects.

The Department of Education, as well as the College, continues to recruit minority candidates into teacher education, and while the number of the minority teacher candidates is not as great as the department would like, class size at Meredith College allows our students to interact with minority candidates not only in the program, but in classes throughout the College. The College, Department and Teaching Fellows have a commitment to building a diverse community. Recognizing that our total student population was less diverse than we would like, we encourage students to interact with others who have different backgrounds, experiences, religions, and outlooks than themselves. The restructuring of the General Education program is the College's commitment to providing its students with these experiences, both at home and abroad.

The College recognizes that recruitment is only one half of the solution, and that retaining of the students is another important factor. The [Office of Commuter Life and Diversity Programs](#) was established to serve as a support system to the diverse population of students of color. Workshops and seminars sponsored by the office are designed to help students of color be successful academically and socially. In addition, a wide range of services are offered to enhance cultural diversity, racial understanding and personal development of all students at Meredith College. Demonstrating her personal commitment to diversity on campus, the President established a [Diversity Council](#) on campus to further the diversity initiatives of the College. Those initiatives include:

- Increasing the diversity of our students, faculty, and staff.
- Researching, identifying, and implementing diversity training opportunities for the Meredith community.
- Identifying programs, services, and facilities that will make Meredith a more welcoming environment.
- Identifying diversity resources.
- Evaluating Meredith's progress towards its diversity goals.

The [Student Government Association](#) (SGA) established the [Unity Council](#) during the 2005-06 school year to study, address, and attempt to solve concerns about diversity; and support the well-being of all students and organizations affected by diversity and prompt inclusiveness.

The goals of Unity Council are varied and include:

- Increased diversity education awareness on campus.
- Providing an open forum for students to voice concerns pertaining to issues of diversity and inclusiveness on campus.
- Sponsoring and co-sponsoring programs, seminars, and/or conferences on campus to deal with diversity issues.

Both Councils have been active since their inception, and continue to be an integral part of the campus, taking on the diversity challenges that the College faces in the 21st century.

- 6. Describe the diversity (including exceptionalities) of the K-12 students with whom candidates work in clinical experiences. Give specific numbers that reflect the ethnic, racial, gender, and socio-economic diversity and exceptionalities.**

The majority of students who enroll in the teacher education program complete field experiences and clinical practice in the [WCPSS](#). The table below indicates the PK-12 student diversity by free and reduced lunch and ethnic profiles of the school system. WCPSS uses socioeconomic data to ensure that no school in the system has more than 40% of its students eligible for free or reduced-price lunch. The school system, with a long-standing commitment to academic excellence and student diversity, has adopted a policy of student assignment that uses socioeconomic data to ensure that no school in the system has more than 40 percent of its students eligible for free or reduced-price lunch.

Student Demographics in Wake County Public Schools 2005 – 06

County	Free/Reduced Price Lunch %	Caucasian %	Hispanic %	African-American %	American Indian %	Asian %	Exceptional Students %	Gifted %
Wake	28.1	56.8	8.3	30.2	.3	4.5	15.1	14.1

WCPSS serves over 14,000 students with special needs. The school system provides a continuum of service to meet the individual needs of learners. When possible PK-12 students are served in schools in their base attendance area or in schools of choice with support from special education and related services and/or building modifications. Most middle and high schools in the WCPSS service special needs students who are able to work in regular classes using the inclusive/consultative model, and most high schools provide curriculum assistance (CA) to special needs students who have transitioned from full time services. The majority of student interns in middle and secondary school classrooms design and execute students in classes with special needs students. Lesson plans indicate accommodations they make for special needs students in the regular classroom. In addition, case studies demonstrate their focus on special needs students in their own classroom.

7. Describe how the program ensures that candidates interact with diverse K-12 students in public schools settings.

Candidates in the teacher education program at Meredith College have substantial opportunity to work with diverse students in the public schools of Wake County. Given the diverse population of the school system, socioeconomic, racially, and ethnically, including exceptional students, teacher education candidates are assigned, monitored, and supervised to ensure that they have experiences with students of varying academic ability and diversity. Schools in Wake County are located in urban, suburban, and rural areas, and given candidates prior experiences in working with diverse populations, field experiences and clinical practice are chosen to give candidates a variety of experiences. In addition to the racial, ethnic, and socioeconomic diversity, Wake County Public Schools is a model of inclusion programs and sheltered instruction for ESL students. Throughout the series of field experiences as part of the various class assignments, teacher education candidates at Meredith work with all levels of students to gain experiences necessary to be an excellent candidate for employment throughout the state of North Carolina and the country.

Table 4.0 Faculty Demographics – 2006-2007

	Professional Education Faculty in Initial Teacher Preparation Programs*		Professional Education Faculty in Advanced Programs**		Mathematics/Computer Science Faculty		All Faculty in the Institution***		School-Based Faculty	
	N (%)		N (%)		N%		N (%)		N (%)	
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Cooperating Teachers	All WCPSS
American Indian or Alaskan Native	-	-	-	-			-	-	-	20 (0.2)
Asian or Pacific Islander	-	-	-	-			3 (2.3)	2 (1.6)	-	64 (0.7)
Black, non-Hispanic	2 (22.2)	1 (12.5)	1** (20)	1 (100)			4 (3)	3 (2.4)	3 (3.8)	1058 (12)
Hispanic	-	-	-	-			5 (3.8)	2 (1.6)	1 (1.3)	151 (1.7)
White, non-Hispanic	7 (77.8)	7 (87.5)	4** (80)		9 (100)	6 (100)	112 (84.8)	103 (83.1)	74 (94.9)	7342 (83.2)
Other										79 (0.9)
Race/ethnicity unknown	-	-					8 (6.1)	14 (11.3)	-	113 (1.3)
Total	9 (100)	8 (100)	5 (100)	1 (100)	9 (100)	6 (100)	132 (100)	124 (100)	78 (100)	8827 (100)
Female	9 (100)	6 (75)	5 (100)	1 (100)	4	5	88 (66.7)	89 (71.8)	73 (93.6)	no data
Male	-	2 (25)	-	0	5	1	44 (33.3)	35 (28.2)	5 (6.4)	no data
Total	9 (100)	8 (100)	5 (100)	1 (100)	9 (100)	6 (100)	132 (100)	124 (100)	78 (100)	no data

*Includes full time faculty in professional education and part time faculty in education not otherwise employed by the college.

**Faculty counted in both initial teacher preparation and advanced programs since they teach at both levels.

***Fall 2006 census

Table 4.1
Race/Ethnicity of Schools Used for Mathematics Student Interns (9-12)
in the last four placements, Academic Years 2005 – 2006 and 2006 – 2007

School	Total Faculty including Race/Ethnicity
Sanderson High School	127
African/African-American	21
Caucasian	100
Asian	2
Hispanic	1
Other	3
Millbrook High School	138
African/African-American	27
Caucasian	107
Asian	1
Hispanic	2
Other	
Southeast Raleigh High School	127
African/African-American	34
Caucasian	87
Asian	0
Hispanic	2
Other	1
No Data	3
Cary High School	132
African/African-American	11
Caucasian	112
Asian	1
Hispanic	1
Other	2
No Data	5

Table 4.2 Meredith College Student Demographics 2001-2006

Fall	2001		2002		2003		2004		2005		2006	
	#	%	#	%	#	%	#	%	#	%	#	%
Undergraduate												
White, non-Hispanic	2,034	88.2	1,864	85.7	1,672	83.6	1,623	80.8	1,575	78.2	1,544	77.6
American Indian/Alaskan Native	5	0.2	8	0.4	8	0.4	7	0.3	7	0.3	5	0.3
Hispanic	38	1.6	31	1.4	30	1.5	45	2.2	44	2.2	47	2.4
Black, non-Hispanic	142	6.2	145	6.7	148	7.4	190	9.5	220	10.9	209	10.5
Asian or Pacific Islander	27	1.2	31	1.4	31	1.6	33	1.6	44	2.2	43	2.2
Other	NA	NA	7	0.3	18	0.9	24	1.2	31	1.5	31	1.6
Nonresident alien	19	0.8	20	0.9	17	0.8	24	1.2	16	0.8	18	0.9
Race/ethnicity unknown	42	1.8	69	3.2	76	3.8	63	3.1	78	3.9	92	4.6
Total	2,307	100	2,175	100	2,000	100	2,009	100	2,015	100	1,989	100
Graduate												
White, non-Hispanic	133	83.6	120	78.4	113	74.3	126	78.8	119	77.8	101	67.8
American Indian/Alaskan Native	1	0.6	0	0.0	1	0.7	2	1.3	1	0.7	1	0.7
Hispanic	2	1.3	1	0.6	1	0.7	2	1.3	1	0.7	5	3.4
Black, non-Hispanic	16	10.0	18	11.8	21	13.8	17	10.6	12	7.8	18	12.1
Asian or Pacific Islander	2	1.3	3	2.0	5	3.3	2	1.3	5	3.3	6	4.0
Other	NA	NA	1	0.6	0	0.0	2	1.3	1	0.7	0	0.0
Nonresident alien	3	1.9	4	2.6	6	3.9	4	2.5	4	2.6	5	3.4
Race/ethnicity unknown	2	1.3	6	3.9	5	3.3	5	3.1	10	6.5	13	8.7
Total	159	100	153	100	152	100	160	100	153	100	149	100

Fall	2001		2002		2003		2004		2005		2006	
Total (All Students)												
White, non-Hispanic	2,167	87.9	1,984	85.2	1,785	82.9	1,749	80.6	1,694	78.1	1,645	76.9
American Indian/Alaskan Native	6	0.2	8	0.3	9	0.4	9	0.4	8	0.4	6	0.3
Hispanic	40	1.6	32	1.4	31	1.4	47	2.2	45	2.1	52	2.4
Black, non-Hispanic	158	6.4	163	7.0	169	7.9	207	9.5	232	10.7	227	10.6
Asian or Pacific Islander	29	1.2	34	1.5	36	1.7	35	1.6	49	2.3	49	2.3
Other	NA	NA	8	0.3	18	0.8	26	1.2	32	1.5	31	1.4
Nonresident alien	22	0.9	24	1.0	23	1.1	28	1.3	20	0.9	23	1.1
Race/ethnicity unknown	44	1.8	75	3.3	81	3.8	68	3.1	88	4.1	105	4.9
Grand Total	2,466	100	2,328	100	2,152	100	2,169	100	2,168	100	2,138	100
Minority Representation												
Undergraduate	212	9.2	222	10.2	235	11.8	299	14.9	346	17.2	335	16.8
Graduate	21	13.2	23	15.0	18	18.5	25	15.6	20	13.1	30	20.1
Total	233	9.4	245	10.5	263	12.2	324	14.9	366	16.9	365	17.1
Multicultural Representation (Includes Non-Resident Aliens)												
Undergraduate	231	10.0	242	11.1	252	12.6	323	16.1	362	18.0	353	17.7
Graduate	24	15.1	27	17.6	34	22.4	29	18.1	24	15.7	35	23.5
Total	255	10.3	269	11.6	286	13.3	352	16.2	386	17.8	388	18.1

Program Standard 5: Faculty Qualifications, Performance, Development

Faculty are qualified and model best professional practices in scholarship, service, and teaching, including the assessment of their own effectiveness as related to candidate performance. They collaborate with colleagues in the disciplines and schools. The performance of faculty teaching in the program is evaluated and the professional development of faculty teaching in the program is facilitated.

- 1. List (in chart form) the program faculty, their qualifications, and their teaching assignments. (See Table 5.0)**

**Table 5.0: Department of Education
Department of Mathematics and Computer Science**

Name	Department	Degree/Licensure Area(s)	Teaching Assignments Relevant to Middle/Secondary/ K-12 Program	Content Knowledge (CK), Content Pedagogy (CP), Professional Education (PE)	Status: Full Time (FT) Part Time (PT) Adjunct (Adj)
Jane Gleason	Education	Ph.D, Curriculum & Instruction Teaching License: Mathematics	EDU 234, Educational Psychology	PE, CK	FT
Ellen Graden	Education	Ph.D., Foreign /Second Language Education Teaching License: ESL, Spanish, French, History	EDU 345, Language Minorities in the Public Schools EDU 445, Teaching Elementary ESL Students EDU 490, Observation & Directed Teaching EDU 745, Introduction to Teaching ESL EDU 641 Methods of Teaching ESL EDU 650, Master's Thesis EDU 651, Master's Thesis	CP, PE	FT
Monica McKinney	Education	Ph.D., Social Foundations of Education Teaching License: K-6 Elementary Education	CORE 100 – Context of Culture EDU 232 – Foundations of American Education EDU 620, Education in Society EDU 650, Master's Thesis EDU 651, Master's Thesis	PE	FT

Name	Department	Degree/Licensure Area(s)	Teaching Assignments Relevant to Middle/Secondary/ K-12 Program	Content Knowledge (CK), Content Pedagogy (CP), Professional Education (PE)	Status: Full Time (FT) Part Time (PT) Adjunct (Adj)
Beth Marr	Education	Ph.D., Reading Education Teaching License: K-6 Elementary Education, Reading	EDU 300, Introduction to Language Arts EDU 400, Communication Skills in the Elementary School EDU 401, Pre-service Practicum EDU 676, Clinical Applications of the Reading Process	CK, CP, PE	FT
Jennifer Olson	Education	Ph.D., Elementary Education /Teacher Education Teaching License: K-6 Elementary Education, Reading	EDU 255, Literature for Children and Early Adolescents EDU 450 – Reading in the Content Area EDU 490, Observation and Directed Student Teaching	CP, PE	FT
Wetonah Rice Parker	Education	Ed.D., Curriculum and Instruction, Teaching License: Science, Curriculum & Instruction Specialist, Exceptional Children, Educational Administration	EDU 234, Educational Psychology EDU 241, Introduction to Instructional Media EDU 440, Seminar in Education EDU 467, Secondary School EDU 490, Observation and Directed Teaching EDU 650, Master's Thesis EDU 651, Master's Thesis	PE	FT
Susan Roberts	Education	Ph.D, Education Teaching License: Exceptional Children, Curriculum & Instruction Specialist, Elementary Education, Middle Grades Mathematics	EDU 232 – Foundations of American Education EDU 350, Teaching in the Middle School EDU 440, Seminar in Education	PE	FT

Name	Department	Degree/Licensure Area(s)	Teaching Assignments Relevant to Middle/Secondary/ K-12 Program	Content Knowledge (CK), Content Pedagogy (CP), Professional Education (PE)	Status: Full Time (FT) Part Time (PT) Adjunct (Adj)
			EDU 490, Observation & Directed Teaching		
Julie Schrock	Education	Ph.D. Educational Psychology, Teaching License: K-6 – Elementary, Middle Grades Language Arts	EDU 234, Educational Psychology EDU 466, Pre-Adolescent/Adolescent EDU 490, Observation and Directed Teaching EDU 650, Master's Thesis EDI 651, Master's Thesis	PE	FT
Manley Midgett	Education	M.Ed, Science Education Teaching License: Science, Curriculum & Instruction	EDU 359 – Science in the Elementary School	CP	PT
Emily Burkhead	Mathematics & Computer Science	Ph.D. Mathematics	MAT 211—Calculus I MAT 130—Exploring with Mathematics	CK	FT
Wendy Clinton	Mathematics & Computer Science	M.S. Mathematics	MAT 144—Functions and Graphs MAT 090—Intermediate Algebra Review	CK	FT
Charles Davis	Mathematics & Computer Science	Ph.D. Mathematics	MAT 141—College Algebra MAT 144—Functions and Graphs MAT 211—Calculus I MAT 212—Calculus II MAT 314—Calculus III MAT 354—Differential Equations MAT 415—Topics in Analysis	CK	FT
Lara Dick	Mathematics & Computer Science	M.S. Applied Mathematics	Assistant Director of the Learning Center MAT 141—College Algebra	CK	FT

Name	Department	Degree/Licensure Area(s)	Teaching Assignments Relevant to Middle/Secondary/ K-12 Program	Content Knowledge (CK), Content Pedagogy (CP), Professional Education (PE)	Status: Full Time (FT) Part Time (PT) Adjunct (Adj)
E. Jacquelin Dietz	Mathematics & Computer Science	Ph.D. Statistics	MAT 143--Trigonometry MAT 245—Statistics I MAT 340—Mathematical Probability and Statistics MAT 348—Non-Parametric Statistics	CK	FT
Timothy Hendrix	Mathematics & Computer Science	Ph.D. Curriculum & Instruction in Mathematics Education Teaching License: Mathematics, Music (K-12)	MAT 211—Calculus I MAT 212—Calculus II MAT 250—Introduction to Mathematical Reasoning MAT 321—Modern Abstract Algebra MAT 334—Modern College Geometry MAT 434—Topics in Geometry and Topology MAT 264—Topics in Middle Grades Licensure MAT 764—Teaching Middle/Secondary Mathematics	CK	FT
Jennifer Hontz	Mathematics & Computer Science	Ph.D Mathematics	MAT 211—Calculus I MAT 212—Calculus II MAT 220—Linear Algebra MAT 250—Introduction to Mathematical Reasoning MAT 321—Modern Abstract Algebra MAT 425—Topics in Algebra (Advanced Linear) MAT 490—Senior Seminar	CK	FT
Barrett Koster	Mathematics &	Ph.D. Computer Science	CSC 101—Introduction to Computer Programming	CK	FT

Name	Department	Degree/Licensure Area(s)	Teaching Assignments Relevant to Middle/Secondary/ K-12 Program	Content Knowledge (CK), Content Pedagogy (CP), Professional Education (PE)	Status: Full Time (FT) Part Time (PT) Adjunct (Adj)
	Computer Science		MAT 262—Discrete Mathematics		
Camme Cole Manning	Mathematics & Computer Science	Ph.D. Applied Mathematics	MAT 130—Exploring with Mathematics MAT 211—Calculus I MAT 212—Calculus II MAT 220—Linear Algebra MAT 250—Introduction to Mathematical Reasoning MAT 290—Math Honors Lab MAT 360—Numerical Analysis MAT 410—Advanced Calculus MAT 498/9—Thesis and Research	CK	FT
Paul Schuette	Mathematics & Computer Science	Ph.D. Mathematics	MAT 212—Calculus II MAT 245—Statistics I MAT 250—Introduction to Mathematical Reasoning MAT 340—Mathematical Probability and Statistics	CK	FT
Kristin Watkins	Mathematics & Computer Science	Masters of Business Administration	CSC 101—Introduction to Computer Programming EDU 241—Introduction to Instructional Media	CK	FT
Ellen Birch	Mathematics & Computer Science	M.S. Mathematics	MAT 141—College Algebra	CK	FT
Mary Sikes	Mathematics & Computer Science	M.S. Mathematics	MAT 144—Functions and Graphs	CK	PT

Name	Department	Degree/Licensure Area(s)	Teaching Assignments Relevant to Middle/Secondary/ K-12 Program	Content Knowledge (CK), Content Pedagogy (CP), Professional Education (PE)	Status: Full Time (FT) Part Time (PT) Adjunct (Adj)
Phyllis Smetana-O'Hara	Mathematics & Computer Science	M.S. Statistics	MAT 245—Statistics I	CK	PT
Jeane Joyner	Mathematics & Computer Science	M.S. Education	Responsible for Grant and Outreach Programs in Mathematics Education	CK	Research Associate

Program Standard 5A: Faculty Assignment

One appropriately specialized faculty member, full time to the institution, is assigned major responsibility for teaching in and coordinating the specialty area. To ensure diversity, there must be a sufficient number of additional faculty, appropriately specialized, to deliver the level(s) offered; e.g., Undergraduate, master's doctorate. The use of adjunct faculty does not detract from the quality of the program.

1. Identify the individual responsible for coordinating the program. Describe the role(s) of this individual including teaching responsibilities in the program.

Eleven full-time and three part-time faculty members teach in the Department of Mathematics and Computer Science. The department offers a Bachelor of Arts and a Bachelor of Science in the area of mathematics; a Bachelor of Science in Computer Science; a Bachelor of Arts in Computer Information Systems; and related minors in mathematics, statistics, mathematics/computer applications, and web development. All mathematics education students with 6 – 9 or 9 – 12 licensure complete either the Bachelor of Arts (BA) or the Bachelor of Science (BS) in mathematics. The faculty members in the department teach courses that fulfill both general education requirements in addition to the required and elective courses for the major. These include the courses required for either the middle grades or the secondary grades license in mathematics. Table 5.0 above lists typical courses that each faculty member teaches within the department.

The person required for coordinating the mathematics education program will be Dr. Timothy Mark Hendrix, Associate Professor of Mathematics, a faculty member since 2002, and who is licensed in mathematics (and in music). Dr. Hendrix has two years of experience teaching high school in North Carolina, and over 15 years of experience teaching and working with pre-service mathematics teachers in both North Carolina and Illinois. Dr. Hendrix is active in the professional mathematics education community, actively involved in the North Carolina Council of Teachers of Mathematics (NC-CTM), National Council of Teachers of Mathematics (NCTM), and the Association of Mathematics Teacher Educators (AMTE). Currently, he serves as Eastern Regional Vice-President for Colleges in the NC-CTM with responsibility to build connections between the K-12 mathematics community and the higher education mathematics and mathematics education communities in the Eastern Region of NC. Additionally, he is serving a second tenure as the Chair of the Membership Committee of the AMTE national organization.

As Program Coordinator for mathematics education, Dr. Hendrix serves as the advisor for all mathematics education teacher candidates, teaches the mathematics methods courses for both middle grades and secondary grades (MAT 264 and MAT 764), and supervises teacher candidates in their student teaching internships. The program coordinator in mathematics education serves as the liaison to the Department of Education, fulfilling responsibilities such as:

- ◆ Meeting with interested students and responding to inquiries
- ◆ Evaluating transcripts and coordinating with the School of Education on admissions and requirements for licensure
- ◆ Advising and monitoring students in the content/licensure area
- ◆ Maintaining communication and connections with state and national leaders in the area of education within the specialty area
- ◆ Collaborating with the Director of Teacher Education Programs on curriculum and student issues
- ◆ Coordinating with the Director of Teacher Education necessary changes in the program

- ◆ Coordinating with Director of Teacher Education placements for field experiences and/or student teaching
- ◆ Promoting and marketing the program within the department and throughout the College
- ◆ Remaining current in the area of specialization and education
- ◆ Supervising and evaluating student teachers in the content/licensure area
- ◆ Informing the content area department of recommendations/changes in program/licensure requirements
- ◆ Gathering evidence/writing the accreditation report with assistance from the Director of Teacher Education

2. Describe teaching practices used by faculty. This should include instructional strategies, including technology. How does the teaching reflect the conceptual framework and current best practices in the field?

Mathematics courses at Meredith College are taught in a variety of instructional approaches, depending on the level of the course, the nature of the mathematical content, and the student audience for the course. Classes are taught most often with a combination of strategies including direct instruction, group work, explorations and investigations, student projects, question and answer, student problem-solving (both individual and collaborative), and student presentations.

Technology-enhanced instruction is a vital component of learning mathematics at Meredith College. The department made the commitment in 2005 to be responsible for helping all students at Meredith meet requirements in Fundamental Technology Competency by ensuring that all entry-level mathematics courses (all 100-level through MAT 314) would incorporate substantive use of technology for quantitative analysis and visualization. This takes the form of dynamic algebraic and geometric modeling software, computer algebra systems, graphing utilities, and dynamic statistical software. In each class, students are required to complete short assignments, extended projects, and in some cases, test-based assessments using computer-based technology.

In addition, the new state-of-the-art Science and Mathematics Building offers students an opportunity to use technology effectively and extensively. All classrooms are permanently equipped with a console, laptop hook-ups, and mounted data projectors. All syllabi for courses in the secondary mathematics licensure program are enclosed.

Teaching is taken seriously at Meredith College (Faculty Role Model). Every year, the College awards the Pauline Davis Perry Award for Excellence in Teaching, with a monetary award, demonstrates the institution's commitment to good teaching.

3. Describe Faculty Scholarship.

Faculty in the Department of Education and the Department of Mathematics and Computer Science demonstrate scholarship in a variety of ways including a range of research and publications, curriculum materials, conference presentations, grant work, and international travel. In addition, they demonstrate leadership in professional organizations and in their field. Annual reports demonstrate that faculty in the Department of Mathematics and Computer Science are engaged in their professional organizations, hold responsibilities in the life of the discipline, contribute to research and publications within the discipline, and attend professional meetings regularly. See detailed information in the tables that follow.

Conferences Attended by Department of Mathematics and Computer Science Faculty Members in the 2006 – 2007 Academic Year:

Conference, Workshop, or Meeting	Date	Department Attendees
Society of Industrial and Applied Mathematics (SIAM) Annual Meeting	July 2006	Cole
Seventh International Conference on Teaching Statistics in Salvador, Brazil	July 2006	Dietz
Society of Mathematical Biology Annual Meeting held in conjunction with the SIAM Life Sciences Meeting	July-August 2006	Cole
MathFest	August 2006	Schuette
Joint Statistical Meetings	August 2006	Dietz
A Pipeline Issues Workshop for Faculty of Women's Colleges and Minority Serving Institutions at North Carolina State University	August 2006	Dietz
STARS Alliance 2006 SLC Conference, Atlanta, GA	August 2006	Watkins
JTWOMEN -- AMS-ASA-AWM-IMS-MAA-NCTM-SIAM Committee on Women in the Mathematical Sciences, Chicago, IL	September 2006	Hontz
North Carolina Council of Teachers of Mathematics Annual Meeting	October 2006	Hendrix
CCSC (Consortium for Computing Sciences in Colleges) Southeast regional computer teacher conference	November 2006	Koster
Joint Mathematics Meetings of the Mathematical Association of America and the American Mathematical Society	January 2007	Cole, Schuette
Association of Mathematics Teacher Educators Annual Meeting	January 2007	Hendrix
National Council of Teachers of Mathematics Annual Meeting	March 2007	Hendrix
National Science Teachers Association Annual Meeting	March 2007	Hendrix
SIGCSE 2007 Special Interest Group of the ACM on Computer Science Education	March 2007	Koster
North Carolina Association of Mathematics Teacher Educators State Conference	April 2007	Hendrix

Talks and papers presented by Mathematics Faculty during the 2006 – 2007 Academic Year:

Cammeey Cole

- “Modeling the Effects of 4-Methylimidazole Exposure,” Contributed Talk: SIAM Annual Meeting, Boston, Massachusetts, July 11, 2006.
- “Some deterministic models in mathematical biology and their simulations” (with James Selgrade and Hüseyin Koçak), Invited MAA Minicourse, Joint Meetings, New Orleans, Louisiana, January 5 and 7, 2007.

Jackie Dietz

- "Statistics Education Journals: Cooperating not Competing," Invited Panelist, Seventh International Conference on Teaching Statistics in Salvador, Brazil, July 2006.

Tim Hendrix

- “Promoting Algebraic Thinking with Technology.” North Carolina Council of Teachers of Mathematics (NCCTM), Greensboro, NC, October 2006.
- “Promoting Connections between Mathematics and Science.” North Carolina Council of Teachers of Mathematics (NCCTM), Greensboro, NC, October 2006.

- Presentation with Jeane Joyner and Carol Hazard. “Calculating the Forces of Nature.” Two-week summer institute for middle and secondary mathematics & science teachers. Roanoke Rapids, NC, June-July 2006.
- Presentation with Jeane Joyner and Carol Hazard. “Calculating the Forces of Nature.” Two-week summer institute for middle and secondary mathematics & science teachers. Asheboro, NC, June-July 2006.
- Presentation with Jeane Joyner, Mike Ferguson and Zada Taylor. “Warts and Windows in a Community of Learning.” North Carolina State Mathematics Science Partnership Conference, Greensboro, NC, September 2006.
- Presentation with Walda Powell. “Chemistry, Data and Technology.” Professional Development Workshop for STAMP MSP teachers. Asheboro, NC, October 2006. Roanoke Rapids, NC, December 2006.
- “Data and Algebraic Thinking with Technology.” Professional Development Workshop for STAMP MSP teachers. Asheboro, NC, December 2006 (Part I) and March, 2007 (Part II). Roanoke Rapids, NC, March 2007 (Part I and II).

Barrett Koster

- "Agile Methods Fix Software Engineering Course,” Consortium for Computing Sciences in Colleges, South East regional computer teacher conference, Nashville TN, November 10-11 2006.

Paul Schuette

- "A Model of Randomized Drug Testing." Joint Mathematics Meetings of the American Mathematics Society and the Mathematics Association of America. New Orleans, LA. January 2007. Synopsis of this presentation appears in *Focus*, pp. 13-14, March 2007, (<http://www.maa.org/pubs/march07web.pdf>)
- “Issues with Integrals.” Mathfest, Summer Meeting of the Mathematical Association of America. Knoxville, TN. August, 2006.

4. Describe content pedagogy and professional education faculty service to the institution, collaboration with and service to the public schools, and service to the profession.

Service by the Department of Education to the Institution, Public Schools and Profession

The Department of Education serves the College, public schools, and the profession in many ways.

The Department of Education collaborate with colleagues in the disciplines. Some examples of this collaboration are:

- Drs. Jane Gleason and Ellen Graden have presented workshops during the 2006-2007 school year on Mathematics Instruction and English Language Learners.
- The SCALE grant promoting literacy and service involves two departments within the School of Education, Health and Human Sciences. The grant focuses on embedding service-learning into teacher education coursework.
- Two faculty members, one in education, one in music collaborated to provide curriculum to the North Carolina Symphony. The Symphony members visited 4th grade classrooms and conducted lessons that enhanced/enriched writing for those students.

The following table represents work with the public schools provided by the members of the Department of Education during the 2006-2007 school year.

Faculty	Description of Service	Service Recipient
Manley Midgett – adjunct faculty	Project Manager for the Northeast Math Science Project	NC 9-12 Science Teachers
Monica McKinney	Board member and MotherRead volunteer	Maureen Joy Charter School Durham, NC
Susan Roberts	ILT Support for our Partner Schools (workshops held on campus)	ILTs in partner schools, mentors, principals, and recent graduates from our program
Toni Parker	Wake Education Partnership- Wake Task Force on Teaching Excellence Steering Committee – 2006-07 Richard Jenrette Teaching Excellence Award Committee- Broughton High School – 2006-07	Wake County Public Schools

The faculty members in the Department of Education are very involved in the education profession as demonstrated by the information below:

Faculty	Description of Service	Service Recipient
Toni Parker	State Evaluation Committee Member (2004-2008)	NC Teacher Education Program Approval Process
Toni Parker	NCATE Liaison and program reviewer (2005-2007)	NC Teacher Education Program Approval Process
Monica McKinney	Program reviewer (2005-2007)	NC Teacher Education Program Approval Process
Ellen Graden	Taught high school English, and provided professional development for English teachers in Taipei, Taiwan. (Fall -06)	Chinese students learning English in Taipei, and teachers of those course
Jane Gleason	Coordinated and hosted the Fourth Biennial National / First International Cognitively Guided Instruction in Mathematics conference in March.	
Julie Schrock	National Board Support Group	Teachers who are in process of National Board Certification
Jennifer Olson	External Reviewer for Belmont Abbey College (2007)	The BAC Education Department- in preparation for a SACs review
Beth Weir (2005-2006) and Jennifer Olson	Children's Choice Project (2005-2007)	K-6 classrooms and Children's Book Council

Service by the Department to the Institution, to the community, and to the profession:

Service to the College and to the department is an integral part of the responsibilities of all faculty at Meredith College. Often this involves collaboration with colleagues in all the disciplines on campus. Committee work, such as Faculty and Academic Council, Teacher Education Committee, search committees, department programs, such as the Center for Women in Science and Mathematics, curricular and program reviews, mentoring, serving on advisory groups and task forces are important service roles expected of all faculty.

As part of service to the institution, the program coordinator and methods professor, Dr. Tim Hendrix, works collaboratively with the Department of Education and the Director of Teacher Education on the content and direction of the mathematics education program. He has served on college-wide committees and task forces throughout his six-year career at Meredith College. For the last three years, he has served and continues to serve as the chair of the Academic and Co-Curricular Technology Committee, a committee charged with the addressing the curricular and co-curricular issues that impact the campus in technology. As chair of the committee, he has worked with and seen new initiatives/requirements of Fundamental Technology Competency added to the General Education and of Technology Fluency to all major programs. The committee has advocated for increased focus in technology budgeting and has awarded over \$45,000 in Faculty Development Grants to faculty to enhance their teaching and scholarship using technology.

In addition, Dr. Hendrix has served as a faculty representative on the Campus Technology Committee, the committee charged with recommending, setting, and implementing technology policies and direction for the college. He recently served on the Search Committee for the newly hired Chief Technology Officer and Director of Academic Computing for the college as well.

Service to the schools is an area expected of all teacher education faculty members. The School of Natural & Mathematical Sciences has a long track record of supporting work with the public schools and the community in mathematics education. Some of the current projects ongoing in the Department of Mathematics and Computer Science include:

- ◆ A collaborative program with North Carolina State University, ***Girls on Track***, is a summer program for middle school girls who are moving into high school. The intention of the program is to encourage girls to continue in upper level science and math in high school.
- ◆ The ***Math Mentoring Program*** is a collaborative program between Durham and Wake Counties with the IHE's in the triangle area to inspire and encourage all student to continue the study of mathematics, and to learn about careers in which mathematics plays a role. Meredith College is a full partner in this program and many of its events are housed in our department.
- ◆ ***Math Week at Meredith*** is a one-week residential camp on the campus of Meredith College for women in their freshmen year of high school.
- ◆ In the final and no-cost extension year of a multi-year NSF-funded, multi-million dollar grant to support professional development and leadership development of K – 6 mathematics teachers (***TEAM II***—Principal Investigator, Jeane Joyner), the department has worked with the grant project leaders to establish the ***Meredith Math Institutes***, a collection of 3-day summer institutes for K – 12 mathematics teachers on mathematics content for the classroom. These institutes have been held the last two years (with a pilot in 2005), and have reached over 500 NC public school teachers of mathematics.

- ◆ Dr. Hendrix is also the Principal Investigator for the US Department of Education and NC DPI –funded mathematics science partnership grant, ***STAMP (Science, Technology, Assessment integrated with Mathematics Partnership) Project***—a three-year \$1.495 million commitment with Roanoke Rapids and Asheboro City School Districts to provide content instruction in both mathematics and science to middle and secondary grades teachers. Faculty in all three departments in the School of Natural and Mathematical Sciences have been involved in the planning and delivery of content instruction throughout the year and in two-week summer institutes held in each district in both 2006 and 2007, with the third to come in 2008. During the academic year, professional development for the grant has been conducted in the teaching of science mathematics, dynamic classroom assessment, and the effective use of technology at the middle and high school level. Moreover, the grant has supported approximately ***50 teachers*** to attend both the ***state math and science conferences*** each of the last two years and by the end of the grant, every teacher in 50 will have attended a ***national NCTM or NSTA Annual Meeting***.
- ◆ Dr. Hendrix and Ms. Joyner maintain a full schedule of offering ***workshops for professional development for schools and school systems*** throughout the state of NC and beyond. In the last month, Dr. Hendrix has given full-day workshops for the middle school mathematics teachers in both Watauga and Scotland Counties.
- ◆ Meredith College Science and Mathematics Building has hosted the ***Eastern Region of the North Carolina Council of Teachers of Mathematics Annual Conference*** twice in the past three years and will do so again in February of 2008.
- ◆ Faculty from the *sciences* have been working with the ***Kenan Fellows, partnering with science teachers in the public schools*** on a variety of scientific projects.

Faculty in teacher education and the sciences have contributed to the profession in various ways. Many of these are detailed in faculty vitae. Specifically, the program coordinator, Dr. Hendrix, is active in the professional mathematics education community, actively involved in the North Carolina Council of Teachers of Mathematics (NC-CTM), National Council of Teachers of Mathematics (NCTM), and the Association of Mathematics Teacher Educators (AMTE). He is also a member of the Mathematical Association of America (MAA) where he presents regularly at national meetings. Currently, he serves as Eastern Regional Vice-President for Colleges in the NC-CTM with responsibility to build connections between the K-12 mathematics community and the higher education mathematics and mathematics education communities in the Eastern Region of NC. Additionally, he is serving a second tenure as the Chair of the Membership Committee of the AMTE national organization.

As the content pedagogy specialist, his service to the profession is detailed above, but is complemented by the wide range of service to the profession in all areas of mathematics and computer science supported by the many colleagues in the Department of Mathematics and Computer Science, who serve as national committee members and chairs, task force leaders, AP exam graders, conference organizers, journal reviewers, and program presenters.

Below are details about 6 members of the department’s faculty member, who assumed responsibilities or leadership in at least one regional or national professional organization.

Camme Cole

- Organizer/Mentor for the undergraduate workshop sponsored by Statistical and Applied Mathematical Sciences Institute (SAMSI) and the Center for Research in Scientific Computation (CRSC), May 20-25, 2007
- Member of Committee on Education and Outreach, Statistical and Applied

Mathematical Sciences Institute (SAMSI), Research Triangle Park, North Carolina, July 2004-present

- Graduate Student and Postdoc Mentor at the Association for Women in Mathematics (AWM) workshop at the Society of Industrial and Applied Mathematics (SIAM) Annual Meeting, Boston, Massachusetts, July 10-11, 2006
- Session Chair, SIAM Annual Meeting, Boston, Massachusetts, July, 2006

Jackie Dietz

- Past Chair of the Council of Sections of the American Statistical Association (2006)
- Webmaster of the Section on Statistical Education of the American Statistical Association (1996–present)
- Member of Waller Education Award Committee, American Statistical Association (2006–2008)
- Newly-elected Publications Officer of the Section on Statistical Education of the American Statistical Association (2008-2010)

Tim Hendrix

- Chair, Membership Committee, Association of Mathematics Teacher Educators, 2005 – 2007, 2007 – 2009 (Reappointed for second consecutive term of service)
- College Vice-President, Eastern Region of North Carolina Council of Teachers of Mathematics, 2007 – 2009

Jennifer Hontz

- Assistant director of the Women and Mathematics Network (WAM)
- National committee member JT WOMEN -- AMS-ASA-AWM-IMS-MAA-NCTM-SIAM Committee on Women in the Mathematical Sciences. First term 2003-2006. Second term from 2006 – 2009
- Site Selection Committee Member for the Southeastern Section of the Mathematical Association of America (MAA) annual meeting, 2005-2008
- Organizer for MAA Committee on the Participation of Women (CPW) and Women and Mathematics Network (WAM) Poster Session *Highlighting MAA/Tensor Foundation Projects* along with Elizabeth Yanik of Emporia State University and Kathleen Sullivan of Seattle University, Joint Meetings of the American Mathematical Society (AMS) and the Mathematical Association of America (MAA), New Orleans, LA, January 2007

Paul Schuette

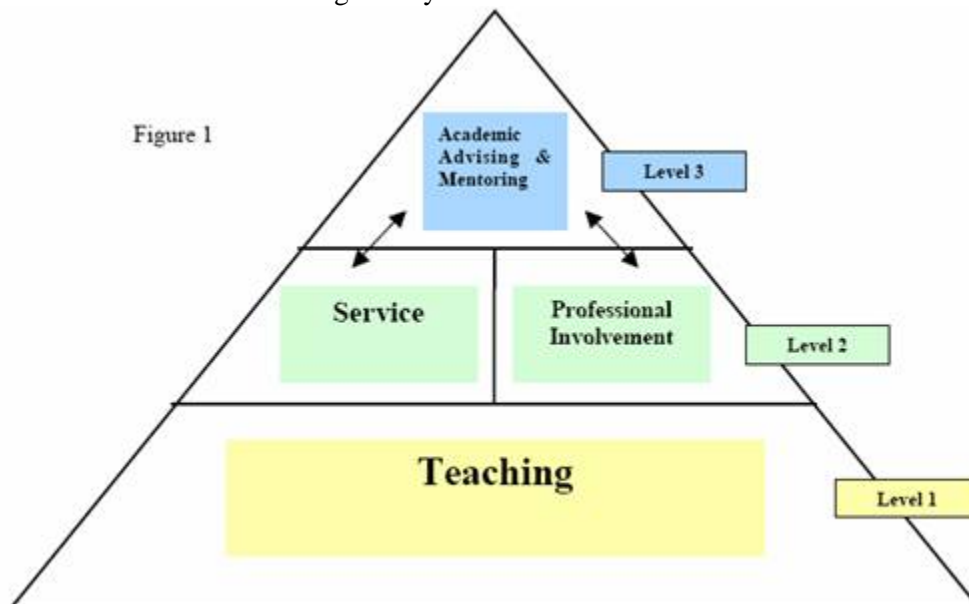
- Chair, Basic Library Committee of the Mathematics Association of America, Joint Mathematical Meetings of the AMS/MAA held in New Orleans, LA, January 6, 2007
- Member, Basic Library List Committee of the Mathematics Association of America, Mathfest, Knoxville, TN, August 11, 2006
- Referee, Mathematics Magazine, reviewed manuscript MM 06-232

Kristin Watkins

- Attended the STARS Alliance 2006 SLC Conference, Atlanta, GA, August 2006

5. Describe the faculty evaluation process.

Full time teaching faculty members at Meredith College are evaluated annually in accordance with the Faculty Role Model. The criteria for evaluation include teaching, academic advising and mentoring, service and professional involvement. Part time faculty members are evaluated in the area of teaching. The criteria for evaluation are divided into three levels of priority (See Figure 1). All criteria are considered in evaluating faculty.



As reflected by the role model, teaching is central to the College's mission. With the exception of teaching, faculty roles may shift emphasis in a given year by mutual agreement of the faculty members and the department head and/or Dean. The designation of role priorities for the upcoming year is a part of the professional development plan of the faculty member. The priorities may be changed during the academic year by mutual agreement of the faculty member, department head and Dean. A faculty member is not expected to be accomplished in all the indicators in order to fully meet a faculty role criterion. Consequently, the list of indicators under each role is neither a set of requirements, nor an exhaustive list of expectations. However, department may add specificity to the criteria for evaluation designated in the role model, as long as the specifications do not alter the framework of the role model.

According to the Meredith College *Faculty Handbook*, the faculty member should reflect at the end of each academic year, and design a professional development plan. The *Faculty Handbook* describes each area of the Faculty Role Model, and reflects the philosophy at Meredith College that teaching is at the heart of the College's mission.

Student evaluations are administered at the end of every semester. Each full time faculty member is responsible for an annual report and a report on professional accomplishments. Guidelines for these reports are outlined in the Faculty Handbook, section 3.2.6. The department chair prepares an annual evaluation of each faculty member. The evaluation includes relevant information such as a teaching observation, any observations conducted by peers, and student evaluations. This report is submitted

to the Dean. All faculty members, tenured or non-tenured are observed by members of the department as part of the faculty role model.

6. Describe how faculty members assess their own effectiveness as related to candidate performance.

Faculty members distribute course and instructor evaluations for every course every semester. The evaluations are given to the Vice President for Academic Programs, assessed, and the results are returned to the department chair and the faculty member. In addition, all faculty members, tenured and non-tenured, have peer observations. These evaluations become a part of the faculty member's file for tenure and promotion. Evaluations of supervisors of the student internship, including the narrative comments, are given to the department chair, director of teacher education, and the supervisor.

7. Describe how faculty evaluations inform teaching, scholarship, and service.

Faculty members at Meredith College annually evaluate their teaching, scholarship, and service, and document their activities through an annual and professional activities report. The annual report serves as a self evaluation, and is correlated to the faculty role model. The self evaluation includes a:

- Description of teaching responsibilities, activities, and accomplishments. Self evaluation and reflections by the faculty should include strong points and challenges, as well as any actions taken or revisions planned based on student, supervisor, peer, or self evaluations.
- Description of activities related to advising and mentoring. The self-evaluation and reflections by the faculty members needs to address progress toward or fulfillment of advising/mentoring responsibilities.
- Description of service responsibilities, activities, and accomplishments. The self-evaluation and reflections by the faculty members needs to address progress toward or fulfillment of advising/mentoring responsibilities.
- Summary of professional involvement. The self evaluation and reflection needs to include supporting documentation, and professional reviews.

A professional development plan is designed by the faculty member that articulates current and long range goals in all areas of the faculty role model, and presents strategies for the accomplishment of these goals, specifically for the upcoming year. A prioritization of the criteria for evaluation for the upcoming year is a part of the plan, with a minimum of a 3-year window.

8. Describe the professional development opportunities provided for faculty.

Many development opportunities are provided for faculty at Meredith College.

- Conversations with Colleagues are held once a month on Mondays at the 10:00 AM hour. Conversations are viewed as an opportunity for faculty to gather to discuss topics that address faculty concerns such as: assessment, teaching and studying abroad, workload study and life balance, and tenure, promotion, and retirement. At the beginning the academic year, faculty are asked for topics of importance.
- Talk with Techies are held once a semester on Mondays at the 10:00 AM hour for faculty to share innovative uses of technology in either teaching or scholarship and to initiate broader conversations about the effective use of technology to deepen scholarly activity.
- Faculty Symposia are an opportunity for faculty to share their professional and scholarly work. For example, during the 2006-07 academic year, Dr. John Mecham, chair of the

Biology and Health Sciences department, presented *Images from Africa*, from his study and work in Africa during the 2005-06 academic year.

- The Center for Women in Mathematics and Science offers a variety of speakers in a speaker series, including opportunities for Meredith College faculty to share their own scholarly work. To begin the 2007 – 2008 academic year, Dr. Emily Burkhead presented *Cellular Automata and the Development of a Model for HIV*.
- Technology Services offers workshops and seminars on software programs, such as *Access*.
- Professional Development Time gives faculty the opportunity to apply for one semester release from a course to carry out research, writing, and other professional development projects.
- Sabbaticals are awarded every year to a maximum of six faculty members who have completed at least six years of full-time teaching.
- The College supports travel by providing summer study grants. Grants have been awarded for expenses such as tuition, travel, and individual study.
- Technology Faculty Development Grants provide faculty with technology funds to support the innovative use of technology in instruction and scholarly work.
- All faculty are given a specific amount of funding for travel to conferences; however, the Dean of individual schools have faculty development funds that can be used to assist in this travel.
- Meredith Aboard offers faculty an opportunity to teach and travel to Italy, England, and Switzerland, as well as Bolivia and China.

9. Describe practices to select, orient, communicate with, and evaluate adjunct faculty to ensure program quality.

Adjuncts in teacher education and the mathematical sciences are usually long term, especially in the Department of Education. The adjunct faculty in the mathematics usually teach specific mathematics courses, and do not teach any methods courses. Adjunct teaching faculty in the Department of Education have been teaching in the program for more than 10 years, and the adjunct supervisors are characteristically in the K-6 program. The chair of the department meets with adjunct faculty at least twice an academic year, no matter how long they have been a part of our program.

Adjunct faculty members are assigned a shared office and a mailbox, and are mentored by the chair of the department.

Program Standard 5 Links	
Xythos	
Faculty Development	Curriculum Vitae
	Mathematics Faculty
	Education Faculty
	Mathematics Course Syllabi
	Education Course Syllabi

Standard 6: Program Governance and Resources

The program has leadership, budget, personnel, facilities, and resources including information technology resources, for the preparation of candidates to meet professional, state, and institutional standards.

- 1. Describe where the program is administratively housed and its relationship to the unit. Describe how this organization structure provides for the leadership for and the oversight of the program.**

The mathematics education licensure program is housed in the Department of Mathematics and Computer Science. The program coordinator is the Associate Professor Dr. Tim Hendrix, who is licensed in both mathematics and music, and is a former public school mathematics and music teacher. The program coordinator works with the Department of Mathematics and Computer Science and the Department of Education on all curricular aspects of the program related to the content area. In addition, the program coordinator works with the Director of Teacher Education, Dr. Wetonah Rice Parker, who is responsible for the aspects of the program related to professional coursework and field and practicum experiences. The director of teacher education serves on the Teacher Education Committee, and confers with the mathematics methods professor/program coordinator on a regular basis.

The Director of Teacher Education has multiple responsibilities for the licensure programs on campus. Those responsibilities include responsibility for the program and curricula of the K-6, 6-9, 9-12, and K-12 programs at the baccalaureate level. The professional core, courses taken by all students seeking licensure, program changes, and communication with public school personnel in regards to the field placements, including internships for 6-9, 9-12, and K-12 students, are the responsibility of the director.

The chair of the Department of Education has responsibility for the overall administration of all licensure programs, and the main vehicle for communication and collaboration is the Teacher Education Committee, along with the normal College structure for curriculum proposals and approval. The Chair or her designee is the licensure officer for the College in its relationship with the North Carolina Department of Public Instruction.

- 2. Describe the adequacy of the number of faculty to support the program.**

Students in the 9 – 12 secondary mathematics licensure program are taught education courses by the faculty in the Department of Education. All have teaching experience. Only a licensed mathematics educator, Dr. Tim Hendrix, teaches the content methods courses. Faculty members in mathematics teach the mathematics content courses. Staffing of the required and elective courses in both the mathematics and education departments has not been a problem, as adjunct faculty are usually hired to teach introductory, not methods courses. Upper level courses are taught by full time faculty.

	Full-time	Part-time responsibilities	Adjunct
Mathematics	7	1	3
Computer Science	2		
Research Associate		1	

The student teaching internship is directed by Dr. Wetonah Rice Parker, Director of Teacher Education, and field supervision is the collaborative responsibility of Dr. Parker and the methods professor, Dr. Tim Hendrix.

The Education Department includes 9 full-time faculty members and 10 part time faculty/supervisors.

3. Describe the adequacy of the non-faculty personnel that support the program. This should include graduate assistants.

There are no graduate assistants at Meredith College. The department of Mathematics and Computer Science has a full-time secretary, whose responsibilities support the activities and mission of the department, and student workers. *In addition, the STAMP and TEAM II grants and the Meredith Math Institutes employ a full-time administrative assistant to support the community involvement of mathematics education work.* Paperwork and related materials for the Department of Education are handled by Sharon Jones, secretary in the department. The Education Department is supported by two full time staff positions and up to three student worker positions.

4. Describe the facilities in which the program is housed and their adequacy. The response should include office and meeting space.

All mathematics courses are taught in the new [Science Mathematics Building](#) (SMB). The offices of the chair and faculty in the mathematic department are housed in the SMB, also. The newest facility on campus, the SMB opened in January 2003. With over 80,000 square feet of space, the SMB is a state-of-the-art facility with unique classrooms, specialized labs, outdoor classrooms, a telescope observation deck, scanning electron microscope, and a nuclear magnetic resonance spectrometer. Other features of the SMB include:

- A physics lab designed for physics and astronomy instruction. The lab is equipped with furniture that may be easily moved to accommodate a variety of experiments. The design allows for large open spaces to support experiments involving motion.
- An anatomy and physiology lab that contains work areas designed for both lectures and labs. Typically, college instructors present lectures and labs on different teaching days. Meredith faculty members are able to present information and immediately support it by having students look through a microscope at a sample.
- The organic chemistry lab was designed with open workspaces and numerous fume hoods to allow students to work with volatile organic chemicals. The 300 MHz nuclear magnetic resonance spectrometer provides detailed information about the structure of complex molecules.
- The atrium was designed as a part of an undergraduate research project. The design, used with the generous permission of the patent-holder, Sir Roger Penrose, is a portion of a tiling of the plane with non-repeating Penrose kites and darts.

The building also contains individual research labs for each full-time faculty member in the sciences, dedicated specifically for student-faculty research projects. Through interdisciplinary learning, all Meredith students may benefit from the building's labs, equipment, museum and library space, seminar rooms, curriculum lab, student and reflection areas, outdoor classrooms, and a greenhouse.

Technology Available	SMB Room
3000 lumen data projector, VCR, DVD, wireless capability, two laptop connectors for data projector, digital document camera, stereo for video and laptop audio output, consolidated controls at teaching stations	All classrooms
Whiteboards	Most classrooms
All of the above plus Crestron Room Control panel (operates all systems including a motorized screen)	SMB 162
2800 lumen Proxima 6155 data projector, DVD, VHS, VGA cable for projecting laptop images, amplified speaker for video and laptop audio	Portable carts – Kept with secretaries

The Department of Education is housed in Ledford Building that was opened in January 1995. All faculty have individual offices, small and large classrooms, a curriculum center, and small conference areas. The department shares the building with the departments of Psychology and Sociology and Social Work. Even though the majority of the classrooms on the 2nd and ground floors are used by the faculty and students in education, they are shared space with the other two departments. In addition, there is an Autism Program, sponsored by the Department of Psychology, housed on the ground floor.

Technology Available	Ledford Building
Television, VCR, overhead projector, screen, whiteboard, wireless capability	All classrooms
Data projector, VCR, DVD player	Portable - 2-3 for floors 1, 2, 3

Being that Meredith College is a laptop campus, all classrooms are wireless. There are computer labs in Ledford and SMB for students; however, all full time students at Meredith have laptop computers.

5. Describe the library resources that support the program and their adequacy. This should include library resources and curricular materials.

Library and instructional resources are available for purchase through departmental budgets. Funds for departments with licensure programs are available through the library from the Department of Education. Budgets are adequate to support the needs of the natural sciences and the Department of Education.

The Carlyle Campbell Library provides extensive resources to support the Meredith community, including our education licensure students and graduate education students.

Library Collections

The library collection includes over 190,000 volumes. Education materials are located in two places within the collection—in the Dewey Decimal classification 370-379 (with 5,968 volumes), and in the Curriculum Materials Center. The Curriculum Materials Center on the ground floor of the library includes all textbooks approved for K-12 use in the state of North Carolina (8,636 volumes) and a large collection of literature for children and young adults (5,394 volumes). More than 1 out of every 5 items in these collections has been checked out in the last three years. The library also owns over 7,500 videos, laserdiscs and DVDs. This collection is heavily used by student interns. The music library includes a substantial pedagogy collection, along with over 8,000 scores and 2,500 CDs.

Materials are added to the library collection in a variety of ways. Each academic department appoints a faculty member as library liaison to manage the portion of the library acquisitions budget directly allocated to the department. For the Department of Education, the amount allocated for this fiscal year is \$2,147.00. In addition to funds directly allocated to each department, the library supports purchases through an approval plan. Faculty members from each academic department assisted the library's Head of Technical Services in creating a profile that described the types of materials that would support the Meredith curriculum. Books fitting that profile are sent to the library where they are available for review by faculty and librarians. Books deemed appropriate for the collection are retained. In this manner, the library acquired 54 books in the education field last year. In addition, the library has a supplemental budget for the acquisition of materials at the graduate level to support the College's graduate programs. In FY2005/2006, the library spent \$14,787.31 on library materials in the field of education, adding 2,358 volumes to the collection. Upper division and graduate students conducting advanced research will occasionally need resources outside the scope of the library's acquisitions program. For these researchers, the Library provides Interlibrary Loan (ILL) services and the ability to borrow books directly from North Carolina State University. ILL services are provided at no charge to graduate students. Charges for undergraduates begin only after the student has made her 10th ILL photocopy request in a particular semester. There are no charges for borrowing books through ILL.

Online databases and periodical subscriptions

The library subscribes to over 100 databases for our students in a variety of disciplines (including ERIC). Many include access to the full text of resources indexed in them. The library directly subscribes to 2,289 journals in print and electronic form. Academic departments are surveyed annually to determine the appropriateness of current subscriptions and the need for new subscriptions. Through the online databases, direct subscriptions, and access to free resources across the Internet, the Library staff has identified 1,217 titles with a focus on education issues for our students. Some of the most heavily used education periodicals include:

American School Board Journal
Art Education
Child Development
Childhood Education
Education Week
Educational Leadership
Language Arts
Phi Delta Kappan
Reading Teacher
School Arts
Times Educational Supplement

In addition, the library has extensive holdings in mathematics and in mathematics education, including North Carolina-approved curricula and textbooks for all grades levels of mathematics. There is a wide variety of journals for both mathematics and mathematics education, again with increased access through the interlibrary relationship with North Carolina State University. The Department of Mathematics and Computer Science has worked diligently over the years to make careful choices about the mathematics volumes housed in the Meredith Library, matching our selections with recommendations from the American Mathematical Society, the Mathematical Association of America, and education-related recommendations from the National Council of Teachers of Mathematics.

Library Services and Support

The Carlyle Campbell Library is open 102 hours per week—until 1:00 AM Sunday through Thursday nights. The library website, <http://www.meredith.edu/library>, organizes information, services, and resources available to the Meredith community online. The Information Desk is staffed by Reference Librarians and Reference Department Student Assistants 77 hours per week. In addition to coming to the information desk for assistance, students may also schedule time with a librarian to work on appropriate avenues for conducting research on a topic.

6. Describe the technology resources that support the program and their adequacy.

Meredith College is a [laptop campus](#). All faculty have a laptop computer, printer, APC powerstrip, security cable, and a carrying case. The laptop comes preloaded with the Microsoft Office Suite, antivirus software, and other programs that may be content specific. Technology Services is readily available for technical assistance to support faculty, staff, and candidates in meeting their teaching/learning goals. Computer labs are available to candidates in three buildings on campus, Ledford, SMB, and Harris. In addition, EDU 241, Introduction to Instructional Media is taught in SMB where data projectors are mounted in the ceiling, and may be connected to the provided desktop or the faculty/student laptop.

Due to the Department of Mathematics and Computer Science's campus-wide role leading to Fundamental Technology Competency for all students, technology resources are a benefit of our program. Students in mathematics education have access to and opportunity to explore with the major technologies, both hardware and software, that are effective in teaching and learning mathematics. Many of these same technologies are utilized heavily in 9 – 12 mathematics. Teacher candidates have access to data collection probes, software, projection devices, calculator resources, and teaching materials for all of the software packages available. Candidates utilize these resources

in their student internship and in their beginning years of teaching as in-service teachers still in communication with the department.

7. Describe the adequacy of the fiscal resources that support the program.

Travel allocations from the College operating budget are made to each academic department in the amount of \$450 per full time faculty member. Deans support conference presentations with more funding. Faculty members in mathematical sciences and education have full access to duplication through the Copy Services and copy machines in the individual buildings. Sponsored programs, such as grants, have provided additional mathematics education resources housed at Meredith College and in the Department of Mathematics and Computers Science that can be accessed by teacher candidates when not in use for professional development purposes. Example: Algebra tiles are resources used by several of the grants in professional development sessions with classroom teachers. When there are not professional development workshops being conducted, teacher candidates can use these tiles, explore the professional development curricular materials, and even check out the equipment to use in their internships.

Funds in the gift account for the Department of Mathematics and Computer Science have supported the purchase of classroom materials, technology resources, curricular resources, and student initiatives. For the last three years, the Department's gift account has supported the travel of teacher candidates to attend the state NC-CTM annual meeting in Greensboro, including lodging and meals. The gift account has supplemented campus-wide undergraduate research funding to support mathematics majors over the last 6 years to present at regional and national mathematics meetings, including 1 elementary pre-service mathematics teacher candidate, 2 middle grades pre-service mathematics teacher candidates, and 2 secondary 9 – 12 pre-service mathematics teacher candidates.

While we would like to increase our fiscal stability to support our many initiatives in the program, we feel fortunate to have established such a strong level of support for undergraduate mathematics education, and especially for mathematics teacher candidates.

Standard 6A: Working Conditions

Faculty members have sufficient time for teaching, service, and research as appropriate to the mission of the institution.

1. Describe institutional and program policies and practices related to faculty loads, including student teaching supervision.

Workload Policies. Faculty members are expected to teach 21 credit hours per year (fall and spring semesters), with the average undergraduate course being three credit hours. In departments with graduate programs, faculty members receive 4.5 hours of credit for graduate courses with enrollments equal to or greater than ten. In making teaching assignments, the department head considers such criteria as the number of preparations and total number of students taught. At the undergraduate level, research courses (i.e., MAT 299, MAT 499, EDU 299 and EDU 499) accumulate with a value of 1/9 credit per student and, at the graduate level, masters theses (EDU 650, 651, 800) accumulate with a value of 2/3 credit per thesis. Faculty members are compensated monetarily for teaching in any of the summer sessions offered by the college. In addition to teaching, the faculty role model adopted in 2003 includes academic advising and mentoring, service, and professional involvement. The role model is prioritized by the faculty member in consultation with the department head each year. Teaching always occupies the highest level of priority but the prioritization of the other areas is flexible. Sometimes faculty members assume special duties or administrative positions that require a reduction in the teaching load. Such reductions require approval from the department head and the Dean.

Supervisory responsibilities in student teaching are considered in load assignments. Each student intern counts as a 0.67 semester hour, so that 5 student teachers would be equivalent to one 3-hour course. Supervisors for the middle/secondary/K-12 licensure areas are usually full time faculty. The Department of Education has student interns in the schools during fall and spring semesters; therefore, meetings are held semi-annually for supervisors and cooperating teachers. College supervisors from the Department of Education are required to observe each student teaching for a minimum of 4 times, with their cohort supervisor in the content area, observing a minimum of twice. Problems in student teaching require more hours of observation and conversation both with the student intern and the cooperating teacher. The *Student Internship Handbook* explains the policies problems in student teaching, removal from the program, and possible return.

All area high schools are on block schedule, with 90-100 minute periods, and supervisors are to observe the entire class period. At the midpoint of the student internship experience, college supervisors, cooperating teachers, and student interns complete a midterm evaluation using the *Teacher Candidate Evaluation Rubric* (TCER), which includes information on knowledge, skills, and dispositions. Also, the technology portion of the professional portfolio is due for its first formal evaluation. Supervisors, cooperating teachers, and student interns have midterm conference. At the conclusion of the internship, all supervisors, cooperating teachers, and student interns have a final conference and the complete final evaluations, each completing his/her own, using the TCER again. At the final conference, the professional portfolio, which reflects on the internship experience and with the satisfactorily completed technology requirements, is required.

2. Provide a chart summarizing faculty teaching, advisement, and committee loads by semester for the year of record and the preceding year. The chart should include the same faculty included in the chart for Standards 5 and 5A.

Fall 2006				
Name	Teaching Load	Advisement	Committees	Department
Jane Gleason	EDU 234 – Educational Psychology; EDU 401 Mathematics in the Elementary School; EDU 651 – Master’s Thesis	None	Tenure and Promotion, Co-Chair	Education
Ellen Graden	EDU 445 ESL in the Elementary School; EDU 745 – Introduction to Methods of ESL; EDU 641 – Methods of Teaching ESL; EDU 651 – Master’s Thesis	Director, Graduate Program	Graduate Advisory Committee	Education
Linda Hubbard	EDU 232 – Foundations in American Education	6	Teacher Education, Dean’s Council, Teaching Fellows Advisory	Education
Beth Marr	EDU 255 – Literature for Children and Early Adolescents; EDU 300 – Introduction to Language Arts; EDU 400 - Communication Skills in the Elementary School	None	None	Education
Monica McKinney	EDU 232 – Foundations of American Education; CORE 100 – The Context of Culture; EDU 651- Master’s Thesis	10	Teacher Education, General Education, Faculty Council	Education
Jennifer Olson	EDU 255 – Literature for Children and Early Adolescents; EDU 450 – Reading in the Content Area	None	None	Education
Wetonah Rice Parker	EDU 440 – Seminar in Education; EDU 467 – Secondary	10	Teacher Education, Teaching Fellows, Tenure and Promotion,	Education

Fall 2006				
Name	Teaching Load	Advisement	Committees	Department
	School; EDU 490 – Observation and Directed Teaching, EDU 651 – Master’s Thesis			
Susan Roberts	EDU 440 – Seminar in Education; EDU 232 – Foundations in American Education; EDU 490 – Observation and Directed Teaching	None	None	Education
Julie Schrock	EDU 234 – Educational Psychology; EDU 466 – Preadolescents/ Adolescent Behavior; EDU 490 – Observation and Directed Teaching	10	Academic Council, General Education	Education
Emily Burkhead	New faculty in 07 - 08	Not applicable	Not applicable	Mathematics
Wendy Clinton	MAT 090— Remedial Math MAT 144— Functions and Graphs	Not applicable; Adjunct in 06-07	Not applicable	Mathematics
Charles Davis	MAT 314— Calculus III MAT 415— Complex Variables MAT 299— Individual Research (Sophomore level) MAT 499— Individual Research (Senior level)	15 Faculty advisor for Pi Mu Epsilon— Math Honor Society; Faculty advisor for Senior Class of 2007	Academic Administrative, Department Heads Council, Deans and Department Heads, Academic Advising Advisory, Who’s Who Selection Committee	Mathematics
Lara Dick	New faculty in 07 - 08	Not applicable	Not applicable	Mathematics
E. Jacquelin Dietz	MAT 245— Statistics I (2 sections) MAT 141— College Algebra	16 Thesis committee for one graduate student in Nutrition	Institutional Review Board, Graduate Studies Committee	Mathematics
Timothy Hendrix	MAT 211—	13	Academic and Co-	Mathematics

Fall 2006				
Name	Teaching Load	Advisement	Committees	Department
	Calculus I MAT 334— College Geometry MAT 764— Teaching Middle/ Secondary Mathematics Course Release for STAMP grant		Curricular Technology (Chair), Campus Technology Committee	
Jennifer Hontz	MAT 211— Calculus I MAT 321— Abstract Algebra MAT 490—Senior Seminar MAT 499— Individual Thesis Research		General Education, Institutional Effectiveness, Mathematics Search Committee	Mathematics
Barrett Koster	CIS 156—Web Site Management and Design CORE 100—The Context of Culture CSC 301—Data Structures and Algorithms CSC 420—Comp Sci Seminar CSC 499— Individual Research CSC 930— Internship	8	General Education	Mathematics
Cammy Cole Manning	MAT 130— Exploring with Mathematics MAT 212— Calculus II MAT 290—Honors Lab CSC/MAT 360— Numerical Analysis MAT 499— Individual Thesis Research	17	Faculty Council, Tenure and Promotion Sub- Committee, Mathematics Search Committee	Mathematics
Paul Schuette	MAT 245— Statistics I MAT 340— Mathematical Probability and Statistics MAT 250— Introduction to	10 20 Paschal Scholars Program Advisor	Academic Council, Mathematics Search Committee (Chair)	Mathematics

Fall 2006				
Name	Teaching Load	Advisement	Committees	Department
	Mathematical Reasoning MAT 141— College Algebra			
Kristin Watkins	CSC 101— Beginning Programming CIS 120— Spreadsheets CIS 140— Databases EDU 241— Introduction to Educational Media (3 sections)	18	Academic and Co-Curricular Technology Committee, Honor Council	Mathematics
Ellen Birch	MAT 141— College Algebra	Not applicable— adjunct	Not applicable— adjunct	Mathematics
Mary Sikes	New adjunct faculty in 07 - 08	Not applicable— adjunct	Not applicable— adjunct	Mathematics
Phyllis Smetana-O'Hara	MAT 245— Statistics I	Not applicable— adjunct	Not applicable— adjunct	Mathematics
Jeane Joyner	Not applicable— Research Associate Responsibilities with STAMP, TEAM II, and Meredith Math Institutes	Not applicable— Research Associate	Not applicable— Research Associate	Mathematics

Spring 2007				
Name	Teaching Load	Advisement	Committees	Department
Jane Gleason	EDU 234 – Educational Psychology; EDU 401 Mathematics in the Elementary School; EDU 490 – Observation & Directed Teaching	None	Tenure and Promotion, Co-Chair	Education
Ellen Graden	EDU 445 ESL in the Elementary School; EDU 745 – Introduction to Methods of ESL; EDU 641 – Methods of Teaching ESL; EDU 651 – Master’s Thesis	Director, Graduate Program	Graduate Advisory Committee	Education
Linda Hubbard	CORE 100 – The Context of Culture	6		Education
Beth Marr	EDU 300 – Introduction to Language Arts; EDU 400 - Communication Skills in the Elementary School; EDU 676-Clinical Application of the Reading Process	None	None	Education
Monica McKinney	EDU 232 – Foundations of American Education; CORE 100 – The Context of Culture; EDU 651- Master’s Thesis	10	Teacher Education, General Education, Faculty Council	Education
Jennifer Olson	EDU 255 – Literature for Children and Early Adolescents; EDU 450 – Reading in the Content Area; EDU 490 – Observation & Directed Teaching	None	None	Education
Wetonah Rice Parker	EDU 440 – Seminar in Education; EDU 467 – Secondary	10	Teacher Education, Teaching Fellows, Tenure and Promotion,	Education

Spring 2007				
Name	Teaching Load	Advisement	Committees	Department
	School; EDU 490 – Observation and Directed Teaching, EDU 651 – Master’s Thesis			
Susan Roberts	EDU 440 – Seminar in Education; EDU 232 – Foundations in American Education; EDU 490 – Observation and Directed Teaching	None	None	Education
Julie Schrock	EDU 234 – Educational Psychology; EDU 466 – Preadolescents/ Adolescent Behavior; EDU 490 – Observation and Directed Teaching	10	Academic Council, General Education	Education
Emily Burkhead	New faculty in 07 - 08	Not applicable	Not applicable	Mathematics
Wendy Clinton	MAT 090— Remedial Math MAT 144— Functions and Graphs	Not applicable; adjunct in 06-07	Not applicable	Mathematics
Charles Davis	MAT 314— Calculus III MAT 354— Differential Equations	15 Faculty advisor for Pi Mu Epsilon— Math Honor Society; Faculty advisor for Senior Class of 2007	Academic Administrative, Department Heads Council, Deans and Department Heads, Academic Advising Advisory,	Mathematics
Lara Dick	New faculty in 07-08	Not applicable	Not applicable	Mathematics
E. Jacquelin Dietz	MAT 245— Statistics I (2 sections) MAT 345— Statistics II FCS 645— Graduate course in introductory statistics for Foods	13 Thesis advisor for one Honors/ Teaching Fellow student	Institutional Review Board, Graduate Studies Committee	Mathematics

Spring 2007				
Name	Teaching Load	Advisement	Committees	Department
	and Nutrition			
Timothy Hendrix	MAT 245— Statistics I MAT 143— Trigonometry Course Release for STAMP grant	14	Academic and Co- Curricular Technology (Chair), Campus Technology Committee, CIO Search Committee	Mathematics
Jennifer Hontz	MAT 499—Thesis Research (on maternity leave for portion of the semester)		General Education, Institutional Effectiveness, Mathematics Search Committee	Mathematics
Barrett Koster	CORE 100—The Context of Culture CSC 203— Foundations of Computer Science CSC 212—Object Oriented Programming CSC 407— Software Engineering	8	General Education	Mathematics
Cammeey Cole Manning	MAT 130— Exploring with Mathematics MAT 211— Calculus I MAT 410— Advanced Calculus	17	Faculty Council, Tenure and Promotion Sub- Committee, Mathematics Search Committee	Mathematics
Paul Schuette	MAT 245— Statistics I (2 sections) MAT 425— Advanced Linear Algebra	10 20 Paschal Scholars Program Advisor	Academic Council, Mathematics Search Committee (Chair)	Mathematics
Kristin Watkins	CSC 101— Beginning Programming CIS 156—Web Site Management and Design CIS 120— Spreadsheets CIS 370—Ethics and Information Technology EDU 241— Introduction to Educational Media (2 sections)	18	Academic and Co- Curricular Technology Committee, Honor Council	Mathematics
Ellen Birch	MAT 141—	Not	Not applicable—	Mathematics

Spring 2007				
Name	Teaching Load	Advisement	Committees	Department
	College Algebra	applicable— adjunct	adjunct	
Mary Sikes	New adjunct faculty in 07 - 08	Not applicable— adjunct	Not applicable— adjunct	Mathematics
Phyllis Smetana- O'Hara	MAT 245— Statistics I	Not applicable— adjunct	Not applicable— adjunct	Mathematics
Jeane Joyner	Not applicable— Research Associate Responsibilities with STAMP, TEAM II, and Meredith Math Institutes	Not applicable— Research Associate	Not applicable— Research Associate	Mathematics

Summer 2007				
Name	Teaching Load	Advisement	Committees	Department
Jane Gleason	EDU 234 – Educational Psychology			Education
Ellen Graden	EDU 645 – Culture & the Language Teacher			Education
Beth Marr	EDU 677 – Teaching Writing K-12			
Wetonah Rice Parker	EDU 241 – Introduction to Instructional Media; EDU 605 – Design & Evaluation of Instructional Materials			Education

Program Standard 6 Links
Xythos
Curriculum Vitae Mathematics Faculty
Education Faculty
Mathematics Course Syllabi
Education Course Syllabi