



COLLEGE OF EDUCATION

DEPARTMENT OF EDUCATIONAL LEADERSHIP

**MATHEMATICS
SCED M. Ed.**

**ANNUAL ASSESSMENT REPORT
SUBMITTED APRIL, 2011**

**FOR THE REPORTING PERIOD
FALL, 2011 – SUMMER, 2012**

**FOR QUESTIONS ABOUT THIS REPORT, PLEASE EMAIL THE
COE ASSESSMENT COORDINATOR, DR. BRUCE SMITH, COE
ASSOCIATE DEAN
BDSMITH@UALR.EDU**

**Program Report for the
Preparation of Secondary Mathematics Teachers
National Council of Teachers of Mathematics (NCTM)**

NATIONAL COUNCIL FOR ACCREDITATION OF TEACHER EDUCATION

C O V E R S H E E T

Institution University of Arkansas at Little Rock **State** AR

Date submitted April 17, 2012

Name of Preparer James Fetterly, Assistant Professor, Secondary Education

Phone # 501-683-7088 **Email** jmfetterly@ualr.edu

Program documented in this report:

Name of institution's program (s) M.Ed. Secondary Education Initial Licensure

Grade levels for which candidates are being prepared 7-12

Degree or award level: Masters

Is this program offered at more than one site? Yes No

If yes, list the sites at which the program is offered _____

Title of the state license for which candidates are prepared
Arkansas Mathematics 7-12

Program report status:

- Initial Review**
- Response to a Not Recognized Decision**
- Response to National Recognition With Conditions**
- Response to a Deferred Decision**

State licensure requirement for national recognition:

NCATE requires 80% of the program completers who have taken the test to pass the applicable state licensure test for the content field, if the state has a testing requirement. Test information and data must be reported in Section III. Does your state require such a test?

- Yes** **No**

GENERAL DIRECTIONS

To complete a program report, institutions must provide evidence of meeting NCTM standards based on data from 6-8 assessments. In their entirety, the assessments and data required for submission in this report will answer the following questions:

- Have candidates mastered the necessary knowledge for the subjects they will teach or the jobs they will perform?
- Do candidates meet state licensure requirements?
- Do candidates understand teaching and learning and can they plan their teaching or fulfill other professional education responsibilities?
- Can candidates apply their knowledge in classrooms and schools?
- Do candidates focus on student learning?

To that end, the program report form includes the following sections:

Section I. Context (*6-page maximum narrative, plus three attachments not to exceed 5 pages each*)
Provide general information on the program as specified by the directions for this section.

Section II. List of Assessments (*completion of chart*)

Using the chart included in this report form, indicate the name, type, and administration point for each of the 6-8 assessments documented in this report. (Note that Section IV of the report form lists examples of assessments that may be appropriate for each type of assessment that must be documented in the program report.)

Section III. Relationship of Assessments to Standards (*completion of chart*)

Using the chart included in this report form, indicate which of the assessments listed in Section II provide evidence of meeting specific program standards.

Section IV. Evidence for Meeting Standards (*attachments of the assessment, scoring guide/criteria, and data tables plus a 2-page maximum narrative for each of the 6-8 assessments*)

Attach assessment documentation plus a narrative statement for each assessment as specified by the directions for this section.

Section V. Use of Assessment Results to Improve Candidate and Program Performance (*3-page maximum narrative*)

Describe how faculty are using the data from assessments to improve candidate performance and the program, as it relates to content knowledge; pedagogical and professional knowledge, skills, and dispositions; and student learning.

Section VI. For Revised Reports Only

Describe what changes or additions have been made in the report to address the standards that were not met in the original submission. List the sections of the report you are resubmitting and the changes that have been made. Specific instructions for preparing a revised report are available on the NCATE web site at <http://www.ncate.org/institutions/process.asp?ch=4>.

Format and page limits for narrative sections and attachments:

Narrative: Sections I, IV, and V include narrative sections based on specific directions and page limits. Page limits are based on single-spaced text using 12-point type.

Attachments: Sections I and IV include attachments. In general, attachments should be no longer than the equivalent of five text pages.

→ NCATE staff may require institutions to revise reports that do not follow directions on format and page limits. In addition, hyperlinks imbedded in report documentation will not be read by reviewers and cannot be used as a means of providing additional information.

Program report information on the web: <http://www.ncate.org/institutions/process.asp?ch=10>.

To download report forms: <http://www.ncate.org/institutions/programStandards.asp?ch=4>.

Specific Instructions for NCTM (Secondary)

Who Should Submit Program Reports:

Programs must submit reports for initial programs in middle school or secondary mathematics education. A report for elementary education must be prepared only if the program is specifically designed for the preparation of K-4 or 5-8 teachers of departmentalized programs. Self-contained elementary classroom teacher programs should respond to ACEI guidelines.

NCTM National Recognition Decision Rules:

There is no specific number of standards that must be met for National Recognition. However, 80% of all indicators must be addressed and at least one indicator must be addressed for each standard. Indicators can be found on the NCTM web site at <http://www.nctm.org/about/ncate/>

Additional Assessment Types (beyond the first 5 required types) required by NCTM:

None

Other specific information required by NCTM only:

NCTM expects programs to provide information in Section I to adequately demonstrate that the program meets Indicators 16.1 and 16.2.

Will NCTM accept grades as one of the assessments?

Yes, but if grades are used as an assessment or included in an assessment, the program report must provide information on the content-specific criteria for those grades and provide a clear rationale for how these grades align with specific NCTM standards and indicators.

Other resources are available on the NCTM web site at:

<http://www.nctm.org/about/ncate/>

General Description

The University of Arkansas at Little Rock (UALR) is an interactive metropolitan university, one of a new class of American universities emerging in the past 20 years. It is Arkansas' metropolitan university, located in the cultural, political, medical, financial, and geographic center of the state. Classified by the Carnegie Foundation for the Advancement of Teaching as a Doctoral/Research University, the university's graduate and professional programs enroll approximately 1 in 5 students at UALR. That puts UALR at the top among Arkansas' colleges and universities in the percentage of students who are enrolled in graduate and professional programs. The graduate student body at UALR is also the most racially diverse among the schools in Arkansas. In combination, these characteristics create an exciting environment in which to explore and study.

SECTION I—CONTEXT

1.1. A description of any state or institutional policies that may influence the application of NCTM standards

The Arkansas Legislature has required that any public higher education institution licensing secondary mathematics teachers must pass the national accrediting association and be NCATE accredited. The UALR Secondary Education program is aligned with the NCTM Standards (IV.2.5 & IV.2.5.c.), Arkansas State Teacher Licensure standards, and the UALR College of Education (COE) Conceptual Frameworks (see I.4. for alignment).

Title II definitions now require that program completers pass required assessments in addition to completion of courses on the student's degree plan. Candidates in the initial licensure track of the M.Ed. in Secondary Education are required to pass Arkansas required Praxis II assessments as of spring 2001.

The mathematics education licensure program is housed in the School of Education at UALR. It is an initial teaching certificate program that provides initial licensure in secondary (grades 7-12) mathematics at the master's degree level for those who already hold a bachelor's degree or the equivalent in mathematics. To be certified in secondary mathematics all candidates must pass the Praxis II in Mathematics: Content Knowledge (0061), Proofs and Models and Problems (0063) and Mathematics Pedagogy (0065) (IV.1.5).

The Graduate SCED program also works with the Arkansas Department of Education (ADE) to allow candidates who are teaching on a provisional licensure to receive an initial licensure while enrolled in the M. Ed. Program. Candidates are expected to meet all of the following principals which are assessed with a Pathwise Plus evaluation form (IV.4.5) in the two preprofessional field placements (SCED 7103 and 7106) and Internship (SCED 7601) (I.2).

1.2. Description of the field and clinical experiences required for the program, including the number of hours for early field experiences and the number of hours/weeks for student teaching or internships.

During the field experiences, candidates are expected to demonstrate application of each of the NCTM standards 7, 8 & 16 along with applicable process and content standards determined by the content to be taught. These experiences are considered as one form of performance assessment by the secondary faculty at UALR. Therefore, the field experiences and internship will be listed as applicable assessments from section II for each of the sixteen NCTM standards.

Field Experience: During their 60 clock hours as lab teachers (30 hours per practicum course: SCED 7103 and 7106), candidates observe mathematics classes, assist with paperwork and other teaching duties, and teach the application of mathematical concepts in at least four lessons. Each of the lessons is written with the lesson objectives specifically aligned to the Arkansas frameworks and the NCTM standards. In addition, the candidate must show in the lesson plan how the NCTM standards are being met through the lesson's activities (IV.4.5.a.). The following chart defines the required hours of observation and number of supervised evaluations.

Type of Field Experience	Required hours of observation	Number of Supervised Evaluations
Pre-professional Field Experience (SCED 7103)	30	2
Pre-professional Field Experience (SCED 7106)	30	2
Internship	480	4
Total	540	8

During the SCED 7103, 7104 & 7601 field experience candidates will be assessed on a comprehensive NCTM Observation form to assess the candidates' ability to effectively teach classroom-based instruction for each of the NCTM Standards and a Pathwise Plus form for pedagogical and professional knowledge, skills, and dispositions during classroom instructional sessions with students and interactions as a professional with school personnel. The Pathwise Plus instrument used for evaluation is divided into four domains: Planning, Classroom Management, Instruction, and Professionalism. The scoring is on a 3 point value with 3 Exceeds Expectations, 2 Meets Expectations, 1 Needs Improvement and NA for Not Applicable. The forms are used to demonstrate candidate competence during the two pre-professional and one Internship field experiences. The assessments are made by the university supervisor and classroom teacher during the candidate's teaching experiences (IV.4.5.a & b.).

Following each of the lessons, the candidate, the university supervisor, and the classroom mentor teacher discuss the two assessment forms (Pathwise Plus, and the Mathematics Pre-pro/Intern Evaluation forms) and identify areas of strength and areas needing improvement. In addition, the candidate is asked to write a reflection as a self assessment of how well the lesson objectives were met and how to improve the lesson.

Internship: Candidates complete a full-semester internship in secondary mathematics. Typically, interns teach one or more classes at least twelve weeks and are required to teach the full load for six weeks. Throughout the semester candidates have the daily supervision and counsel of an experienced mathematics teacher. The intern is responsible for developing and retaining a portfolio of lesson plans written with the lesson objectives specifically aligned to the Arkansas Frameworks and the NCTM Standards. In addition, the intern must show in the lesson plan how the NCTM Standards are being met through the lesson's activities.

The intern is formally evaluated at least four times during the internship by the university supervisor and classroom mentor teacher using two evaluation forms: Pathwise Plus and The Mathematics Pre-pro/Intern Evaluation form which is designed to measure how well the candidate addresses the sixteen NCTM standards.

A conference follows each observed lesson where the intern, university supervisor and classroom teacher discuss the two assessment forms (Pathwise Plus, and the NCTM Pre-pro/Intern Evaluation forms), review the intern's lesson plan portfolio, and identify areas of strength and areas needing improvement. The intern must write a reflection which is a self-assessment of how well the lesson objectives were met and how to improve the lesson.

SCED Program Assessment for Field Experience: The Pathwise Plus and the Mathematics Pre-pro/ Intern Evaluation forms are returned to the mathematics university supervisor where all forms (each semester) are aggregated to assess the effectiveness of candidate performance in meeting the State of Arkansas' teacher licensure standards and the sixteen (16) NCTM standards (IV.5.3.). All university supervisors and cooperating teachers are trained in Pathwise Plus and all cooperating teachers are required to have completed a masters degree and be teachers of excellence in the field of mathematics.

Teacher Candidate Work Sample: The teacher education candidate will submit a student work sample during their Internship. The sample should contain a pre and post test over the material to be covered. The work sample may encompass a single lesson or a complete unit. The lesson should demonstrate the association with the NCTM standards and contain the Arkansas Frameworks for teachers. Candidates should develop a graph showing learning from the pre to the post test and a reflection on the effectiveness of the lesson. The candidate should include a plan to improve teaching the lesson such as adding or deleting specific instructions or content. An analysis will be done on the student work and a reflection will be written regarding effectiveness or lack of effectiveness (IV.5.5.).

1.3. Description of the criteria for admission, retention, and exit from the program, including required GPAs and minimum grade requirements for the content courses accepted by the program.

SCED Initial Licensure Track Admission Requirements

The initial licensure track in graduate secondary education leads to licensure in a teaching specialty. Students who start at any time of the year other than the fall semester will need at least three semesters to complete the licensure classes. Most courses are offered in the evening for the convenience of students who work full time. Practicums require a field placement in a local school. Admission requirements are:

- Baccalaureate or equivalent from an accredited institution in one of the following teaching specialty areas: art; drama/speech; English language arts; life/earth science; physical/earth science; mathematics; vocal music; business, health and physical education; social studies or foreign language.
- GPA of 2.75 and PRAXIS I scores of 171 in mathematics (or 317 on the computer-based test), 172 in reading (or 319 on the computer-based test), and 173 in writing (or 320 on the computer-based test) or the stipulated scores on two of the tests and the Arkansas Department of Education's minimum score on one test (scores subject to change).
- Candidates who have completed the baccalaureate degree and lack no more than 12 hours in the specialty area may be admitted to the program and may complete deficiencies concurrently with a master's program. Deficiencies in the mathematics content area are determined by a pre-assessment grid which assesses GPA, Curriculum, and age of mathematics courses through a transcript evaluation (IV.2.5.a.).
- Conditional admission is for candidates who have a cumulative GPA between a 2.5 and 2.74. A candidate seeking full admission must pass the GRE and the Praxis I for reading, writing and arithmetic and have faculty approval to enter the program.
- Interview with faculty for assessment of dispositions (IV.7.5.a.).

Initial Licensure Track Retention Requirements

Retention to the program requires candidates to maintain a 3.0 GPA with no grades below B. If a candidate's GPA falls below 3.0, the student is placed on academic probation for one semester and given

the opportunity to raise his/her GPA. A student awarded a grade below B is required to retake the course. (See Attached 1.C. Program of study for Initial Licensure Track Program Requirements).

Initial Licensure Track Graduation Requirements

- A minimum of 36 graduate credit hours with a GPA of at least 3.0
- Passing scores on the program portfolio defense and SPA portfolio defense as determined by a committee
- Passing scores on all Praxis II examinations required by the Arkansas Department of Education and throughout the program by Pathwise evaluations during field experience.

1.4. Description of the Relationship of the Program to the Unit's Conceptual Framework.

The relationship of the Graduate Secondary Education Program to the COE conceptual framework is reflected in the program's learning outcome goals for each student. The Graduate SCED program has two sets of standards for which it is held accountable: the Arkansas Teacher Licensure Standards, and the Specialize Professional Association Standards (SPAs). The program goals listed below are used to meet each set of required standards. In addition to these two sets of standards, we are responsible for preparing our students to succeed in passing the Praxis III performance assessment which is based on Educational Testing Service (ETS)'s Pathwise observation system.

The Conceptual Framework of the College of Education (COE): The mission of the University of Arkansas at Little Rock College of Education is to promote and strengthen the professional development of individuals concerned with education and human resource development in a variety of settings such as schools, colleges and universities, private and corporate organizations, and government agencies. We strive to develop professionals who use state of the art methodologies and technologies. The conceptual framework for the College of Education at the University of Arkansas at Little Rock is "Leaders in Learning demonstrate Communication (C), Specialized Expertise (SE), Professional Development (PD) and a strong commitment to diversity (D) in competency, disposition and behavior." Program goals include:

The Arkansas State Teacher Licensure Standards:

Principle 1: The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches, can create learning experiences that make these aspects of subject matter meaningful for students and teachers in a manner that links the discipline(s) to other subjects.

Principle 2: The teacher plans curriculum appropriate to the students, to the content, and to course objectives.

Principle 3: The teacher plans instruction based upon human growth and development, learning theory and the needs of students.

Principle 4: The teacher exhibits human relations skills that support the development of human potential.

Principle 5: The teacher works collaboratively with school colleagues, parents/guardians and the community to support students' learning and well-being.

The Secondary Education Program Goals combine the COE Conceptual Frameworks with the five principles defined by Arkansas and are assessed for program admission (1A, 1B), Praxis II for program completion (IV.2.5, & IV.e.5.c. Praxis II alignment to NCTM Standards), and integrated into core courses SCED 7306 Instructional Skills and Classroom Management, 7106 Instructional Skills Practicum, 7202 Mathematics Supervised Instructional Methods, 7103 Supervised Clinical Teaching and

SCED 7601 Internship. The relationship to the COE Conceptual Frameworks and Arkansas Licensure Principals are as follows:

1. **Content:** The candidate understands the central concepts, tools of inquiry and structures of the discipline(s) he or she will be licensed to teach and can link the disciplines to each other (NCTM Standards 1-7, 9-15, AR Principal 1, COE Frameworks C, SE, & D).
2. **Planning:** The candidate plans and evaluates curriculum appropriate to the students, to the content, and to the course objectives (NCTM Standards 8 & 16, AR Principal 2, COE Frameworks C, SE, & D).
3. **Instruction:** The candidate plans and conducts instruction effectively using knowledge of human growth and development and learning theory and responding to the needs of the students (NCTM Standards 8 & 16, AR Principal 3, COE Frameworks C, SE, & D).
4. **Human relations:** The candidate exhibits human relations skills that support the development of human potential (NCTM Standards 8 & 16, AR Principal 4, COE Frameworks C, SE, & D).
5. **Professionalism:** The candidate works collaboratively with school colleagues, parents/guardians, and the community to support students' learning and well-being (NCTM Standards 16, AR Principal 5, COE Frameworks C, SE, PD & D).
6. **Research & technology:** The candidate has foundations and dispositions in research, problem solving, reflective thinking and technology for lifelong learning (NCTM Standards 1, 6 & 16, AR Principal 1, COE Frameworks C, SE, PD & D).
7. **Professional Ethics:** Program faculty will interview each candidate prior to admission and assess the candidate's dispositions to the field of education (NCTM Standards 7 & 8, AR Principal 5, COE Frameworks C, SE, & D).
8. **Diversity:** the candidate communicates effectively with diverse populations, believing that all children can learn at high levels and persists in helping all children achieve success (NCTM Standards 7, 8 & 16, AR Principal 2 & 3, COE Frameworks SE & D).

1.5. Indication of whether the program has a unique set of program assessments and their relationship of the program's assessments to the unit's assessment system.

The assessment plan for the M.Ed. program consists of the following gateways:

1. Candidate admission and retention must be in compliance with the Graduate School and College of Education.
2. Candidate must complete any required prerequisite skills needed to comply with NCTM standards.
3. Candidate must pass Praxis II Content, Proofs, Models and Problems before field experience admission.
4. Candidate must pass Praxis II Mathematics Pedagogy before graduation.
5. Candidate must demonstrate effectiveness through mastery of basic mathematics concepts and be able to apply them to teaching during Clinical Field Assessment.
6. Candidate must complete of 36 hours of graduate study.
7. Candidate must receive a passing score on Exit NCTM Portfolio (IV.6.5.).

#1 ATTACHMENT

Candidate Program of Study (Degree Plan)

Bulletin Date: 2011

Degree Sought: M.Ed. in Secondary Education

UALR GRADUATE SCHOOL ADVANCMENT TO CANDIDACY M.ED. IN SECONDARY EDUCATION: INITIAL LICENSURE TRACK

Student Name: _____ I.D. #: T _____
 Address: _____ City: _____ State: AR Zip: _____
 Telephone # (H): _____ Date Admitted: _____ Status: _____

Requirements for the degree include a minimum of 36 graduate credit hours, a minimum gpa of 3.0, a portfolio accepted by the committee, and passing scores on all Praxis II examinations required by the Arkansas Department of Education.

Prerequisites for the program include a baccalaureate degree, a content major, and completion of all coursework required by the Arkansas Department of Education or national accreditations agencies in one of the following teaching specialty areas: art, drama/speech; English language arts; life/earth science*; physical/earth science*; mathematics; vocal music; health and P.E. and business. Candidates who have completed the baccalaureate degree and lack no more than 12 hours in the specialty area may be admitted to the program and may complete deficiencies concurrently with the master's program.

In the space to the left of the course number enter a digital (e.g.3) for any course not yet completed which is a specified element of this program of study. Enter a WV for waived, a T for transfer credits (in which case a Transfer of Credit Request should accompany this form) and an APS for an approved program substitute.

hours of deficiencies in prerequisites. Deficiencies may be completed with either graduate or undergraduate hours. List any specific deficiencies below or on a separate page.

Prerequisites to be completed

Sem/Grade	Course Alpha	Course Number	Course Title
	SCED	7202	Specialized Instructional Methods
	SCED	7103	Supervised Clinical Teaching
	SCED	7306	Instructional Skills and Classroom Management
	SCED	7106	Instructional Skills Practicum
	<input type="checkbox"/> SCED or <input type="checkbox"/> EDFN	5321	Teaching Diverse Adolescents
		7330	Human Development
	SCED	7201	Curriculum Design Pre-reqs SCED 7306 & 7202
	SPED	7301	Foundations of Special Education
	EDFN	7370	Educational Assessment
	SCED	7302	Trends and Issues in the Secondary School
	EDFN	7303	Intro to Research
	SCED	7601	Internship—Must pass Praxis II Content for Admission

Electives: 6 hours in content, education or technology: (*English Teacher Education Candidates are required to take SCED 5361 Teaching Adolescent Literature)

Praxis II passed. Portfolio accepted by committee.

Student: _____ Date: _____

Advisor: _____ Date: _____

Associate Dean: _____ Date: _____

*This Program of Study is not official unless signed by the Associate Dean of Education

**#2 ATTACHMENT A
Candidate Information**

Program: Graduate Secondary Education Initial Licensure for Mathematics		
Academic Year	# of Candidates Enrolled in the Program	# of Program Completers
2009-2010 Program Completers	9	5
2010-2011 Program Completers	6	2
2011-2012 Program Completers	8	2

The numbers do not align since master’s candidates enter the program with a varied number of prerequisites to complete based on pre-admission advising. In addition, not all graduate candidates attend full-time and several may be teachers of record under provisional licensure allowed by the ADE. Due to the teacher shortage in the state, these candidates are classroom teachers while completing the master’s degree and certification.

3. ATTACHMENT B Faculty Information

Faculty Member Name	Highest Degree, Field, & University ¹	Assignment: Indicate the role of the faculty member ²	Faculty Rank ³	Tenure Track (Yes/No)	Scholarship, ⁴ Leadership in Professional Associations, and Service: 5 List up to 3 major contributions in the past 3 years ⁶	Teaching or other professional experience in P-12 schools ⁷
Judith A. Hayn	Ph.D. English Education University of Kansas	Secondary Teacher Education English Language Arts, First Course Instructional	Assistant Professor	Yes	(2006). Chapter 8: Diversity in young adult literature.” In J.H. Bushman & K.P. Haas. <u>Using young adult literature in the</u>	7-12, 15 years public schools Omaha, NB; Topeka, KS Clinical Supervision,

¹ e.g., PhD in Curriculum & Instruction, University of Nebraska

¹ e.g., faculty, clinical supervisor, department chair, administrator

¹ e.g., professor, associate professor, assistant professor, adjunct professor, instructor

¹ *Scholarship* is defined by NCATE as systematic inquiry into the areas related to teaching, learning, and the education of teachers and other school personnel. Scholarship includes traditional research and publication as well as the rigorous and systematic study of pedagogy, and the application of current research findings in new settings. Scholarship further presupposes submission of one’s work for professional review and evaluation.

¹ *Service* includes faculty contributions to college or university activities, schools, communities, and professional associations in ways that are consistent with the institution and unit’s mission.

¹ e.g., officer of a state or national association, article published in a specific journal, and an evaluation of a local school program

¹ Briefly describe the nature of recent experience in P-12 schools (e.g. clinical supervision, in-service training, teaching in a PDS) indicating the discipline and grade level of the assignment(s). List current P-12 licensure or certification(s) held, if any.

		Methods and Classroom Management			<p><u>English classroom</u>, 4th Edition. Upper Saddle River, NJ: Pearson Merrill Prentice-Hall; (2007). <i>Validation of adolescent literature: Scholarly study through the refereed journal. The emergence of adolescent literature as scholarship</i>. National Council of Teachers of English. New York, NY.; (2005-07 Chair WILLA (Women in Literacy & Life Assembly of NCTE.</p>	Pulaski County, AR, area; Inservice, Little Rock, AR
Andrew Hunt	Ph.D., Curriculum & Instruction, University of Arkansas	Faculty & Chair Teacher Education, Social Studies Advisor, Capstone Course Trends and Issues Teacher	Associate Professor	Yes	<p>NCSS Program Reviewer; Chair, Department of Teacher Education, Assessment of the implementation of ISTE NETS and performance indicators for teachers in secondary, middle level and early childhood education. Journal of American Association for Computer Education (AACE) –E-Learn, 2005, (1), 777-782, Norfolk, VA. Warrick, P. L., & Hunt, A. L. (2004). <i>Anywhere, anytime: Handy, enhanced handheld technology</i>. In S. M. Powers & K. Janz (Eds.), <i>Ubiquitous and Pervasive Computing in Higher Education</i> (pp. 5-18). Indiana:</p>	Licensed social studies teacher in Arkansas with a current license, Clinical Supervision, Pulaski County, AR, area; Inservice, Little Rock, AR

					Curriculum Research and Development Center.	
Jennifer B. Hune	EdD in Special Education Teacher Preparation, University of Kentucky, Lexington, KY	Special Education Teacher for required Special Education Course	Associate Professor	Yes	<p>Hune, J. B., (2007). Technology application for students with behavioral problems: Preliminary results. SITE Proceedings.</p> <p>Hune, J. B., (2008). Technology application for students with behavioral problems: An analysis of the research. SITE Proceedings</p> <p>Hune, J. B., (March, 2008). Technology application for students with behavioral problems; Preliminary Results. SITE Roundtable, 2007</p>	<p>Special Education National Advisory Committee for ETS (nomination)</p> <p>Organized State CEC Pre-Conference Workshop, November 2006</p> <p>Chair ECCO Head Start Health Education Committee</p> <p>AR CCBD President 2001-2007</p> <p>Minority Teacher Scholars Grant, administrator, 2005-2008. Minimum \$5,000 per grant.</p> <p>Special Education teacher P-4</p> <p>Inservice trainer LRSD & Pulaski County Head Start Program</p>
James M. Fetterly	Ph.D. Mathematics Education Florida State University	Secondary Teacher Education Mathematics education, Specialized Instructional Methods;	Assistant Professor	Yes	Fetterly, J., & Wood, B. (Forthcoming). <i>A Causeway for Classroom Creativity: Intellectual Uniformity +</i>	7-12, 7 years public schools Conway, AR

		Curriculum Design			<p><i>Intellectual Anarchy = Intellectual Ingenuity</i>. Teaching for High Potential.</p> <p>Fetterly, J., & Wood, B. (Forthcoming). Using mathematics literature: An informal approach to proportional thinking. <i>Arkansas Council of Teacher of Mathematics</i>, 10 (1)</p> <p>Sedivy-Benton, A.L., Hunt, A.L., Hunt, T.L., Fetterly, J.M., & Wood, B.K. (forthcoming). Emergence of Successful Online Courses: Faculty and Student Shift. In S. Mukerji & P. Tripathi (Eds.), <i>Handbook of Research on Transnational Higher Education Management</i>. Hershey, PA: IGI Global.</p> <p>Fetterly, J. (2012). The creative mathematical practice of problem posing: Transforming passive recipients into lively learner. <i>Arkansas Council of Teacher of Mathematics</i>, 9 (1), 9-11, 23, 29, 33-34.</p>	
Amanda Nolen	Ph.D. Educational Psychology, Baylor University	Educational Foundations Teacher, Required Assessment Course	Assistant Professor	Yes	Meta-analysis of research in Educational Psychology: Establishing 'Canon' (in progress); Action	

					<p>Research in Education: Addressing Gaps in Ethical Principles and Practices (2007) – <i>Educational Researcher</i> 36(7);</p> <p>Serve on Editorial Board for the Journal of Educational Research; Member of AERA and APA Division 15.</p>	
--	--	--	--	--	--	--

Section II

	Name of Assessment ⁸	Type or Form of Assessment ⁹	When the Assessment Is Administered ¹⁰
1	[Licensure assessment, or other content-based assessment] Praxis II Scores & Sub Scores for Mathematics Content, Proofs, Models, Problems and Pedagogy	Arkansas State Licensure Test	Content and Proofs before admission to Internship Pedagogy prior to degree completion
2	[Assessment of content knowledge in mathematics] Mathematics Prerequisite Assessment Grid	Transcript Evaluation of Math Courses and Match to UALR Bachelors of Mathematics Program	Before admission to program
3	[Assessment of candidate ability to plan instruction] NCTM Ability to Plan	A comprehensive rubric to assess the candidates' ability to effectively plan classroom-based instruction. The assessment assumes NCTM Process Standards 1-5 will be used along with any applicable NCTM Content Standards 9-15. But the main assessment is based on NCTM Standards 6-8.	During SCED 7201 Curriculum Design culminating with the NCTM Exit Portfolio defense
4	[Assessment of student teaching] Pathwise Plus, NCTM Pre-pro/Intern Evaluation	Pathwise Plus form developed to include diverse populations and NCTM Pre-pro/Intern Evaluation Form developed to meet all NCTM standards	SCED 7106 Field I SCED 7103 Field II Internship
5	[Assessment of candidate effect on student learning] NCTM Effect on Student Learning	Comprehensive Rubric to assess candidate's Internship Student Work Sample based on NCTM standards and meeting all student needs for learning including diverse populations.	Internship and Exit Portfolio Defense
6	Additional assessment that addresses NCTM standards (required)] NCTM Portfolio	Comprehensive Rubric for the NCTM Exit Portfolio	Intermediate and Capstone level and Exit Portfolio Defense
7	Additional assessment that addresses NCTM standards (optional)]	Face to face interview with committee and Interview Form based on Arkansas Teacher Licensure Standards	Admissions

	Name of Assessment⁸	Type or Form of Assessment⁹	When the Assessment Is Administered¹⁰
	Mathematics Candidate Interview		
8	Additional assessment that addresses NCTM standards (optional)] Praxis III	Arkansas State Licensure Test (According to content taught during Praxis III all areas of content are possible measures during the assessment along with the pedagogy.)	Post Graduation

SECTION III—RELATIONSHIP OF ASSESSMENT TO STANDARDS

For each NCTM standard on the chart below, identify the assessment(s) in Section II that address the standard. One assessment may apply to multiple NCTM standards.

NCTM STANDARD	APPLICABLE ASSESSMENTS FROM SECTION II
Mathematics Preparation for All Mathematics Teacher Candidates	
1. Knowledge of Problem Solving. Candidates know, understand and apply the process of mathematical problem solving. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]	<input checked="" type="checkbox"/> #1 <input checked="" type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input checked="" type="checkbox"/> #5 <input checked="" type="checkbox"/> #6 <input type="checkbox"/> #7 <input checked="" type="checkbox"/> #8
2. Knowledge of Reasoning and Proof. Candidates reason, construct, and evaluate mathematical arguments and develop an appreciation for mathematical rigor and inquiry. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]	<input type="checkbox"/> #1 <input checked="" type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input checked="" type="checkbox"/> #5 <input checked="" type="checkbox"/> #6 <input type="checkbox"/> #7 <input checked="" type="checkbox"/> #8
3. Knowledge of Mathematical Communication. Candidates communicate their mathematical thinking orally and in writing to peers, faculty and others. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]	<input type="checkbox"/> #1 <input checked="" type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input checked="" type="checkbox"/> #5 <input checked="" type="checkbox"/> #6 <input type="checkbox"/> #7 <input checked="" type="checkbox"/> #8
4. Knowledge of Mathematical Connections. Candidates recognize, use, and make connections between and among mathematical ideas and in contexts outside mathematics to build mathematical understanding. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]	<input checked="" type="checkbox"/> #1 <input checked="" type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input checked="" type="checkbox"/> #5 <input checked="" type="checkbox"/> #6 <input type="checkbox"/> #7 <input checked="" type="checkbox"/> #8
5. Knowledge of Mathematical Representation. Candidates use varied representations of mathematical ideas to support and deepen students' mathematical understanding. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]	<input checked="" type="checkbox"/> #1 <input checked="" type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input checked="" type="checkbox"/> #5 <input checked="" type="checkbox"/> #6 <input type="checkbox"/> #7 <input checked="" type="checkbox"/> #8
6. Knowledge of Technology. Candidates embrace technology as an essential tool for teaching and learning mathematics. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]	<input type="checkbox"/> #1 <input checked="" type="checkbox"/> #2 <input type="checkbox"/> #3 <input checked="" type="checkbox"/> #4 <input checked="" type="checkbox"/> #5 <input checked="" type="checkbox"/> #6 <input type="checkbox"/> #7 <input checked="" type="checkbox"/> #8
7. Dispositions. Candidates support a positive disposition toward mathematical processes and mathematical learning. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]	<input type="checkbox"/> #1 <input type="checkbox"/> #2 <input checked="" type="checkbox"/> #3 <input checked="" type="checkbox"/> #4 <input checked="" type="checkbox"/> #5 <input checked="" type="checkbox"/> #6 <input type="checkbox"/> #7 <input checked="" type="checkbox"/> #8

NCTM STANDARD	APPLICABLE ASSESSMENTS FROM SECTION II
<p>8. Knowledge of Mathematics Pedagogy. Candidates possess a deep understanding of how students learn mathematics and of the pedagogical knowledge specific to mathematics teaching and learning [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]</p>	<input type="checkbox"/> #1 <input type="checkbox"/> #2 <input checked="" type="checkbox"/> #3 <input checked="" type="checkbox"/> #4 <input checked="" type="checkbox"/> #5 <input checked="" type="checkbox"/> #6 <input type="checkbox"/> #7 <input checked="" type="checkbox"/> #8
Mathematics Preparation for Secondary Level Mathematics Teacher Candidates	
<p>9. Knowledge of Number and Operations. Candidates demonstrate computational proficiency, including a conceptual understanding of numbers, ways of representing number, relationships among number and number systems, and the meaning of operations. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]</p>	<input checked="" type="checkbox"/> #1 <input checked="" type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input checked="" type="checkbox"/> #5 <input checked="" type="checkbox"/> #6 <input type="checkbox"/> #7 <input checked="" type="checkbox"/> #8
<p>10. Knowledge of Different Perspectives on Algebra. Candidates emphasize relationships among quantities including functions, ways of representing mathematical relationships, and the analysis of change. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]</p>	<input checked="" type="checkbox"/> #1 <input checked="" type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input checked="" type="checkbox"/> #5 <input checked="" type="checkbox"/> #6 <input type="checkbox"/> #7 <input checked="" type="checkbox"/> #8
<p>11. Knowledge of Geometries. Candidates use spatial visualization and geometric modeling to explore and analyze geometric shapes, structures, and their properties. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]</p>	<input checked="" type="checkbox"/> #1 <input checked="" type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input checked="" type="checkbox"/> #5 <input checked="" type="checkbox"/> #6 <input type="checkbox"/> #7 <input checked="" type="checkbox"/> #8
<p>12. Knowledge of Calculus. Candidates demonstrate a conceptual understanding of limit, continuity, differentiation, and integration and a thorough background in techniques and application of the calculus. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]</p>	<input checked="" type="checkbox"/> #1 <input checked="" type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input type="checkbox"/> #5 <input checked="" type="checkbox"/> #6 <input type="checkbox"/> #7 <input checked="" type="checkbox"/> #8
<p>13. Knowledge of Discrete Mathematics. Candidates apply the fundamental ideas of discrete mathematics in the formulation and solution of problems. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]</p>	<input checked="" type="checkbox"/> #1 <input checked="" type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input type="checkbox"/> #5 <input checked="" type="checkbox"/> #6 <input type="checkbox"/> #7 <input checked="" type="checkbox"/> #8
<p>14. Knowledge of Data Analysis, Statistics, and Probability. Candidates demonstrate an understanding of concepts and practices related to data analysis, statistics, and probability. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]</p>	<input checked="" type="checkbox"/> #1 <input checked="" type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input type="checkbox"/> #5 <input checked="" type="checkbox"/> #6 <input type="checkbox"/> #7 <input checked="" type="checkbox"/> #8
<p>15. Knowledge of Measurement. Candidates apply and use measurement concepts and tools. [Indicators are listed at http://www.nctm.org/about/ncate/secondary_indic.htm]</p>	<input checked="" type="checkbox"/> #1 <input type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input type="checkbox"/> #5 <input checked="" type="checkbox"/> #6 <input type="checkbox"/> #7 <input checked="" type="checkbox"/> #8

NCTM STANDARD	APPLICABLE ASSESSMENTS FROM SECTION II
<p>16.1 Field-Based Experiences Engage in a sequence of planned opportunities prior to student teaching that includes observing and participating secondary mathematics classrooms under the supervision of experienced and highly qualified teachers.</p>	<p>Information should be provided in Section I (Context) to address this indicator.</p>
<p>16.2 Field-Based Experiences Experience full-time student teaching secondary-level mathematics that is supervised by an experienced and highly qualified teacher and a university or college supervisor with elementary mathematics teaching experience.</p>	<p>Information should be provided in Section I (Context) to address this indicator.</p>
<p>16.3 Field-Based Experiences Demonstrate the ability to increase students' knowledge of mathematics.</p>	<p> <input type="checkbox"/> #1 <input type="checkbox"/> #2 <input type="checkbox"/> #3 <input checked="" type="checkbox"/> #4 <input checked="" type="checkbox"/> #5 <input checked="" type="checkbox"/> #6 <input type="checkbox"/> #7 <input checked="" type="checkbox"/> #8 </p>

IV. ASSESSMENT # 1: CONTENT KNOWLEDGE (Praxis II Scores)

IV.1.1. A Description of the assessment and its use in the program.

The Praxis II: Mathematics Content Knowledge (0061) offered by the Educational Testing Service (ETS) is the test required for state licensure in Arkansas. The test is 50 multiple-choice questions designed to test the ability to understand and work with mathematical concepts, to reason mathematically, to integrate knowledge of different areas of mathematics and to develop mathematical models of real-life situations. The two-hour test requires a graphing calculator. This program requires candidates to report Praxis II scores for mathematics content knowledge, proofs, models and problems and mathematics pedagogy sub-scores as a requirement for graduation.

IV.1.2. A description of how this assessment specifically aligns with the standards it is cited for in Section III.

Following is the alignment of NCTM Standards and Indicators with state licensure revised exam (Praxis II) beginning with the Sept. 2005 administration.

Praxis II and NCTM Alignment

Program Standard	Indicators Addressed
Standard 1: Knowledge of Mathematical Problem Solving	1.1, 1.2
Standard 2: Knowledge of Reasoning and Proof	None
Standard 3: Knowledge of Mathematical Communication	None
Standard 4: Knowledge of Mathematical Connections	4.1, 4.2
Standard 5: Knowledge of Mathematical Representation	5.1, 5.2, 5.3
Standard 6: Knowledge of Technology	None
Standard 7: Dispositions	None
Standard 8: Pedagogy	None
Standard 9: Knowledge of Number and Operation	9.1,9.2,9.3,9.4,9.5,9.6,9.7,9.8,9.9
Standard 10: Knowledge of Different Perspectives on Algebra	10.1, 10.2, 10.4
Standard 11: Knowledge of Geometries	11.3, 11.5, 11.6
Standard 12: Knowledge of Calculus	12.1, 12.2, 12.3
Standard 13: Knowledge of Discrete Mathematics	13.1, 13.2
Standard 14: Knowledge of Data Analysis, Statistics, and Probability	14.1
Standard 15: Knowledge of Measurement	15.1,15.2,15.3

IV.1.3. A brief analysis of the data findings.

In the past four years eight candidates have taken the Praxis II test and received a state passing score. All candidates must pass Praxis II for program completion; therefore unsatisfactory (Level 1) scores of 143 or below are not used for assessment.

Scores for Proficiency Level 2 are:

- Mathematics: Content Assessment 116-156
- Mathematics: Proofs, Models, Problems 144-175
- Mathematics: Pedagogy 135-155.

Scores for Exemplary Level 3 are:

- Math Content Assessment is 156 or above
- Mathematics: Proofs, Models, Problems 175 or above
- Mathematics Pedagogy 156 or above.

Two of the two candidates performed at Proficiency Level 2 on all Praxis II tests and none achieved exemplary Level 3. These scores demonstrate a balanced understanding of mathematics content, processes and pedagogy. The lowest sub score was in Proofs. If a closer evaluation of candidate mathematics courses should reveal lacking content, future candidates may be required to take courses to help them with the necessary content. Assessments of sub-scores for the two candidates are as follows:

(10061) Mathematics: Content Knowledge M=Mean, %Percent, R=Range, Med=Median, Mo=Mode

Program Completers 2009-2010 (n=5)	Mathematics: Content Knowledge Score	Level	Algebra & Number Theory	Measure, Geometry, Trig	Functions Calculus	Data Anal & Statistics Probability	Matrix Algebra Discrete Math
Mean	158*	2 and 3	5/8 = 62.5%	7.75/12 = 64.5%	7/14 = 36.2%	4.75/8 = 59%	4.75/8 = 59%
R	57	0	4	5	9	2	4
Med	142	2	5	8	9	7	4
Mo	none	2	none	8	8	none	6
* Only four candidate scores are available							
Program Completers 2010-2011 (n=2)	Mathematics: Content Knowledge Score	Level	Algebra & Number Theory	Measure, Geometry, Trig	Functions Calculus	Data Anal & Statistics Probability	Matrix Algebra Discrete Math
Mean	120.5	2	3/8 = 37.5%	6/12 = 50%	4.5/14 = 32.1%	3/8 = 37.5%	3.5/8 = 43.8%
R	9	0	0	0	1	0	1
Med	120.5	2	3	6	4.5	3	3.5
Mo	none	2	none	6	none	3	none
Program Completers 2011-2012 (n=2)	Mathematics: Content Knowledge Score	Level	Algebra & Number Theory	Measure, Geometry, Trig	Functions Calculus	Data Anal & Statistics Probability	Matrix Algebra Discrete Math
Mean	154.5	2.5	5.5/8 = 68.8%	7/12 = 58.3%	9/14 = 64.3%	6.5/8 = 81.3%	6.5/8 = 81.3%
R	33	1	3	0	6	1	1
Med	154.5	2.5	5.5	7	9	6.5	6.5
Mo	none	2	none	7	none	none	none

(20063) Mathematics: Proofs, Models, Problems M=Mean, %Percent, R=Range, Med=Median, Mo=Mode

Program Completers 2009-2010 (n=5)	Proofs, Models, Problems Score	Level	Models	Problems	Proofs
Mean	163.4	2 and 3	5/10 = 50%	9.8/20 = 49%	3/10 = 30%
R	37	0	6	8	2
Med	144	3	6	12	3
Mo	none	none	none	12	4
Program Completers 2010-2011 (n=2)	Proofs, Models, Problems Score	Level	Models	Problems	Proofs
Mean	147.5	2	3.5/10 = 35%	6/20 = 30%	3/10 = 30%
R	1	0	2	2	2
Med	147.5	2	3.5	6	3
Mo	none	2	none	none	none
Program Completers	Proofs, Models, Problems	Level	Models	Problems	Proofs

2011-2012 (n=2)	Score				
Mean	174.5	2 and 3	3/10 = 30%	15/20 = 75%	6.5/10 = 30%
R	5	0	2	2	5
Med	174.5	2.5	3	15	6.5
Mo	none	none	none	none	none

(30065) Mathematics: Pedagogy M=Mean, %Percent, R=Range, Med=Median, Mo=Mode

Program Completers 2009-2010 (n=5)	Math Pedagogy Score	Level	Assessing Instruction	Implementing Instruction	Planning Instruction
Mean	159	2 and 3	7.8/10 = 78%	6.8/10 = 68 %	7/10 = 70%
R	40	0	0	4	6
Med	160	2.75	7	7	6
Mo	none	3	8	7	10
Program Completers 2010-2011 (n=2)	Math Pedagogy Score	Level	Assessing Instruction	Implementing Instruction	Planning Instruction
Mean	140	2	4/10 = 40%	8/10 = 80 %	4.5/10 = 70%
R	10	0	0	0	1
Med	140	2	4	8	4.5
Mo	none	2	4	8	none
Program Completers 2011-2012 (n=2)	Math Pedagogy Score	Level	Assessing Instruction	Implementing Instruction	Planning Instruction
Mean	152.5	2	7/10 = 70%	6.5/10 = 65 %	6/10 = 60%
R	5	0	2	1	4
Med	152.5	2	7	6.5	6
Mo	none	2	none	none	none

IV.1.4. An interpretation of how that data provides evidence for meeting standards.

The candidates accepted into the program have demonstrated their knowledge of the mathematics content needed to teach secondary mathematics as shown in the NCTM Standards and Praxis II alignments above along with passing all Praxis II required by the state of Arkansas for Licensure. The overall mean scores suggest candidates are proficient in all areas of mathematics content, processes, and pedagogy which provides a well rounded approach to secondary mathematics teaching.

VI.1. 5. Attachment of assessment documentation, including:

(a) the assessment tool or description of the assignment. The following sections describe the different Mathematics Praxis II tests, 10061, 20063, and 30065. All candidates must pass Praxis II for program completion.

(10061) Mathematics: Content Knowledge (PDF) (graphing calculator required) Passing Score 116, Time = 2 hours, Questions = 50, Format = Multiple-choice questions, graphing calculator required

- I. Algebra and Number Theory has approximately 8 questions and equals approximately 16% of the examination.
- II. Measurement has approximately 3 questions and equals approximately 6% of the examination. Geometry has approximately 5 questions and equals approximately 10% of the examination. Trigonometry has approximately 4 questions and equals approximately 8 % of the examination.

- III. Functions has approximately 8 questions and equals approximately 12% of the examination. Calculus has approximately 6 questions and equals approximately 12% of the examination.
- IV. Data Analysis and Statistics has approximately 5-6 questions and equals approximately 10-12% of the examination. Probability has approximately 2-3 questions and equals approximately 4-6% of the examination.
- V. Matrix Algebra has approximately 4-5 questions and equals approximately 8-10% of the examination. Discrete Mathematics has approximately 3-4 questions and equals approximately 6-8% of the examination.

The Praxis Content Knowledge test in Mathematics is designed to assess the mathematical knowledge and competencies necessary for a beginning teacher of secondary school mathematics. Examinees have typically completed a bachelor's program with an emphasis in mathematics or mathematics education.

The examinee will be required to understand and work with mathematical concepts, to reason mathematically, to make conjectures, to see patterns, to justify statements using informal logical arguments, and to construct simple proofs. Additionally, the examinee will be expected to solve problems by integrating knowledge from different areas of mathematics, to use various representations of concepts, to solve problems that have several solution paths, and to develop mathematical models and use them to solve real-world problems.

IV.1.5. Attachment of assessment documentation, including:

(a) the assessment tool or description of the assignment. The following sections describe the different Mathematics Praxis II tests, 10061, 20063, and 30065. All candidates must pass Praxis II for program completion.

(20063) Mathematics: Proofs, Models, and Problems, Part 1 (PDF) Passing Score 144, Time = 1 hour, Questions = 4 basic exercises: 1 proof, 1 model, and 2 problems, Format = Multiple-choice questions, graphing calculator required.

- I. (Problems) has approximately 2 questions and equals approximately 40% of the examination.
- II. Model has approximately 1 question and equals approximately 30% of the examination.
- III. Proof has approximately 1 question and equals approximately 30% of the examination.

The Mathematics: Proofs, Models and Problems, Part 1 test is designed to assess the mathematical knowledge and competencies necessary for a beginning teacher of secondary school mathematics. Examinees have typically completed a bachelor's program with an emphasis in mathematics or mathematics education.

The test is not designed to be aligned with any particular school mathematics curriculum, but it is intended to be consistent with the recommendations of national studies on mathematics education such as the National Council of Teachers of Mathematics (NCTM) *Principles and Standards for School Mathematics* (2000) and the National Council for Accreditation of Teacher Education (NCATE) *Program Standards for Initial Preparation of Mathematics Teachers* (2003).

IV.1.5. Attachment of assessment documentation, including:

(a) the assessment tool or description of the assignment. The following sections describe the different Mathematics Praxis II tests, 10061, 20063, and 30065. All candidates must pass Praxis II for program completion.

(30065) Mathematics: Pedagogy (PDF) (calculator allowed) Passing Score 144, Time = 1 hour, Questions = 3 essay, Format = Essays based on pedagogical questions that focus on planning, implementing, and assessing instructions, graphing calculator required.

- I. Planning Instruction has approximately 1 question and equals approximately 33.3% of the examination.

- II. Model has approximately 1 question and equals approximately 33.3% of the examination.
- III. Proof has approximately 1 question and equals approximately 33.3% of the examination.

The Mathematics: Pedagogy test is designed to assess the mathematical knowledge and competencies necessary for a beginning teacher of secondary school mathematics. The test focuses on problem solving, communication, reasoning, and mathematical connections in relation to pedagogy.

This test contains three equally weighed essay questions that cover the following aspects of teaching mathematics in the secondary school planning—the preparation for teaching: implementation—the presentation of material; and assessment—the evaluation of student understanding.

Following is an overview of the knowledge competencies an examinee can be asked to demonstrate. Answering any question may involve more than one competency.

- Identify and analyze student errors and suggest ways to help the student
- Identify prerequisite skills and understanding for studying a certain topic and explain how you would determine if students have these skills
- For a particular problem, identify several problem-solving strategies, that might be useful to students
- Use appropriate forms of representation and a variety of teaching strategies
- Demonstrate an understanding of connections among mathematical topics and real-world situations
- Discuss appropriate use of technology in the context of planning, implementing, or assessing a lesson
- Know how to teach different gender, racial, ethnic, and socioeconomic groups
- Evaluate student learning of mathematics

The level of mathematics used in pedagogy exercises will not be above that of first year algebra and may include informal proof, informal geometry, probability and statistics.

IV ASSESSMENT # 2: CONTENT KNOWLEDGE (Mathematics Pre-assessment Grid)

IV.2.1. A brief description of the assessment and its use in the program.

A prerequisite evaluation form (IV.2.5.a.) is used prior to a candidate's admission to the program to assess content knowledge preparedness of a candidate receiving a Bachelor of Science in mathematics. Candidates who have deficiencies must complete all courses (and may do so concurrently while in the program if they lack no more than 12 hours). All prerequisite courses must reflect a C or better to be accepted. The prerequisite evaluation form is based on the UALR mathematics courses and their match to the NCTM Standards (IV.2.5.b.).

IV.2. 2. A description of how this assessment specifically aligns with the standards it is cited for in Section III.

In order to be admitted into the Initial Licensure Program teacher candidates must have a 2.75 overall GPA or 3.0 in their last 60 hours or a 3.0 in their mathematics courses to enter the program. Candidates must also have a bachelor's degree in mathematics or the equivalent (see IV.2.5.b). Math course match to the NCTM Standards). The prerequisite evaluation is used to assess mathematics courses (see IV.2.5.a.) and must be signed by the advisor and Associate Dean and submitted with the program of study. Candidates who are in the provisional licensure track (which allows them to seek Initial Licensure while employed by the public schools) must have passed Praxis II Mathematics: Content and Proofs,

Models and Problems to be awarded a provisional licensure and to be allowed into the Provisional Track program. Candidates in the regular Initial Licensure track must pass Praxis II before Internship. The candidates with bachelor’s degrees in mathematics needed only 0 to 3 hours of additional mathematics and the candidates with bachelor’s degrees in business needed 21-24 prerequisite mathematics courses.

IV.2. 3. A brief analysis of the data findings.

Transcript Analysis / Prerequisite Evaluation: Criterion (see IV.2.5.b.) includes a score of 1 for Unacceptable if the candidate lacks 13 or more hours in fulfilling mathematics courses and has a mathematics GPA less than 2.75; 2 for Acceptable if the candidate lacks between 7 and 12 hours of mathematics courses and has a mathematics GPA between 2.75 and 3.0 and 3 for Exceeds Expectations if the candidate lacks 0 to 6 hours of mathematics courses and has a mathematics GPA of 3.0 or above.

IV.2.4. An interpretation of how that data provides evidence for meeting standards.

Because of the shortage of mathematics teachers, several of the candidates entering the SCED Provisional Track Initial Licensure program have already passed Praxis II Content and Proofs and are employed in the local school districts. Only one candidate remained on the regular Initial Track Program.

IV.2.5. Attachment of assessment documentation, including:

(a) the assessment tool or description of the assignment. This section describes the pre-assessment document the SCED Mathematics program uses to determine a candidate’s compliance with the Standards. The documentation consists of the a. assessment tool, b. the scoring guide and c. the candidate data.

Mathematics Pre-assessment (36 hours minimum) Based on BA or BS in Mathematics				
Name:		University:		Degree:
Hours:		Overall GPA:		Mathematics GPA:
Prerequisite courses needed:				
Course Requirements	Hrs.	UALR Course (or Equivalent)	Grade	NCTM Indicators Addressed
College Algebra (state requirement) or Algebraic Structure (3)		MATH 1302		1.1-1.3, 2.1-2.3,3.1-3.2, 4.1-4.2, 5.2-5.3, 6.1, 9.1-9.9, 10.1, 10.4
		MATH 3310		1.1,1.3,2.1-2.4,3.2,4.2,5.1,9.7,10.3
Geometry (state requirement) (3)		MATH 3330		1.1, 1.3, 2.1-2.4, 3.2, 4.2, 5.1-5.2, 11.1-11.8, 15.2, 15.3
Trigonometry (3)		MATH1303		1.1, 2.3, 4.2, 5.1, 6.1, 9.4, 9.8, 15.1, 15.2
Calculus I (3)		MATH1451		1.1,1.2,4.2,6.1,7.6,10.1,10.4,12.1-12.5,15.3
Calculus II (3)		MATH1452		1.1,1.2,4.2,6.1,7.6,10.1,10.4,12.1-12.5,15.3
Calculus III (3) or Complex Analysis		MATH 2453		1.1,1.2,4.2,6.1,7.6,10.1,10.4,12.1-12.5,15.3
		MATH4302		1.3,2.1-2.4,3.2,5.3,9.8,
Statistics (3)		STAT 3352		4.2,5.2,5.3,7.6,10.4,14.1-14.8,15.3
(9hrs from) Discrete Math, Linear Algebra, Diff Equations, Adv Cal I or II		MATH 2310		1.1,1.2,2.1,2.2,2.4,3.2,4.2,5.2,6.1,9.5,9.7,13.1-13.4
		MATH 3312		1.1,2.2-2.4,3.2,4.2,5.1,5.3,9.9,10.2,10.5
		MATH 3322		1.1,1.3,2.3,2.4,3.2,4.2,5.1,5.2,6.1,10.4,12.2,12.3
		MATH4303		1.3, 2.1-2.4,3.2,4.2,5.3,12.1,-12.4
		MATH 4304		1.3, 2.1-2.4,3.2,4.2,5.3,12.1,-12.4

*3 hours: Math Technology		MATH 1223 MATH 4383		1.1,1.2,1.3,2.1,2.2,3.2,4.1,5.2,6.1,13.3 1.3,1.4,5.1,6.1,7.1,7.2,7.5,8.5,8.7,8.9,9.1
Praxis II Scores Mathematics: Content		116 or above		See Section IV.1.2: Alignment of NCTM Standards & Indicators with AR state licensure revised exam (Praxis II) beginning with the Sept. 2005 administration
Praxis II Scores Mathematics: Proofs, Models and Problems		144 or above		See Section IV.1.2
Praxis II Scores Mathematics: Pedagogy		135 or above		See Section IV. 1.2
Technology Competence*		MATH 4383		1-15
Advisor:				Date:
Associate Dean:				Date:

IV.2.5. Attachment of assessment documentation, including:

(b) the scoring guide for the assessment. The scoring guide is taken from the Chalk and Wire Table of Contents. Chalk and Wire is used to collect data for student Exit E-Portfolios.

NCTM Content Competency Assessment

NCTM Course Content Grid NCTM Indicators in Process Standards 1-, Pedagogy 8 and Content Standards 9-15. (2.5.c.) Candidates comfort with, and confidence in, their knowledge of mathematics affects both what they teach and how they teach it. Knowing mathematics includes understanding specific concepts and procedures as well as the process of doing mathematics.

Criterion 1	Math Content Prerequisites	
Common description:	Candidates indicate knowledge of mathematics by the course content pre-assessment grid. The grid is aligned with the UALR mathematics courses for a BA or BS and the NCTM Indicators within Process Standards 1-7, Pedagogy 8, and Content Standards 9-15. See Mathematics courses matched to Indicators.	
Weighting in summary scores:	1	
Level 1	Unacceptable	Score:1.0
	Candidate lacks 13 or more prerequisite mathematics content or has a GPA less than 2.5 in mathematics content.	
Level 2	Acceptable	Score:2.0
	Candidate lacks between 7 and 12 prerequisite mathematics content and a GPA of least 2.5 to 3.0 in mathematics content.	
Level 3	Exceeds Expectations	Score:3.0
	Candidate lacks between 0 and 6 prerequisite mathematics content and a GPA of 3.0 or above in mathematics content.	

IV 2.5. Attachment of assessment documentation, including:

(c) candidate data derived from the assessment. The Mathematics Pre-assessment grid aligns with the following Mathematics Courses Match to NCTM Indicators in order to determine prerequisite courses needed for candidate admission. Candidates may enter with a BS or BA in mathematics or the equivalent based on courses listed below.

Mathematics (BA & BS) Courses Match to NCTM Indicators Within the Sixteen Standards

Courses	1 PS	2 RE	3 CM	4 CN	5 RP	6 TE	7 DS	8 PG	9 NU	10 AL	11 G	12 C	13 D	14 ST	15 M	16 FS
M1223	1.1 1.2 1.3	2.1 2.2	3.2	4.1	5.2	6.1							13.3			
M1302	1.1 1.2 1.3	2.1 2.2 2.3	3.1 3.2	4.1 4.2	5.2 5.3	6.1			9.1 9.2 9.3 9.4 9.5 9.6 9.7 9.8 9.9	10.1 10.4						
M1303	1.1	2.3		4.2	5.1	6.1			9.4 9.8						15.1 15.2	
M1451	1.1 1.2			4.2		6.1	7.6			10.1 10.4		12.1 12.2 12.3 12.4 12.5			15.3	
M 1452	1.1 1.2			4.2		6.1	7.6			10.1 10.4		12.1 12.2 12.3 12.4 12.5			15.3	
M2310	1.1 1.2	2.2 2.2 2.4	3.2	4.2	5.2	6.1			9.5 9.7				13.1 13.2 13.3 13.4			
M2453	1.1 1.2			4.2		6.1	7.6		9.9	10.1 10.4		12.1 12.2 12.3 12.4 12.5			15.3	
M3310	1.1 1.3	2.1 2.2 2.3 2.4	3.2	4.2	5.1				9.7	10.3						
M3312	1.1	2.2 2.3 2.4	3.2	4.2	5.1 5.3				9.9	10.2 10.5						
M3322	1.1 1.3	2.3 2.4	3.2	4.2	5.1 5.2	6.1				10.4		12.2 12.3				
M3330	1.1 1.3	2.1 2.2	3.2	4.2	5.1 5.2						11.1- 11.8				15.2 15.3	

		2.3 2.4														
M4303 **	1.3	2.1 2.2 2.3 2.4	3.2	4.2	5.3							12.1 12.2 12.3 12.4				
M4304 **	1.3	2.1 2.2 2.3 2.4	3.2	4.2	5.3							12.1 12.2 12.3 12.4				
M4361	1.2								9.1 9.2 9.5- 9.8 9.10	10.6	11.1 11.8	12.5	13.4		15.4	
M4362	1.2								9.1 9.2 9.5- 9.8 9.10	10.6	11.1 11.8	12.5	13.4		15.4	
M4381	1.3 1.4		3.1		5.1 5.2	6.1	7.1 7.2 7.3 7.5	8.1- 8.9	9.1 9.3 9.4 9.8	10.5					15.1	
M4383	1.3 1.4				5.1 5.2	6.1	7.1 7.2 7.5	8.5 8.7 8.9	.9.1							
M4302	1.3	2.1- 2.4	3.2		5.3				9.8							
M4310	1.3	2.1- 2.4	3.2		5.3				9.8	10.1- 10.5						
M4390	1.1- 1.4	2.2- 2.4	3.1- 3.4	4.1- 4.3	5.2 5.3	6.1										
Stat 3352				4.2	5.2 5.3		7.6			10.4				14.1- 14.8	15.3	
Math 1223 Intro to Mathematical Software																
Math 1302 College Algebra																
Math 1303 Trigonometry																
Math 1451 Calculus I																
Math 1452 Calculus II																
Math 2453 Calculus III																
Math 2310 Discrete Mathematics																
Math 3310 Algebraic Structures																
Math 3312 Linear Algebra																
Math 3322 Intro to Differential Equations																
Math 3330 College Geometry I																
Math 4303 Advanced Calc I																
Math 4304 Advanced Calc II																

Math 4310 Algebraic Structures II
Math 4302 Complex Analysis
Math 4361 History of Mathematics I
Math 4361 History of Mathematics II
Math 4381 Teaching Mathematics in Secondary School
Math 4383 Technology in Mathematics Education
Math 4390 Senior Seminar
Stat 3352 Applied Stat I
** Items are not taken by students working on a Bachelors of Art versus a Bachelors of Science (A BS or a BA in Mathematics is acceptable for Teacher Education Candidates).

IV: ASSESSMENT # 3: PEDAGOGICAL AND PROFESSIONAL KNOWLEDGE, SKILLS, AND DISPOSITIONS (Candidates Ability to Plan)

IV.3.1. A description of the assessment and its use in the program.

A comprehensive Ability to Plan rubric, the NCTM Ability to plan rubric, is used to assess the candidates’ ability to effectively plan classroom-based instruction. NCTM Process Standards 1-5 are expected to be used along with any applicable NCTM Content Standards 9-15. But the main focus is the development of a Unit with lesson plans that demonstrate NCTM Standards 6, 7 and 8. This rubric has sixteen criterions; one for each NCTM Standard in 6-8 that is valued on a 3 point scale with 1 representing needs improvement, 2 meets expectations, and 3 exceeds expectations. Students are required to provide evidence of their ability to plan to the NCTM standards from the following courses in the program: SCED 7201 Curriculum Design where students develop a unit to be used in their Internship. The unit demonstrates the candidate’s ability to plan and implement through instruction the NCTM standards.

IV.3. 2. A description of how the assessment specifically aligns with the standards it is cited for in Section III.

The NCTM Ability to Plan rubric has sixteen criterions; one for each NCTM Standard in 6-8 that is valued on a 3 point scale where 1 representing Needs Improvement, 2 Meets Expectations, and 3 Exceeds Expectations. This rubric is used to assess the candidate’s ability to plan for experiences that provide content and instruction based on NCTM standards.

IV.3.3. A brief analysis of the data findings.

The data analyses are represented in the following charts which show the analysis of the NCTM Mathematics Ability to Plan Unit and lessons by candidate and by NCTM Standards.

Assessment for NCTM Unit by Candidates

2008-2009		
Candidate (n=2)	1	2
Mean of Candidates With highest possible value of 3 (v=3)	2.75	2.19
Range	2	2

2010-2011

Candidate (n=1*)	1
Mean of Candidates With highest possible value of 3 (v=3)	3
Range	0
*Only one candidate scores are available	

2011-2012		
Candidate (n=2)	1	2
Mean of Candidates With highest possible value of 3 (v=3)	2.75	3
Range	1	0

Assessment for NCTM Standards

NCTM Standards (n = 6)	6.1	7.1	7.2	7.3	7.4	7.5	7.6	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9
Mean of Standards with (v=3)	2.5	2.17	2.5	2.17	2.33	2.33	2.33	2.5	3.0	2.67	2.17	1.17	2.33	2.5	2.33	2.67
Range	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1

NCTM Standards (n = 1*)	6.1	7.1	7.2	7.3	7.4	7.5	7.6	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9
Mean of Standards with (v=3)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Range	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*Only one candidate scores are available																

NCTM Standards (n = 2)	6.1	7.1	7.2	7.3	7.4	7.5	7.6	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9
Mean of Standards with (v=3)	2.5	3	2.5	2.5	2.5	3	3	3	3	3	3	3	3	3	3	3
Range	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0

IV.3.4 An interpretation of how that data provides evidence for meeting standards.

The data from the NCTM Ability to Plan Rubric reflects that candidates are meeting NCTM Standards for planning with a mean of one candidate at 2 or above which meets expectations and no candidate with a score below expectations. The mean of the standards ranged from 3 to 3 which meet expectations on all of the Standards. The candidate scored a 3 out of possible 3 on all NCTM Standards 6.1-8.9

IV.3. 5. Attachment of assessment documentation, including:

(a) the assessment tool or description of the assignment; and

(b) the scoring guide for the assessment. The following is the grading rubric used to assess and score the Unit developed by mathematics candidates to demonstrate knowledge of NCTM Standards 6.1-8.9:

Grading Rubric for NCTM Problem Based Learning, Technology Unit

NCTM # 6 Knowledge of Technology			
Candidates embrace technology as an essential tool for teaching and learning mathematics			
Score	3 exceeds expectations	2 meets expectations	1 needs improvement
	Candidate demonstrates competence through 3 or more indicators Indicator 6.1 Use knowledge of mathematics to select and use appropriate technological tools, such as but not limited to, spreadsheets, dynamic graphing tools, computer algebra systems, dynamic statistical packages, graphing calculators, data-collection devices, and presentation software	Candidate demonstrates competence through 2 indicators 6.1 Use knowledge of mathematics to select and use appropriate technological tools, such as but not limited to, spreadsheets, dynamic graphing tools, computer algebra systems, dynamic statistical packages, graphing calculators, data-collection devices, and presentation software	Candidate demonstrates competence through only 1 indicator. 6.1 Use knowledge of mathematics to select and use appropriate technological tools, such as but not limited to, spreadsheets, dynamic graphing tools, computer algebra systems, dynamic statistical packages, graphing calculators, data-collection devices, and presentation software
NCTM # 7 Dispositions			
Candidates support a positive disposition toward mathematical processes and mathematical learning.			
Score	3 exceeds expectations	2 meets expectations	1 needs improvement
	Candidate exceeds expectations through: 7.1 Attention to equity	Candidate demonstrates competence through 7.1 Attention to equity	Candidate demonstrates a lack of 7.1 Attention to equity
	Candidate exceeds expectations through: 7.2 Use of stimulating curricula	Candidate demonstrates competence through 7.2 Use of stimulating curricula	Candidate demonstrates a lack of 7.2 Use of stimulating curricula
	Candidate exceeds expectations through: 7.3 Effective teaching	Candidate demonstrates competence through 7.3 Effective teaching	Candidate demonstrates a lack of 7.3 Effective teaching
	Candidate exceeds expectations through: 7.4 Commitment to learning with understanding	Candidate demonstrates competence through 7.4 Commitment to learning with understanding	Candidate demonstrates a lack of 7.4 Commitment to learning with understanding
	Candidate exceeds expectations through: 7.5 Use of various assessments	Candidate demonstrates competence through: 7.5 Use of various assessments	Candidate demonstrates a lack of 7.5 Use of various assessments
	Candidate exceeds expectations through: 7.6 Use of various teaching tools including technology	Candidate demonstrates competence through 7.6 Use of various teaching tools including technology	7.6 Use of various teaching tools including technology

Pedagogy (Standard 8)

In addition to knowing students as learners, mathematics teacher candidates should develop knowledge of and ability to use and evaluate instructional strategies and classroom organizational models, ways to represent mathematical concepts and procedures, instructional materials and resources, ways to promote discourse, and means of assessing student understanding. This section on pedagogy is to address this knowledge and skill.

Standard 8: Knowledge of Mathematics Pedagogy

Candidates possess a deep understanding of how students learn mathematics and of the pedagogical knowledge specific to mathematics teaching and learning.

Score	3 exceeds expectations	2 meets expectations	1 needs improvement
	Candidate exceeds expectations through: 8.1 Selects, uses, and determines suitability of the wide variety of available mathematics curricula and teaching materials for all students including those with special needs such as the gifted, challenged and speakers of other languages	Candidate demonstrates competence through: 8.1 Selects, uses, and determines suitability of the wide variety of available mathematics curricula and teaching materials for all students including those with special needs such as the gifted, challenged and speakers of other languages	Candidate demonstrates a lack of competence through: 8.1 Selects, uses, and determines suitability of the wide variety of available mathematics curricula and teaching materials for all students including those with special needs such as the gifted, challenged and speakers of other languages
	Candidate demonstrates competence through: 8.2 Selects and uses appropriate concrete materials for learning mathematics	Candidate demonstrates competence through: 8.2 Selects and uses appropriate concrete materials for learning mathematics	Candidate demonstrates a lack of competence through: 8.2 Selects and uses appropriate concrete materials for learning mathematics
	Candidate demonstrates competence through: 8.3 Uses multiple strategies, including listening to and understanding the ways students think about mathematics, to assess students' mathematical knowledge	Candidate demonstrates competence through: 8.3 Uses multiple strategies, including listening to and understanding the ways students think about mathematics, to assess students' mathematical knowledge	Candidate demonstrates a lack of competence through: 8.3 Uses multiple strategies, including listening to and understanding the ways students think about mathematics, to assess students' mathematical knowledge
	Candidate demonstrates competence through: 8.4 Plans lessons, units and courses that address appropriate learning goals, including those that address local, state, and national mathematics standards and legislative mandates	Candidate demonstrates competence through: 8.4 Plans lessons, units and courses that address appropriate learning goals, including those that address local, state, and national mathematics standards and legislative mandates	Candidate demonstrates a lack of competence through: 8.4 Plans lessons, units and courses that address appropriate learning goals, including those that address local, state, and national mathematics standards and legislative mandates
	Candidate demonstrates competence through: 8.5 Participates in professional mathematics organizations and uses their print and on-line	Candidate demonstrates competence through: 8.5 Participates in professional mathematics organizations and uses their print and on-line	Candidate demonstrates a lack of competence through: 8.5 Participates in professional mathematics

	resources	resources	organizations and uses their print and on-line resources
	Candidate demonstrates competence through: 8.6 Demonstrates knowledge of research results in the teaching and learning of Mathematics	Candidate demonstrates competence through: 8.6 Demonstrates knowledge of research results in the teaching and learning of Mathematics	Candidate demonstrates a lack of competence through: 8.6 Demonstrates knowledge of research results in the teaching and learning of Mathematics
	Candidate demonstrates competence through extensive 8.7 Uses knowledge of different types of instructional strategies in planning mathematics lessons	Candidate demonstrates competence through: 8.7 Uses knowledge of different types of instructional strategies in planning mathematics lessons	Candidate demonstrates a lack of competence through: 8.7 Uses knowledge of different types of instructional strategies in planning mathematics lessons
	Candidate demonstrates competence through: 8.8 Demonstrates the ability to lead classes in mathematical problem solving and in developing in-depth conceptual understanding, and to help students develop and test generalizations	Candidate demonstrates competence through: 8.8 Demonstrates the ability to lead classes in mathematical problem solving and in developing in-depth conceptual understanding, and to help students develop and test generalizations	Candidate demonstrates a lack of competence through: 8.8 Demonstrates the ability to lead classes in mathematical problem solving and in developing in-depth conceptual understanding, and to help students develop and test generalizations
	Candidate demonstrates competence through: 8.9 Develop lessons that use technology's potential for building understanding of mathematical concepts and developing important mathematical ideas	Candidate demonstrates competence through: 8.9 Develop lessons that use technology's potential for building understanding of mathematical concepts and developing important mathematical ideas	Candidate demonstrates a lack of competence through: 8.9 Develop lessons that use technology's potential for building understanding of mathematical concepts and developing important mathematical ideas
<i>NCTM Standards (2003) – Secondary Mathematics Teachers</i>			

IV.3.5. Attachment of assessment documentation, including:

c) Candidate data derived from the assessment. The following chart shows the one candidate assessment of NCTM Standards 6.1-8.9. The scores are all Exceeds Expectations, none Meets Expectations and none for Needs Improvement. The mean has been calculated for the individual candidate's score and for the 6.1-8.9 NCTM Standards.

Assessment for NCTM Unit (Ability to Plan)

2008-2009				
Candidate (n=6)	1	2	Range	Mean of Standards
NCTM Standards				
6.1	3	2	1	2.5
7.1	3	2	2	2.5
7.2	3	3	0	3
7.3	3	2	1	2.5
7.4	3	2	1	2.5
7.5	3	2	1	2.5
7.6	3	2	1	2.5
8.1	3	2	1	2.5
8.2	3	3	0	3.0
8.3	3	3	0	3
8.4	3	2	1	2.5
8.5	1	1	0	1
8.6	2	2	2	2
8.7	3	2	1	2.5
8.8	2	2	0	2
8.9	3	3	0	3
Range	2	2		
Mean	2.8	2.5		

2009-2010			
Candidate (n=1*)	1	Range	Mean of Standards
NCTM Standards			
6.1	3	0	3
7.1	3	0	3
7.2	3	0	3
7.3	3	0	3
7.4	3	0	3
7.5	3	0	3
7.6	3	0	3
8.1	3	0	3
8.2	3	0	3
8.3	3	0	3
8.4	3	0	3

8.5	3	0	3
8.6	3	0	3
8.7	3	0	3
8.8	3	0	3
8.9	3	0	3
Range	0		
Mean	3		
*Only one candidate scores are available			

2011-2012				
Candidate (n=2)	1	2	Range	Mean of Standards
NCTM Standards				
6.1	2	3	1	2.5
7.1	3	3	0	3
7.2	2	3	1	2.5
7.3	3	3	0	3
7.4	2	3	1	2.5
7.5	2	3	1	2.5
7.6	3	3	0	3
8.1	3	3	0	3
8.2	3	3	0	3
8.3	3	3	0	3
8.4	3	3	0	3
8.5	3	3	0	3
8.6	3	3	0	3
8.7	3	3	0	3
8.8	3	3	0	3
8.9	3	3	0	3
Range	1	0		
Mean	2.75	3		

IV. ASSESSMENT # 4: PEDAGOGICAL AND PROFESSIONAL KNOWLEDGE, SKILLS, AND DISPOSITIONS: (Pre-professional and Internship Field Observations and Assessments)

IV.4.1. A brief description of the assessment and its use in the program.

During the SCED 7103 & 7601 field experience candidates will be assessed on a comprehensive NCTM Observation form to assess the candidates' ability to effectively teach classroom-based instruction for each of the Indicators noted within the NCTM Standards and a Pathwise Plus form for pedagogical and professional knowledge, skills, and dispositions during classroom instructional sessions with students and interactions as a professional with school personnel. The Pathwise Plus instrument used for evaluation is divided into four domains: Planning, Classroom Management, Instruction, and Professionalism. The scoring is on a 3 point value with 3 Exceeds Expectations, 2 Meets Expectations, 1 Needs Improvement and NA for Not Applicable. The forms are used to demonstrate candidate competence during the two pre-professional and one Internship field experiences. The assessments are

made by the university supervisor and classroom teacher during the candidate’s teaching experiences (IV.4.5.a & b.).

IV.4.2. A description of how this assessment specifically aligns with the standards it is cited for in Section III.

The NCTM rubric has 16 criterions, one for each of the 16 NCTM Standards. Each standard is assessed through Exceeds Expectations 3, Meets Expectations 2, and Needs Improvement 1. Many of the NCTM standards will not be met in just one lesson and the NCTM Observation Rubric makes allowance for this. Only the indicators within the 16 NCTM Standards are noted. Candidates are required to provide evidence from field experiences (SCED 7103, 7106 and 7601) assessments that reflect their ability to teach the NCTM Standards. A Candidate who scores a one on six or more standards will be required to take math courses in the areas of deficiency and may be required to repeat the field placement.

IV.4.3. A brief analysis of the data findings.

The data for the NCTM Mathematics Observation Guide rubric indicates the candidate has a mean score between 3.00 and 3.0 on a 3 point scale with 3 being the highest for all applicable of the 16 NCTM standards. Many of the NCTM standards will not be met in just one lesson and the NCTM Observation Rubric makes allowance for this. Only the indicators within the 16 NCTM Standards are noted. The data for the Pathwise Plus Field Observation forms have a mean score between 3.0 and 3.0 on a 3 point scale with 3 being the highest possible. In the first field experience, SCED 7103, Domain D: Professionalism is not assessed as it is only a thirty hour observation.

NCTM Observation Scoring Guide

	2008-2009			2009-2010			2010-2011		
Range	1	1		0	0		1	1	
Mean of Candidates	2.83	2.21		3.0	3.0		2.8	2.7	

2008-2009 Pathwise Plus Observation Scoring Guide								
3 Exceeds Expectations: Circle 3 when the student’s performance is consistently well above what is expected at this stage of their development.								
2 Meets Expectations: Circle 2 when the student’s performance is within the broad range of skills to be expected at this stage of their development.								
1 Needs Improvement: Circle 1 when the student’s performance falls below the skills to be expected at this stage of their development.								
NA Not Applicable: Circle if you do not observe. One lesson will not contain all of the standards.								
SCED 7103 Assessment			SCED 7106 Assessment			SCED 7601 Assessment		
Domains	Mean (N=6)	Range	Domains	Mean (N=6)	Range	Domains	Mean (N=6)	Range
A: Planning	2.37	1	A: Planning	2.47	1	A: Planning	2.67	0.4
B: Classroom Management	2.23	0.6	B: Classroom Management	2.3	0.8	B: Classroom Management	2.33	0.8
C: Instruction	2.13	0.7	C: Instruction	2.41	0.83	C: Instruction	2.55	0.83
D: Professionalism	NA		D: Professionalism	2.4	0.63	D: Professionalism	2.57	0.5

2009-2010 Pathwise Plus Observation Scoring Guide								
SCED 7103 Assessment			SCED 7106 Assessment			SCED 7601 Assessment		
Domains	Mean (N=1*)	Range	Domains	Mean (N=1)	Range	Domains	Mean (N=1)	Range
A: Planning	3	0	A: Planning	3	0	A: Planning	3	0
B: Classroom Management	3	0	B: Classroom Management	3	0	B: Classroom Management	3	0
C: Instruction	3	0	C: Instruction	3	0	C: Instruction	3	0
D: Professionalism	3	0	D: Professionalism	3	0	D: Professionalism	3	0

*Only one candidate scores are available

2010-2011 Pathwise Plus Observation Scoring Guide								
SCED 7103 Assessment			SCED 7106 Assessment			SCED 7601 Assessment		
Domains	Mean (N=2)	Range	Domains	Mean (N=2)	Range	Domains	Mean (N=2)	Range
A: Planning	2	0	A: Planning	2.5	1	A: Planning	3	0
B: Classroom Management	3	0	B: Classroom Management	3	0	B: Classroom Management	3	0
C: Instruction	3	0	C: Instruction	3	0	C: Instruction	3	0
D: Professionalism	2	0	D: Professionalism	2.5	1	D: Professionalism	2.5	1

IV.4.4 An interpretation of how that data provides evidence for meeting standards.

The data documents the candidates are teaching lessons that meet NCTM Standards as well as Arkansas Teacher Licensure Standards. All candidates successfully completed the NCTM Mathematics Observation assessments as well as the Pathwise Plus Field Observation assessments for SCED 7103 and SCED 7106 preprofessional and SCED 7601 Internship.

IV.4.5. Attachment of assessment documentation, including:

- (a) the assessment tool NCTM Mathematics Observation Rubric
- (b) the scoring guide for the assessment

The following tools include the assessment tool for the NCTM Standards and the Pathwise Plus form that meets Arkansas State Teacher Licensure standards. The forms are used to demonstrate candidate competence during the two pre-professional and one Internship field experiences. The assessments are made by the university supervisor and classroom teacher during the candidate's teaching experiences.

**University of Arkansas at Little Rock NCTM Mathematics Observation Rubric Based On:
Programs for Initial Preparation of Mathematics Teachers
NCTM Standards (2003) – Secondary Mathematics Teachers**

Teacher Candidates:

You are to align your lesson with the following NCTM Standards. Mark on the form from your lesson where each Standard is applicable.

University Supervisor and Classroom Teacher:

List Indicators within each standard that are met during the lesson and attach this form to the Pathwise Plus form which meets Arkansas Teacher Licensure Standards. Candidate is to receive a copy of each form to be uploaded into the NCTM electronic exit portfolio in Chalk and Wire. The student will not be able to meet all Criteria in one lesson. One NCTM form is to be completed with each Pre-pro Field Experience (SCED 7103 or 7106) and two forms are to be completed during the Internship (SCED 7601). A Candidate who scores a one on six or more standards will be required to take math courses in the areas of deficiency and may be required to repeat the field placement.

NCTM Assessment: SCED 7103, SCED 7106, or SCED 7601 (Underline Course)

Date:

Pre-pro or Intern:

School & Town:

Subject & Grade:

University Supervisor:

Scoring Guide

(3) Exceeds Expectations: when the student’s performance is consistently well above what is expected at this stage of their development.

(2) Meets Expectations: when the student’s performance is within the broad range of skills to be expected at this stage of their development.

(1) Needs Improvement: when the student’s performance falls below the skills to be expected at this stage of their development.

(NA)Not Applicable: if you do not observe. One lesson will not contain all of the standards.

NCTM Standard to be addressed in lesson. The Indicators for each standard are attached. Note only those indicators addressed during the lesson.	Indicators addressed	Score
Standard 1: Knowledge of Mathematical Problem Solving		
Standard 2: Knowledge of Reasoning and Proof		
Standard 3: Knowledge of Mathematical Communication		
Standard 4: Knowledge of Mathematical Connections		
Standard 5: Knowledge of Mathematical Representation		
Standard 6: Knowledge of Technology		
Standard 7: Dispositions		
Standard 8: Knowledge of Mathematics Pedagogy		
Standard 9: Knowledge of Number and Operation		
Standard 10: Knowledge of Different Perspectives on Algebra		
Standard 11: Knowledge of Geometries		
Standard 12: Knowledge of Calculus		
Standard 13: Knowledge of Discrete Mathematics		
Standard 14: Knowledge of Data Analysis, Statistics, and Probability		
Standard 15: Knowledge of Measurement		
Standard 16: Field-Based Experiences		

A detailed description of each set of standards that are broken into Processes, Pedagogy, Content and Field Experiences are attached for evaluation purposes. Only the first page needs to be scanned into chalk and wire under the NCTM portfolio field assessment sections.

Process Standards (Standards 1-7)

The process standards are based on the belief that mathematics must be approached as a unified whole. Its concepts, procedures, and intellectual processes are so interrelated that, in a significant sense, its “whole is greater than the sum of the parts.” This approach would best be addressed by involvement of the mathematics content, mathematics education, education, and field experience faculty working together in developing the candidates’ experiences. Likewise, the response to the disposition standard will require total faculty input. This standard addresses the candidates’ nature and temperament relative to being a mathematician, an instructor, a facilitator of learning, a planner of lessons, a member of a professional community, and a communicator with learners and their families.

Standard 1: Knowledge of Mathematical Problem Solving

Candidates know, understand, and apply the process of mathematical problem solving.

Indicators

- 1.1 Apply and adapt a variety of appropriate strategies to solve problems.
- 1.2 Solve problems that arise in mathematics and those involving mathematics in other contexts.
- 1.3 Build new mathematical knowledge through problem solving.
- 1.4 Monitor and reflect on the process of mathematical problem solving.

Standard 2: Knowledge of Reasoning and Proof

Candidates reason, construct, and evaluate mathematical arguments and develop an appreciation for mathematical rigor and inquiry.

Indicators

- 2.1 Recognize reasoning and proof as fundamental aspects of mathematics.
- 2.2 Make and investigate mathematical conjectures.
- 2.3 Develop and evaluate mathematical arguments and proofs.
- 2.4 Select and use various types of reasoning and methods of proof.

Standard 3: Knowledge of Mathematical Communication

Candidates communicate their mathematical thinking orally and in writing to peers, faculty, and others.

Indicators

- 3.1 Communicate their mathematical thinking coherently and clearly to peers, faculty, and others.
- 3.2 Use the language of mathematics to express ideas precisely.
- 3.3 Organize mathematical thinking through communication.
- 3.4 Analyze and evaluate the mathematical thinking and strategies of others.

Standard 4: Knowledge of Mathematical Connections

Candidates recognize, use, and make connections between and among mathematical ideas and in contexts outside mathematics to build mathematical understanding.

Indicators

- 4.1 Recognize and use connections among mathematical ideas.
- 4.2 Recognize and apply mathematics in contexts outside of mathematics.
- 4.3 Demonstrate how mathematical ideas interconnect and build on one another to produce a coherent whole.

Standard 5: Knowledge of Mathematical Representation

Candidates use varied representations of mathematical ideas to support and deepen students’ mathematical understanding.

Indicators

- 5.1 Use representations to model and interpret physical, social, and mathematical phenomena.
- 5.2 Create and use representations to organize, record, and communicate mathematical ideas.
- 5.3 Select, apply, and translate among mathematical representations to solve problems.

Standard 6: Knowledge of Technology

Candidates embrace technology as an essential tool for teaching and learning mathematics.

Indicator

- 6.1 Use knowledge of mathematics to select and use appropriate technological tools, such as but not limited to, spreadsheets, dynamic graphing tools, computer algebra systems, dynamic statistical packages, graphing calculators, data-collection devices, and presentation software.

<p>Standard 7: Dispositions</p> <p>Candidates support a positive disposition toward mathematical processes and mathematical learning.</p> <p>Indicators</p> <p>7.1 Attention to equity</p> <p>7.2 Use of stimulating curricula</p> <p>7.3 Effective teaching</p> <p>7.4 Commitment to learning with understanding</p> <p>7.5 Use of various assessments</p> <p>7.6 Use of various teaching tools including technology</p>
<p>Pedagogy (Standard 8)</p> <p>In addition to knowing students as learners, mathematics teacher candidates should develop knowledge of and ability to use and evaluate instructional strategies and classroom organizational models, ways to represent mathematical concepts and procedures, instructional materials and resources, ways to promote discourse, and means of assessing student understanding. This section on pedagogy is to address this knowledge and skill.</p>
<p>Standard 8: Knowledge of Mathematics Pedagogy</p> <p>Candidates possess a deep understanding of how students learn mathematics and of the pedagogical knowledge specific to mathematics teaching and learning.</p> <p>Indicators</p> <p>8.1 Selects, uses, and determines suitability of the wide variety of available mathematics curricula and teaching materials for all students including those with special needs such as the gifted, challenged and speakers of other languages.</p> <p>8.2 Selects and uses appropriate concrete materials for learning mathematics.</p> <p>8.3 Uses multiple strategies, including listening to and understanding the ways students think about mathematics, to assess students' mathematical knowledge.</p> <p>8.4 Plans lessons, units and courses that address appropriate learning goals, including those that address local, state, and national mathematics standards and legislative mandates.</p> <p>8.5 Participates in professional mathematics organizations and uses their print and on-line resources.</p> <p>8.6 Demonstrates knowledge of research results in the teaching and learning of mathematics.</p> <p>8.7 Uses knowledge of different types of instructional strategies in planning mathematics lessons.</p> <p>8.8 Demonstrates the ability to lead classes in mathematical problem solving and in developing in-depth conceptual understanding, and to help students develop and test generalizations.</p> <p>8.9 Develop lessons that use technology's potential for building understanding of mathematical concepts and developing important mathematical ideas.</p>
<p>Content (Standards 9-15)</p> <p>Candidates' comfort with, and confidence in, their knowledge of mathematics affects both what they teach and how they teach it. Knowing mathematics includes understanding specific concepts and procedures as well as the process of doing mathematics. That knowledge is the subject of the following standards.</p>
<p>Standard 9: Knowledge of Number and Operation</p> <p>Candidates demonstrate computational proficiency, including a conceptual understanding of numbers, ways of representing number, relationships among number and number systems, and meanings of operations.</p> <p>Indicators</p> <p>9.1 Analyze and explain the mathematics that underlies the procedures used for operations involving integers, rational, real, and complex numbers.</p> <p>9.2 Use properties involving number and operations, mental computation, and computational estimation.</p> <p>9.3 Provide equivalent representations of fractions, decimals, and percents.</p> <p>9.4 Create, solve, and apply proportions.</p> <p>9.5 Apply the fundamental ideas of number theory.</p> <p>9.6 Make sense of large and small numbers and use scientific notation.</p> <p>9.7 Compare and contrast properties of numbers and number systems.</p> <p>9.8 Represent, use, and apply complex numbers.</p> <p>9.9 Recognize matrices and vectors as systems that have some of the properties of the real number system.</p> <p>9.10 Demonstrate knowledge of the historical development of number and number systems including contributions from diverse cultures.</p>
<p>Standard 10: Knowledge of Different Perspectives on Algebra</p> <p>Candidates emphasize relationships among quantities including functions, ways of representing mathematical</p>

relationships, and the analysis of change.

Indicators

10.1 Analyze patterns, relations, and functions of one and two variables.

10.2 Apply fundamental ideas of linear algebra.

10.3 Apply the major concepts of abstract algebra to justify algebraic operations and formally analyze algebraic structures.

10.4 Use mathematical models to represent and understand quantitative relationships.

10.5 Use technological tools to explore algebraic ideas and representations of information and in solving problems.

10.6 Demonstrate knowledge of the historical development of algebra including contributions from diverse cultures.

Standard 11: Knowledge of Geometries

Candidates use spatial visualization and geometric modeling to explore and analyze geometric shapes, structures, and their properties.

Indicators

11.1 Demonstrate knowledge of core concepts and principles of Euclidean and non-Euclidean geometries in two and three dimensions from both formal and informal perspectives.

11.2 Exhibit knowledge of the role of axiomatic systems and proofs in geometry.

11.3 Analyze characteristics and relationships of geometric shapes and structures.

11.4 Build and manipulate representations of two- and three- dimensional objects and visualize objects from different perspectives.

11.5 Specify locations and describe spatial relationships using coordinate geometry, vectors, and other representational systems.

11.6 Apply transformations and use symmetry, similarity, and congruence to analyze mathematical situations.

11.7 Use concrete models, drawings, and dynamic geometric software to explore geometric ideas and their applications in real-world contexts.

11.8 Demonstrate knowledge of the historical development of Euclidean and non-Euclidean geometries including contributions from diverse cultures.

Standard 12: Knowledge of Calculus

Candidates demonstrate a conceptual understanding of limit, continuity, differentiation, and integration and a thorough background in the techniques and application of the calculus.

Indicators

12.1 Demonstrate a conceptual understanding of and procedural facility with basic calculus concepts.

12.2 Apply concepts of function, geometry, and trigonometry in solving problems involving calculus.

12.3 Use the concepts of calculus & mathematical modeling to represent & solve problems taken from real-world contexts.

12.4 Use technological tools to explore and represent fundamental concepts of calculus.

12.5 Demonstrate knowledge of the historical development of calculus including contributions from diverse cultures.

Standard 13: Knowledge of Discrete Mathematics

Candidates apply the fundamental ideas of discrete mathematics in the formulation and solution of problems.

Indicators

13.1 Demonstrate knowledge of basic elements of discrete mathematics such as graph theory, recurrence relations, finite difference approaches, linear programming, and combinatorics.

13.2 Apply the fundamental ideas of discrete mathematics in the formulation and solution of problems arising from real-world situations.

13.3 Use technological tools to solve problems involving the use of discrete structures and the application of algorithms.

13.4 Demonstrate knowledge of the historical development of discrete mathematics including contributions from diverse cultures.

<p>Standard 14: Knowledge of Data Analysis, Statistics, and Probability</p> <p>Candidates demonstrate an understanding of concepts and practices related to data analysis, statistics, and probability.</p> <p>Indicators</p> <p>14.1 Design investigations, collect data, and use a variety of ways to display data and interpret data representations that may include bivariate data, conditional probability and geometric probability.</p> <p>14.2 Use appropriate methods such as random sampling or random assignment of treatments to estimate population characteristics, test conjectured relationships among variables, and analyze data.</p> <p>14.3 Use appropriate statistical methods and technological tools to describe shape and analyze spread and center.</p> <p>14.4 Use statistical inference to draw conclusions from data.</p> <p>14.5 Identify misuses of statistics and invalid conclusions from probability.</p> <p>14.6 Draw conclusions involving uncertainty by using hands-on and computer-based simulation for estimating probabilities, gathering data, make inferences & conclusions.</p> <p>14.7 Determine and interpret confidence intervals.</p> <p>14.8 Demonstrate knowledge of the historical development of statistics and probability including contributions from diverse cultures.</p>
<p>Standard 15: Knowledge of Measurement</p> <p>Candidates apply and use measurement concepts and tools.</p> <p>Indicators</p> <p>15.1 Recognize the common representations and uses of measurement and choose tools and units for measuring.</p> <p>15.2 Apply appropriate techniques, tools, and formulas to determine measurements and their application in a variety of contexts.</p> <p>15.3 Complete error analysis through determining the reliability of the numbers obtained from measures.</p> <p>15.4 Demonstrate knowledge of the historical development of measurement and measurement systems including contributions from diverse cultures.</p>
<p>Field-Based Experiences (Standard 16)</p> <p>The development of mathematics teacher candidates should include opportunities to examine the nature of mathematics, how it should be taught & how students learn mathematics; observe & analyze a range of approaches to mathematics teaching & learning, focusing tasks, discourse, environment & assessment; & work with a diverse range of students individually, in small groups, & in large class settings.</p>
<p>Standard 16: Field-Based Experiences</p> <p>Candidates complete field-based experiences in mathematics classrooms.</p> <p>Indicators</p> <p>16.1 Engage in a sequence of planned opportunities prior to student teaching that includes observing and participating in both middle and secondary mathematics classrooms under the supervision of experienced and highly qualified teachers.</p> <p>16.2 Experience full-time student teaching in secondary mathematics that is supervised by a highly qualified teacher and a university or college supervisor with secondary mathematics teaching experience.</p> <p>16.3 Demonstrate the ability to increase students' knowledge of mathematics.</p> <p>NCTM Standards (2003) – Secondary Mathematics Teachers</p>

IV.4.5. Attachment of assessment documentation, including:

- (a) Pathwise Plus Field Experience Assessment Instrument**
- (b) the scoring guide for the assessment**

During the SCED 7103 & 7601 field experience candidates will be assessed on pedagogical and professional knowledge, skills, and dispositions during classroom instructional sessions with students and interactions as a professional with school personnel. The Pathwise Plus instrument used for evaluation is divided into four domains: Planning, Classroom Management, Instruction, and Professionalism. The scoring is on a 3 point value with 3 Exceeds Expectations, 2 Meets Expectations, 1 Needs Improvement and NA for Not Applicable.

SCED 7103, 7106 or 7601 Pathwise Plus Assessment Report	
Student _____	School _____
Observer _____	Grade/Subject _____
Date _____	
Domain A: Planning Score _____ _____A1 _____ Becoming familiar with relevant aspects of students' background knowledge and experiences _____A2 Articulating clear learning goals for a lesson appropriate to the students. _____A3 Demonstrating an understanding of the connections between the content that was learned previously, the current content, and the content that remains to be learned in the future. _____A4 Creating or selecting teaching methods, learning activities, and instructional materials or other resources that are appropriate to the students. _____A5 Creating or selecting evaluation strategies that are appropriate for the students and that are aligned with the goals of the lesson.	
Domain B: Classroom Management Score _____ _____B1 Creating a climate that promotes fairness _____B2 Establishing and maintaining rapport with students _____B3 Communicating challenging learning expectations to student _____B4 Establishing and maintaining consistent standards of classroom behavior _____B5 Making the physical environment as safe and conducive to learning as possible.	
Domain C: Instruction Score _____ _____C1 Making learning goals and instructional procedures clear to students. _____C2 Making content comprehensible to students. _____C3 Encouraging students to extend their thinking. _____C4 Monitoring students' understanding of content through a variety of means, providing feedback to students to assist learning, and adjusting learning activities as the situation demands. _____C5 Using instructional time effectively. _____C6 Communicating effectively.	
Domain D: Professionalism Score _____ _____D1 Reflecting on the extent to which the learning goals were met _____D2 Demonstrating a sense of efficacy _____D3 Professional behavior _____D4 Relation to Parents _____D5 Accepts responsibility and maintains accurate records _____D6 Demonstrates professional ethics	
Strengths and Achievements	
Priorities for Improvement	

Pathwise Plus Assessments for SCED 7103, SCED 7106 and SCED 7601

SCED 7103 Candidate	2008-2009			
	1	2	Mean	Rang
Domains				
A: Planning	2.6	2.4	2.5	0.2
B: Classroom Management	2.0	2.0	2	0
C. Instruction	2.0	2.0	2	0
D: Professionalism	NA	NA	NA	

SCED 7106		2008-2009			
Candidate	1	2	Mean	Range	
Domains					
A: Planning	2.6	2.4	2.5	0.2	
B: Classroom Management	2.4	2.0	2.2	0.4	
C. Instruction	2.17	2.3	2.23	0.13	
D: Professionalism	2.3	2.17	2.23	0.13	
SCED 7601		2008-2009			
Candidate	1	2	Mean	Range	
Domains					
A: Planning	2.8	2.6	2.7	0.2	
B: Classroom Management	2.4	2.0	2.2	0.4	
C. Instruction	2.8	2.3	2.5	0.5	
D: Professionalism	2.5	2.5	2.5	0	

SCED 7103		2009-2010			
Candidate	1	2	Mean	Range	
Domains					
A: Planning	3	NA	3	0	
B: Classroom Management	3	NA	3	0	
C. Instruction	3	NA	3	0	
D: Professionalism	3	NA	3	0	
SCED 7106		2009-2010			
Candidate	1	2	Mean	Range	
Domains					
A: Planning	3	NA	3	0	
B: Classroom Management	3	NA	3	0	
C. Instruction	3	NA	3	0	
D: Professionalism	3	NA	3	0	
SCED 7601		2009-2010			
Candidate	1	2	Mean	Range	
Domains					
A: Planning	3	NA	3	0	
B: Classroom Management	3	NA	3	0	
C. Instruction	3	NA	3	0	
D: Professionalism	3	NA	3	0	

SCED 7103		2010-2011			
Candidate	1	2	Mean	Range	
Domains					
A: Planning	2	2	2	0	
B: Classroom Management	3	3	3	0	
C. Instruction	3	3	3	0	
D: Professionalism	2	2	2	0	
SCED 7106		2010-2011			
Candidate	1	2	Mean	Range	

Domains				
A: Planning	3	2	2.5	1
B: Classroom Management	3	3	3	0
C. Instruction	3	3	3	0
D: Professionalism	3	2	2.5	1
SCED 7601	2010-2011			
Candidate	1	2	Mean	Range
Domains				
A: Planning	3	3	3	0
B: Classroom Management	3	3	3	0
C. Instruction	3	3	3	0
D: Professionalism	2	3	3	0

**IV.4.5. Attachment of assessment documentation, including:
(c) NCTM Mathematics Observation Guide**

The following chart shows the six candidates' assessment of NCTM Standards 1-16. The scoring is on a 3 point value with 3=Exceeds Expectations, 2=Meets Expectations, 1=Needs Improvement, and NA=Not Applicable. The mean has been calculated for the individual candidate's score and for the NCTM Standards. The student will not be able to meet all Criteria in one lesson. A Candidate who scores 1 on six or more standards will be required to take math courses in the areas of deficiency and may be required to repeat the field placement.

	2008-2009		Mean of Standards v=1-3	Range
	1	2		
Candidate (n=2)				
NCTM Standards				
1	3	2	2.5	1
2	3	2	2.5	1
3	2	2	2	0
4	3	2	2.5	1
5	3	2	2.5	1
6	3	2	2.5	1
7	2	1	1.5	1
8	3	2	2.5	1
9	3	2	2.5	1
10	3	2	2.5	1
11	NA	2	2	0
12	NA	NA	NA	
13	NA	NA	NA	
14	3	2	2.0	1
15	NA	NA	NA	
16	2	1	2.5	1
Mean of Candidates	2.83	1.86		
Range	1	1		

	2009-2010		Mean of Standards v=1-3	Range
	1	2		
Candidate (n=1*)				
NCTM Standards				
1	3		3	0

2	3	3	0
3	3	3	0
4	3	3	0
5	3	3	0
6	3	3	0
7	3	3	0
8	3	3	0
9	3	3	0
10	3	3	0
11	3	3	0
12	3	3	0
13	3	3	0
14	3	3	0
15	3	3	0
16	3	3	0
Mean of Candidate	3		
Range	3		
*Only one candidate scores are available			

	2010-2011		Mean of Standards v=1-3	Range
	1	2		
Candidate (n=2)				
NCTM Standards				
1	2	2	2	0
2	3	3	3	0
3	3	3	3	0
4	2	2	2	0
5	3	2	2.5	1
6	3	3	3	0
7	3	3	3	0
8	3	2	2.5	1
9	3	3	3	0
10	3	3	3	0
11	3	3	3	0
12	2	3	2.5	1
13	2	2	2	0
14	3	3	3	0
15	3	3	3	0
16	2	2	2	0
Mean of Candidates	2.7	2.6		
Range	1	1		

IV. ASSESSMENT # 5: CANDIDATE EFFECTS ON STUDENT LEARNING (Teacher Work Sample)

IV.5.1. A brief description of the assessment and its use in the program.

A NCTM Effect on Student Learning rubric is used to evaluate the candidates' ability to effectively deliver and assess their effect on student learning from their classroom-based instruction. Instruction is based on NCTM standards and planning for all learners including diverse populations and second language learners.

Candidates will submit a unit plan (1-2 weeks) taught in the internship with pre-assessment and

post-assessment data. The unit plan should include the following:

- Rationale describing topic and importance in relationship to NCTM Standards which are applicable, but must include: Process Standards (Standards 1-7) that demonstrate the approach to mathematics as a unified whole of its concepts, procedures and intellectual process, Pedagogy (Standard 8), and applicable Content (Standards 9-15). Note Indicators addressed from Standards specified.
- Student learning objectives from the state curriculum framework.
- Pre-assessment measure of students’ beginning level of knowledge (anticipatory activity for math, brainstorming, problem solving, pretest, or previous assessment).
- Daily lesson plans for the unit
- Analysis of student learning and results. Use graphs to compare pre and post data.
- Evaluation of overall success of unit, including discussion of successful and non-successful students’ efforts
- Reflection indicating implications for future use in candidate’s classroom

IV.5.2. A description of how this assessment specifically aligns with the standards it is cited for in Section III.

The sample should contain a pre and post test over the material to be covered. The work sample should encompass a complete unit. The unit should demonstrate the association with the NCTM standards as well as containing the Arkansas Frameworks for teachers. Candidates should develop a graph showing learning from the pre to the post test and a reflection on the effectiveness of the lesson. The candidate should include a plan to improve teaching the lesson such as adding or deleting specific instructions or content. An analysis will be done on the student work and a reflection will be written regarding the effectiveness/lack of effectiveness. This rubric has four criteria that are valued on a 3 point scale with Level 1: Needs Improvement, Level 2: Meets Expectations, Level 3: Exceeds Expectations. Students are required to provide evidence from the Intern field experience SCED 7601 through a teacher works sample they implement that reflect their ability to plan and assess the impact their teaching of the NCTM standards is having on student learning.

IV.5.3. A brief analysis of the data findings.

The candidate has a mean score between 3.0 and 3.0 on a 3 point scale showing they meet or exceed expectations.

Data Analysis: Assignment: NCTM: Effect on Student Learning

Criterion	2008-2009		Mean Rating N=2	Range	Level	2009-2010		Mean Rating N=1*	Range	Level
	5	6				1				
Candidates	5	6				1				
Concept selection, NCTM Standards, Planning for all Learners	2.5	2.0	2.25	0.5	Meets Expectations	3.0	3.0	0		Exceeds Expectations
Teaching assignments	3.0	3.0	3.0	0	Exceeds Expectations	3.0	3.0	0		Exceeds Expectations
Design of assessments	2.5	2.0	2.25	0.5	Meets Expectations	3.0	3.0	0		Exceeds Expectations
Use of assessment	2.5	2.5	2.5	0	Meets	3.0	3.0	0		Exceeds

					Expectations				Expectations
*Only one candidate scores are available									

Criterion	2010-2011		Mean Rating N=2	Range	Level
	1	2			
Candidates	1	2			
Concept selection, NCTM Standards, Planning for all Learners	2	3	2.5	1	Meets Expectations
Teaching assignments	2	3	2.5	1	Exceeds Expectations
Design of assessments	2	3	2.5	1	Meets Expectations
Use of assessment	2	3	2.5	1	Meets Expectations

IV.5.4. An interpretation of how that data provides evidence for meeting standards.

The data for the NCTM Effect on Student Learning indicate that candidates have a positive effect on 7-12 students in relation to NCTM standards and encouraging all students including diverse populations, those with special needs, and English as second language learners to learn with mean ratings that meet or exceed expectations. They are successful in their ability to assess student learning and to use the assessment to improve future lessons.

IV.5.5. Attachment of assessment documentation, including:

- (a) the assessment tool or description of the assignment; and**
- (b) the scoring guide for the assessment.**

NCTM: Effect on Student Learning

A study of student learning of key mathematics concepts including teaching assignments designed to promote student learning; responses to those assignments by three students, and an analysis of the student learning demonstrated by the students. Emphasis is placed on meeting the needs of diverse and special needs learners. Reflection and analysis evaluate the success of the teaching for each of the students and discuss ways that future teaching will be influenced by the results of the analysis.

Criterion 1 Concept selection, NCTM Standards, Planning for all Learners

Level 1: Not Acceptable: Learning goals are not evident or are off target for the discipline and do not include a plan to scaffold any skills or tasks needed for all students, including those with special, language or cultural needs, so they will be able to attain the objectives to be learned. Level 2: Meets Expectations: Instruction is designed around clear objectives that are part of NCTM or Arkansas state frameworks for mathematics and includes a plan to scaffold any skills or tasks needed for all students, including those with special, language or cultural needs, so they will be able to attain the objectives to be learned. Level 3: Exceeds Expectations: Concept taught is central to the discipline and integrates learning expectations from the NCTM and Arkansas framework into a coherent rationale that includes a plan to scaffold any skills or tasks needed for all students, including those with special, language or cultural needs, so they will be able to excel in the objectives to be learned.

Common description:

Weighting in summary scores:

1

Level 1 Not Acceptable Score:1.0

Learning goals are not evident or are off target for the discipline.

Meets Expectations Score:2.0

Level 2 Instruction is designed around clear objectives that are part of NCTM or Arkansas frameworks.

Exceeds Expectations Score:3.0

Level 3 Concept taught is central to the discipline and integrates learning expectations from the state framework into a coherent rationale.

Links to standards

This criterion is not linked to any standards

Criterion 2 Teaching assignments

Common description: Level 1: Not Acceptable: Teaching assignments either do not teach to the objectives or are poorly designed. Level 2: Meets Expectations: Teaching assignments teach to the objectives. Level 3: Exceeds Expectations: Teaching assignments are clearly designed to encourage depth and mastery of learning objectives.

Weighting in summary scores:

1

Level 1	Not Acceptable Teaching assignments either do not teach to the objectives or are poorly designed.	Score:1.0
Level 2	Meets Expectations Teaching assignments teach to the objectives.	Score:2.0
Level 3	Exceeds Expectations Teaching assignments are clearly designed to encourage depth and mastery of learning objectives.	Score:3.0

Links to standards

This criterion is not linked to any standards

Criterion 3 Design of assessments

Common description: Level 1: Not Acceptable: Assessments will give the teacher little information about students' knowledge and skills. Level 2: Meets Expectations: Assessments will provide the teacher with some information about students' knowledge and skills. Level 3: Exceeds Expectations: Assessments are clearly designed to provide the teacher with information about students' knowledge and skills.

Weighting in summary scores:

1

Level 1	Not Acceptable Assessments will give the teacher little information about students knowledge and skills.	Score:1.0
Level 2	Meets Expectations Assessments will provide the teacher with some information about students knowledge and skills.	Score:2.0
Level 3	Exceeds Expectations Assessments are clearly designed to provide the teacher with information about students knowledge and skills.	Score:3.0

Links to standards

This criterion is not linked to any standards

Criterion 4 Use of assessment

Common description: Level 1: Not Acceptable: Student either does not demonstrate understanding of the

description: ways assessment can improve teaching or is unwilling to make changes. Level 2: Meets Expectations: Student demonstrates the ability to use assessment of student knowledge to inform teaching. Level 3: Exceeds Expectations: Student demonstrates that the information from assessing student knowledge is regularly used to improve teaching.

Weighting in summary scores: 1

	Not Acceptable	Score:1.0
Level 1	Student either does not demonstrate understanding of the ways assessment can improve teaching or is unwilling to make changes.	
	Meets Expectations	Score:2.0
Level 2	Student demonstrates the ability to use assessment of student knowledge to inform teaching.	
	Exceeds Expectations	Score:3.0
Level 3	Student demonstrates that the information from assessing student knowledge is regularly used to improve teaching.	

Links to standards This criterion is not linked to any standards

ASSESSMENT # 6: NCTM EXIT PORTFOLIO

IV.6.1. Description of the assessment and its use in the program.

Students are required to complete an NCTM Exit Portfolio as a part of their Graduate Secondary Exit Portfolio. The artifacts are displayed and graded on Chalk and Wire which is the College of Education’s research data base. Students must defend their portfolio and receive a satisfactory from all Committee Members which include education and mathematics faculty. The portfolio is designed to meet all of NCTM Standards 1-6 plus two additional standards 7, 8 and 16 and according to the level of content taught in the schools standards 9-15.

IV.6.2. A description of how this assessment specifically aligns with the standards it is cited for in Section III.

The NCTM Portfolio rubric aligns to the NCTM standards. Students must submit artifacts that reflect their content knowledge in mathematics, ability to plan, teach and assess the NCTM standards and to communicate and reflect on the NCTM standards.

Sections of Portfolio Rubric	Alignment to NCTM Indicators
Licensure assessment	1.1,1.2,4.1,4.2,5.1,5.2,5.3,9.1-9.9, 10.1,10.2,10.4, 11.3,11.5,11.6,12.1-12.3,13.1,13.2,14.1,15.1-15.3
Assessment of content knowledge in mathematics-Degree Plan & ETS Major Field Test	1.1,1.2,4.1,4.2,5.1,5.2,5.3, 9.1-9.9, 10.1,10.2,10.4, 11.3,11.5,11.6,12.1-12.3,13.1,13.2,14.1,15.1-15.3
Assessment of Candidate Ability to Plan;	6.1,7.1-7.6,8.1-8.9

Lesson Planning and Unit Development	
SCED 7103 & 7106 NCTM Assessment I & II	7.1-7.6, 8.1-8.9,16.1-16.3
Internship SCED7601 Pathwise Plus Assessment Domain A-D	7.1-7.6, 8.1-8.9,16.1-16.3
Assessment of candidate effect on student learning	7.1-7.6, 8.1-8.9,16.1-16.3
Mathematics Lesson Plan with adaptations for Special Needs and use of Technology	6.1
Evidence of Professional Development	8.5
NCTM Interview-Dispositions	7.1-7.6

IV.6.3. A brief analysis of the data findings.

The data for the NCTM Portfolio Rubric indicate that the candidate has a mean score of 3.0 to 3.0 on a 3.0 scale with 3 being the highest.

Portfolio Rubric Assessment

Sections of Portfolio Rubric Mean Scores (N=2)	Mean 2008-2009 N=2	Range	Mean 2009-2010 N=1	Range	Mean 2010-2011 N=2	Range
Licensure assessment	2.0	0	3.0	0	2.333	1
Assessment of content knowledge in mathematics: Degree Plan & ETS Major Fields Test	2.5	0	3.0	0	2.875	1
Assessment of Candidate Ability to Plan; Lesson Planning and Unit Development	3.0	0	3.0	0	2.875	1
SCED 7103 & 7106 NCTM Assessment I & II	2.5	0	3.0	0	2.25	1
Internship SCED7601 Pathwise Plus Assessment Domain A-D	3.0	0	3.0	0	2.5	1
Assessment of candidate effect on student learning	2.5	0	3.0	0	2.5	1
Mathematics Lesson Plan with adaptations for Special Needs and use of Technology	3.0	0	3.0	0	3.0	0
Evidence of Professional Development	2.5	0	3.0	0	3.0	0
NCTM Interview-Dispositions	3.0	0	3.0	0	NA	NA

IV.6.4. An interpretation of how that data provides evidence for meeting standards.

The data demonstrate that the candidates all successfully documented the NCTM standards through a variety of assessments throughout the program at an acceptable level of two (meets expectations) or above (3 exceeds expectations).

IV.6.5. Attachment of assessment documentation, including11:

- (a) the assessment tool or description of the assignment;
- (b) the scoring guide for the assessment.

TOC: MED -(Initial Licensure) NCTM Standards- NCATE				
This rubric has 7 criteria that are valued on a 3 point scale with Level 1: Needs Improvement, Level 2: Meets Expectations, Level 3: Exceeds Expectations.				
	Title	Rubric for Assessment	NCTM Linked Standards	Assessed Submitted
1.0	Licensure assessment, or other content-based assessment	806: Praxis II: Mathematics Grad (report at criterion level only)	1.1,1.2,4.1,4.2,5.1,5.2,5.3, 9.1-9.9, 10.1,10.2,10.4, 11.3,11.5,11.6,12.1-12.3,13.1,13.2,14.1,15.1-15.3	
2.0	Assessment of content knowledge in mathematics	854: NCTM Content Competency Assessment	1.1,1.2,4.1,4.2,5.1,5.2,5.3, 9.1-9.9, 10.1,10.2,10.4, 11.3,11.5,11.6,12.1-12.3,13.1,13.2,14.1,15.1-15.3	
3.0	Assessment of Candidate Ability to Plan; Lesson Planning and Unit Development	211: SCED 7201 Unit Plan	6.1,7.1-7.6,8.1-8.9	
3.1	SCED 7103 & 7106 NCTM Assessment I & II	784: Intern 7601 NCTM Observation I	7.1-7.6, 8.1-8.9,16.1-16.3	
3.1.1	Internship SCED7601 Pathwise Plus Assessment Domain A-D	785: Intern 7601 NCTM Observation II	7.1-7.6, 8.1-8.9,16.1-16.3	
4.	Assessment of candidate effect on student learning	787: NCTM: Effect on Student Learning	7.1-7.6, 8.1-8.9,16.1-16.3	
4.1	Internship 7601 Pathwise Plus Assessment Domain A	42: SCEDG Internship Domain A: Planning (University Supervisor)	7.1-7.6, 8.1-8.9,16.1-16.3	
4.2	Internship 7601 Pathwise Plus Assessment Domain B	143: SCEDG Internship Domain B: Classroom Management (University Supervisor)	7.1-7.6, 8.1-8.9,16.1-16.3	
4.3	Internship 7601 Pathwise Plus Assessment Domain C	144: SCEDG Internship Domain C: Instructional Skills (University Supervisor)	7.1-7.6, 8.1-8.9,16.1-16.3	
4.4	Internship 7601 Pathwise Plus Assessment Domain D	145: SCEDG Internship Domain D: Professionalism (University Supervisor)	7.1-7.6, 8.1-8.9,16.1-16.3	
5.0	Technology: NCTM ISTE Matrix at Capstone	807: NCTM ISTE Matrix at Capstone	6.1	
6.0	NCTM Pre Admission Interview	1092: NCTM Interview	7.1-7.6	
7.0	NCTM Graduate Program of Study	789: Graduate NCTM Program of Study	All Indicators 1.1-16.3	

**IV.6.5. Attachment of assessment documentation, including:
(c) Candidate data derived from the assessment.**

NCTM Exit Portfolio Assessment

Sections of Portfolio Rubric Mean Scores (N=2)	Mean 2008-2009	Range	Mean 2009-2010 N=1	Range	Mean 2010-2011	Range
Candidates	1, 2		1		2.333	1
Praxis II NCTM licensure assessment	2.0	0	3.0	0	2.875	1

Assessment of content knowledge in mathematics	2.0	0	3.0	0	2.875	1
Assessment of candidate ability to plan; lesson planning and unit development based on NCTM	2.5	1	3.0	0	2.25	1
SCED 7103 & 7106 NCTM Assessment I & II	2.0	0	3.0	0	2.5	1
Internship SCED7601 Pathwise Plus Assessment Domain A-D	2.5	1	3.0	0	2.5	1
NCTM Assessment of candidate effect on student learning	2.0	2	3.0	0	3.0	0
Mathematics Lesson Plan with adaptations for Special Needs and use of Technology	2.5	1	3.0	0	3.0	0
Evidence of Professional Development	2.0	2	3.0	0	3.0	0
NCTM Interview-Dispositions	3.0	0	3.0	0	NA	NA

ASSESSMENT # 7: MATHEMATICS CANDIDATES INTERVIEW

IV.7.1. A brief description of the assessment and its use in the program.

The Interview is based on Arkansas Teacher Licensure Standards and NCTM Indicators for Dispositions 7.1, 7.2, & 7.4 and is used to determine candidate dispositions such as enthusiasm for mathematics, belief that all students can learn including those with special needs, previous work with adolescents, understanding of adolescents and diverse populations and continuing education in mathematics. The Interview is conducted face to face upon student request for admission and occurs before a committee of three faculty from secondary education and mathematics.

IV.7.2. A description of how this assessment specifically aligns with the standards it is cited for in Section III.

The Interview is to determine candidate dispositions as related to the Arkansas Teacher Licensure Standards and to NCTM Indicators for Dispositions 7.1, 7.2, & 7.4.

IV.7.3. A brief analysis of the data findings.

The candidate has a mean between 3.00 and 3.00 on a 3 point scale on the Interviews. Candidates who have a mean score below 2 are recommended with qualifications or denied after a concerns conference. Candidates with a two or above are recommended with no qualifications.

Candidate Interview Assessment

Years	2008-2009		2009-2010	2010-2011
Candidates	1	2	1	NA
Mean	2.72	2.61	3.00	NA
Range	1	1	0	NA

IV.7.4. An interpretation of how that data provides evidence for meeting standards.

Candidate # 1 was recommended with no qualifications as they demonstrated a mean of 3.00 to 3.00 which is considered Acceptable to Exceptional on the Interview scoring guide.

IV.7.5. Attachment of assessment documentation, including :

- (a) the assessment tool or description of the assignment;
- (b) the scoring guide for the assessment.

Graduate Secondary Education Interview Rating

Candidate:

Date:

Questions:

- 1) What are the most important things you want students to learn from your discipline?
- 2) How would you convince a seventh grader that your discipline is important?
- 3) What have you done this month to add to your knowledge of your discipline?
- 4) What experiences have you had in working with adolescents? How are adolescents different from adults?
- 5) What experiences have you had with people of other cultures or people with disabilities? What would you need to learn if you had a class with such students?

Rating Scale:

- 3 = **Exceptional** – Student shows entry level or above skills, knowledge and dispositions,
2 = **Acceptable** – Shows evidence of a capacity for improvement during the program.
1 = **Unacceptable** – Unacceptable level of skills for entry level performance and little evidence of capability of learning the skills, knowledge or dispositions from the program or needs additional coursework or experiences before entering the program.

Student's Score

1. The candidate communicates effectively through speaking and listening.
2. The candidate knows how to apply major concepts, assumptions, debates processes of inquiry and ways of knowing that are central to the discipline
3. The candidate has enthusiasm for the discipline.
4. The candidate knows concepts of human growth and development.
5. The candidate believes that all children can learn at high levels and persists in helping all children achieve success.
6. The candidate treats all others with the same respect and dignity with which he/she expects to be treated
7. The candidate communicates effectively with diverse populations.
8. The candidate expresses empathy and warmth in interpersonal relationships.
9. The candidate shows self-awareness and the ability to reflect on his or her own performance and skills.

Overall Evaluation:

-

Y

Recommend student for teacher education program.

Recommend conditionally. Requirements will be given for improvement in areas of weakness.

Do not recommend (Reasons for not recommending are stated on the back of form).

Evaluators

1)

Grable

2)

3)

ASSESSMENT # 8: PRAXIS III ASSESSMENT

IV.8.1. A brief description of the assessment and its use in the program.

The State of Arkansas is one of only two states to adopt Praxis III as a method of assessing teacher performance during the first year of initial teacher licensure. Utilizing trained assessors who have passed the ETS test battery, experienced teachers, administrators, and teacher educators complete a one-time evaluation which includes pre-interview, classroom observation, and post-interview to determine whether the novice teacher should continue in the classroom without remediation. This data will be shared with colleges of teacher education to supply concrete evidence that their candidates are succeeding in the field after program completion.

IV.8.2. A description of how this assessment specifically aligns with the standards it is cited for in Section III.

This chart is similar to the Pathwise Plus Chart that appears in Assessment 4 as the Praxis III evaluation form is based on the Pathwise Form but used with different requirements from the novice teacher.

Praxis III Domain	Expectations	NCTM Indicators
Organizes Content		
A.1	Becomes familiar with relevant aspects of students' background knowledge & experience	8.1
A.2	Articulates clear, appropriate learning goals	8.4, 8.7
A.3	Demonstrates understanding of connections between previous, current, & future learning content	8.4,8.7, 8.8
A.4	Creates or selects teaching methods, learning activities, and instructional materials that are appropriate for students & aligned with goals of the lesson	8.7, 8.8
A.5	Creates evaluation strategies appropriate for students & aligned with goals of the lesson	8.4
Classroom Management		
B.1	Creates a climate that promotes fairness	7.1
B.2	Established & maintains rapport with students	7.3
B.3	Communicates challenging learning expectations	7.2, 7.4
B.4	Establishes & maintains consistent standards of behavior	7.1
B.5	Makes physical environment safe & conducive to learning	
Instruction		
C.1	Makes learning goals & instructional procedures clear	7.3, 8.3
C.2	Makes content comprehensible	7.3,8.3
C.3	Encourages students to extend their thinking	7.4, 8.8
C.4	Monitors understanding of content	7.4, 8.7
C.5	Uses instructional time effectively	
C.6	Communicates effectively	7.3
Professionalism		
D.1	Reflects on the extent to which learning goals are met	16.3
D.2	Assumes responsibility for own learning & students'	8.5, 8.6

D.3	Builds professional relationships with colleagues	8.5
D.4	Relates effectively to parents	
D.5	Accepts responsibilities & maintains accurate records	7.3
D.6	Demonstrates professional ethics	7.3

IV.8.3. A brief analysis of the data findings.

Candidates are required to take the test within the first two years of receiving Initial Licensure. Since candidates have two years after they begin teaching to take Praxis III, we only have one score. The candidate from 2009 is teaching and took the test. Praxis III passing score is 43.

Year of Administration	Number of Candidates taking test	Score Passing = 43	Rating Average=43-49 Exceptional=50 and above
2008-2009	1	52/57	Exceptional
2009-2010	NA	NA	NA
2010-2011	NA	NA	NA

IV.8.4. An interpretation of how that data provides evidence for meeting standards.

Data has been available from the State of Arkansas starting in 2006. The candidate who took the Praxis III successfully passed the first time demonstrating the knowledge, skills and dispositions required for graduation from the secondary education program provide teachers of quality in secondary mathematics.

IV.8.5. Attachment of assessment documentation, including:

- (a) the assessment tool or description of the assignment;
- (b) the scoring guide for the assessment; and
- (c) candidate data derived from the assessment.

Praxis III Assessment Form

TEACHER PERFORMANCE ASSESSMENTS

Assessment Criteria and Scoring Rules

A1 Becoming familiar with relevant aspects of students' background knowledge and experiences

Scoring Rules

1.0 The teacher demonstrates a lack of understanding of why it is important to become familiar with students' background experiences, does not know how to find this information, and lacks familiarity with students' background experiences.

1.5 Above level 1.0, but below level 2.0

2.0 The teacher demonstrates some understanding of why it is important to become familiar with students' background experiences, describes one procedure used to obtain this information, and has some familiarity with the background knowledge and experiences of students in the class.

2.5 Above level 2.0, but below level 3.0

3.0 The teacher demonstrates a comprehensive understanding of why it is important to become familiar with students' background experiences, describes several procedures used to obtain this information, and demonstrates a clear understanding of students' background knowledge and experiences.

3.5 Above level 3.0

A2 Articulating clear learning goals for the lesson that are appropriate to the students

Scoring Rules

1.0 The teacher does not articulate clear learning goals *or* the teacher has chosen goals that are inappropriate for the students.

1.5 Above level 1.0, but below level 2.0

2.0 The teacher articulates clear learning goals that are appropriate for the students.

2.5 Above level 2.0, but below level 3.0

3.0 The teacher articulates clear learning goals and provides a well-thought-out explanation of why they are appropriate for the students *or* the teacher articulates clear learning goals that are appropriate to the students and are differentiated for groups or individual students in the class.

3.5 Above level 3.0

A3 Demonstrating an understanding of the connections between the content that was learned previously, the current content, and the content that remains to be learned in the future

Scoring Rules

1.0 The teacher does not explain how the content of this lesson relates to the content of previous or future lessons *or* the explanation given is illogical or inaccurate.

1.5 Above level 1.0, but below level 2.0

2.0 The teacher accurately explains how the content of this lesson relates to the content of previous or future lessons.

2.5 Above level 2.0, but below level 3.0

3.0 In addition to the requirements for level 2.0, the teacher accurately explains how the content of this lesson fits within the structure of the discipline.

3.5 Above level 3.0

A4 Creating or selecting teaching methods, learning activities, and instructional materials or other resources that are appropriate to the students and that are aligned with the goals of the lesson

Scoring Rules

1.0 The teacher chooses methods, activities, or materials that are unrelated to the goals of the lesson *or* the methods, activities, or materials are clearly not appropriate to the students.

1.5 Above level 1.0, but below level 2.0

2.0 The teacher chooses methods, activities, and materials that are aligned with the goals of the lesson and that are appropriate to the students in general.

2.5 Above level 2.0, but below level 3.0

3.0 In addition to the requirements for level 2.0, the teacher chooses methods, activities, and materials that allow a differentiated learning experience for individuals or groups of students *or* the teacher provides a sound explanation of why the single teaching method or learning activity in the lesson is appropriate for all students.

3.5 Above level 3.0

• *"Materials" includes all resources that the teacher might use. If the lesson requires no materials, there is no penalty to the teacher for not using them.*

A5 Creating or selecting evaluation strategies that are appropriate for the students and that are aligned with the goals of the lesson

Scoring Rules

1.0 The teacher has not provided for systematically evaluating student learning *or* the evaluation planned is clearly inappropriate either to the goals of the lesson or to the students.

1.5 Above level 1.0, but below level 2.0

2.0 The teacher has a plan for systematically evaluating student learning that is aligned with the goals of the lesson and appropriate to the students.

2.5 Above level 2.0, but below level 3.0

3.0 In addition to the requirements for level 2.0, the teacher can describe how he or she will use the results of the evaluation in planning future instruction.

3.5 Above level 3.0

Copyright © 2001 by Educational Testing Service. All rights reserved.
EDUCATIONAL TESTING SERVICE, ETS, and the ETS logo are registered trademarks of Educational Testing Service.

TEACHER PERFORMANCE ASSESSMENTS

Assessment Criteria and Scoring Rules

B1 Creating a climate that promotes fairness

Scoring Rules

1.0 The teacher is unfair in the treatment of students *or* the teacher tolerates obviously unfair behavior among students.

1.5 Above level 1.0, but below level 2.0

2.0 The teacher is fair in the treatment of students and does not accept obviously unfair behavior among students.

2.5 Above level 2.0, but below level 3.0

3.0 The teacher is fair in the treatment of students and actively encourages fairness among students.

3.5 Above level 3.0

B2 Establishing and maintaining rapport with students

Scoring Rules

1.0 The teacher does not attempt to establish rapport with students *or* the teacher's attempts are inappropriate.

1.5 Above level 1.0, but below level 2.0

2.0 The teacher establishes a basic level of rapport with the students.

2.5 Above level 2.0, but below level 3.0

3.0 The teacher successfully establishes rapport in ways that are appropriate to students' diverse backgrounds and needs.

3.5 Above level 3.0

B3 Communicating challenging learning expectations to each student

Scoring Rules

1.0 The teacher communicates explicitly or implicitly to a whole that they are incapable of learning or that the teacher's expectations for their learning are very low.

1.5 Above level 1.0, but below level 2.0

2.0 The teacher does nothing to communicate to any student that he or she is incapable of meeting learning expectations.

2.5 Above level 2.0, but below level 3.0

3.0 The teacher actively encourages students to meet challenging learning expectations.

3.5 Above level 3.0

B4 Establishing and maintaining consistent standards of classroom behavior

Scoring Rules

1.0 The teacher makes no attempt to respond to disruptive behavior *or* the teacher's response to disruptive behavior does not demonstrate respect for the students.

1.5 Above level 1.0, but below level 2.0

2.0 The teacher makes appropriate attempts to respond to disruptive behavior in ways that demonstrate respect for the students *or* some students may display minor misbehavior but it does not disrupt the class.

2.5 Above level 2.0, but below level 3.0

3.0 In addition to the requirements for level 2.0, the teacher responds to disruptive behavior or minor misbehavior consistently and with reasonable success, in ways that demonstrate respect for students *or* student behavior during the lesson is consistently appropriate.

3.5 Above level 3.0

B5 Making the physical environment as safe and conducive to learning as possible

Scoring Rules

1.0 The teacher allows the physical environment to be unsafe *or* the teacher allows the physical environment to interfere with learning.

1.5 Above level 1.0, but below level 2.0

2.0 The teacher creates a physical environment that is safe and does not interfere with learning.

2.5 Above level 2.0, but below level 3.0

3.0 The teacher uses the physical environment as a resource to facilitate learning. Provisions are made to accommodate all students, including those with special needs. If the teacher does not control the physical environment, he or she effectively adjusts the activities to the existing physical environment.

3.5 Above level 3.0

TEACHER PERFORMANCE ASSESSMENTS

Assessment Criteria and Scoring Rules

C1 Making learning goals and instructional procedures clear to students

Scoring Rules

1.0 The teacher provides the students with no information, confusing information, or inaccurate information about the learning goals or the instructional procedures for the lesson.

1.5 Above level 1.0, but below level 2.0

2.0 The students receive accurate information about the learning goals. The teacher provides the students with clear, accurate information about the instructional procedures for the lesson, and most of the students seem to understand.

2.5 Above level 2.0, but below level 3.0

3.0 In addition to the requirements for level 2.0, the students seem to understand the learning goals fully. The teacher ensures that all students, including those who may initially have trouble, understand and can carry out the instructional procedures for the lesson.

3.5 Above level 3.0

C2 Making content comprehensible to students

Scoring Rules

1.0 The content appears to be incomprehensible to the students *or* the lesson contains substantive inaccuracies.

1.5 Above level 1.0, but below level 2.0

2.0 The content is accurate and appears to be comprehensible to the students.

2.5 Above level 2.0, but below level 3.0

3.0 In addition to the requirements for level 2.0, the lesson as a whole has a logical and coherent structure.

3.5 Above level 3.0

C3 Encouraging students to extend their thinking

Scoring Rules

1.0 The teacher discourages students from thinking independently, creatively, or critically.

1.5 Above level 1.0, but below level 2.0

2.0 The teacher encourages students to think independently, creatively, or critically in the context of the content being studied.

2.5 Above level 2.0, but below level 3.0

3.0 The teacher uses activities or strategies that are specifically designed to actively encourage students to think independently, creatively, or critically about the content being taught.

3.5 Above level 3.0

C4 Monitoring students' understanding of content through a variety of means, providing feedback to students to assist learning, and adjusting learning activities as the situation demands

Scoring Rules

1.0 The teacher makes no attempt to determine whether students are understanding and gives them no feedback.

1.5 Above level 1.0, but below level 2.0

2.0 The teacher monitors the students' understanding of the content. The students receive feedback as necessary.

2.5 Above level 2.0, but below level 3.0

3.0 The teacher monitors individual students' or groups of students' understanding of the content and makes appropriate instructional adjustments if necessary.

If appropriate, students receive substantive and specific feedback.

3.5 Above level 3.0

C5 Using instructional time effectively

Scoring Rules

1.0 Substantial amounts of instructional time are spent on activities of little instructional value *or* the pacing of the lesson is inappropriate to the content and/or the students.

1.5 Above level 1.0, but below level 2.0

2.0 The pacing of the lesson is appropriate for most of the students. Noninstructional procedural matters do not occupy an excessive amount of time.

2.5 Above level 2.0, but below level 3.0

3.0 The teacher provides students with activities of instructional value for the entire instructional time and paces them appropriately. Any necessary noninstructional procedures are performed efficiently.

3.5 Above level 3.0

TEACHER PERFORMANCE ASSESSMENT

Assessment Criteria and Scoring Rules

Teacher Professionalism

D1 Reflecting on the extent to which the learning goals were met

Scoring Rules

1.0 The teacher cannot accurately identify strengths and weaknesses of the lesson in relation to the learning goals.

1.5 Above level 1.0, but below level 2.0

2.0 The teacher accurately describes the strengths and weaknesses of the lesson in relation to the learning goals and describes in general terms how he or she could use the experience from this lesson in future instruction.

2.5 Above level 2.0, but below level 3.0

3.0 In addition to the requirements for level 2.0, the teacher supports his or her judgments with specific evidence from the observed lesson.

3.5 Above level 3.0

D2 Demonstrating a sense of efficacy

Scoring Rules

1.0 The teacher makes no attempt to address the specific learning needs of students.

1.5 Above level 1.0, but below level 2.0

2.0 The teacher attempts to find ways to address the specific learning needs of students, but cannot suggest any specific, practical actions that he or she has not already tried.

2.5 Above level 2.0, but below level 3.0

3.0 The teacher suggests specific, practical actions that he or she intends to take to address the specific learning needs of students.

3.5 Above level 3.0

D3 Building professional relationships with colleagues to share teaching insights and to coordinate learning activities for students

Scoring Rules

1.0 The teacher demonstrates no knowledge of resources available through colleagues in the school or district *Or* the teacher is aware of such resources, but does not attempt to use them, despite an obvious need.

1.5 Above level 1.0, but below level 2.0

2.0 The teacher demonstrates knowledge of resources and attempts to consult with colleagues when necessary on matters related to learning and instruction.

2.5 Above level 2.0, but below level 3.0

3.0 In addition to the requirements for level 2.0, the teacher provides physical evidence of collaboration with colleagues outside of his or her own classroom to coordinate learning activities or to address other concerns related to teaching.

3.5 Above level 3.0

D4 Communicating with parents or guardians about student learning

Scoring Rules

1.0 The teacher demonstrates no knowledge of forms of communication that she or he can use to communicate with parents or guardians *or* the teacher makes no attempt to communicate with parents or guardians, even when it is clearly necessary to do so.

1.5 Above level 1.0, but below level 2.0

2.0 The teacher demonstrates knowledge of forms of communication that she or he can use to communicate with parents or guardians of students for various purposes.

2.5 Above level 2.0, below level 3.0

3.0 In addition to the requirements for level 2.0, the teacher describes specific situations in which she or he has communicated or would communicate with parents or guardians regarding specific students and provides physical evidence of the forms of communication she or he has used.

3.5 Above level 3.0

Copyright © 2001 by Educational Testing Service. All rights reserved.
51907-12068. RR101P2X. Printed in U.S.A.

I.N.991704

SECTION V—USE OF ASSESSMENT RESULTS TO IMPROVE CANDIDATE AND PROGRAM PERFORMANCE

CONTENT KNOWLEDGE:

Candidates completing the graduate secondary mathematics initial licensure program enter the program with a strong content foundation. The program utilizes the mathematics content to build equally strong pedagogical knowledge, skills, and dispositions which provide the Central Arkansas area with mathematics teachers of excellence.

As indicated in Assessment 1 the performance of UALR Graduate Mathematics Candidates on the Praxis II Exam have a strong passing rate. The requirement that candidates pass Praxis II before entering their Internship will ensure that all candidates possess an appropriate content knowledge base prior to their

field experience. Assessment 2 clearly demonstrates candidates are required to meet strong admission standards through their mathematics content as related to the NCTM Standards and GPA. The strong admission standards ensure candidates have a basic mathematical foundation to build their pedagogical skills on.

PROFESSIONAL AND PEDAGOGICAL KNOWLEDGE, SKILL, AND DISPOSITIONS:

In Assessment 3 candidates are required to demonstrate their professional and pedagogical knowledge, skill and dispositions through a unit development that is scored by a rubric based on Arkansas Teacher Licensure Standards and NCTM Frameworks. All candidates met expectations as specified by the rubrics demonstrating an application of pedagogical skills to the mathematics content.

In Assessment 4 Candidates demonstrate their pedagogical knowledge through two thirty hour pre-professional field experiences and one twelve week Internship. Candidates are assessed through a Pathwise Plus form which meets Arkansas State Teacher Licensure Standards and a NCTM Mathematics Observation Guide based on applicable NCTM standards. All candidates met expectations for successful content instructional planning and delivery, classroom management and professionalism. All of our university supervisors are retired certified mathematics teachers with records of excellence in teaching mathematics and have been trained in Pathwise Plus providing content knowledge for the mathematics NCTM assessment and pedagogy for the knowledge, skills and dispositions needed to be a teacher of quality.

We have added Assessment 8: Praxis III Assessment because Arkansas is one of only two states to adopt Praxis III as a method of assessing teacher performance during the first year of initial teacher licensure. Utilizing trained assessors who have passed the ETS test battery, experienced teachers, administrators, and teacher educators complete a one-time evaluation which includes pre-interview, classroom observation, and post-interview to determine whether the novice teacher should continue in the classroom without remediation. This data will be shared with colleges of teacher education to supply concrete evidence that their candidates are succeeding in the field after program completion. We will have data available on the candidates next year.

STUDENT LEARNING

In Assessment 5 the data for the NCTM Effect on Student Learning indicate that candidates have a positive effect on 7th-12th grade students in relation to NCTM standards. The data demonstrate the mathematics candidates are encouraging all students including diverse populations, those with special needs, and English as second language learners to learn with mean ratings that meet or exceed expectations.

In assessment 8, one candidate took the Praxis III test since its requirement for beginning teachers to receive permanent licensure. The candidate successfully passed the first time with an exceptional score. This assessment looks at student learning as well as teacher performance along with how well the teacher meets the needs of all students including those of diverse populations and special needs.