

Program Report for the Preparation of Science Teachers National Science Teachers Association (NSTA)

NATIONAL COUNCIL FOR ACCREDITATION OF TEACHER EDUCATION

COVER SHEET

1. Institution Name

Arkansas State University

2. State

Arkansas

3. Date submitted

MM DD YYYY

09 / 15 / 2009

4. Report Preparer's Information:

Name of Preparer:

J. Tillman Kennon

Phone:

Ext.

(870) 972-3256

E-mail:

jkennon@astate.edu

5. NCATE Coordinator's Information:

Name:

Don Maness

Phone:

Ext.

(870) 972-3057

E-mail:

dmaness@astate.edu

6. Name of institution's program

General Science (BSE Degree Program)

7. NCATE Category

Science Education (multiple fields)

8. Grade levels⁽¹⁾ for which candidates are being prepared

7-12

(1) e.g. Early Childhood; Elementary K-6

9. Program Type

- Advanced Teaching
- First teaching license
- Other School Personnel
- Unspecified

10. Degree or award level

- Baccalaureate
- Post Baccalaureate
- Master's
- Post Master's
- Specialist or C.A.S.
- Doctorate
- Endorsement only

11. Is this program offered at more than one site?

- Yes
- No

12. If your answer is "yes" to above question, list the sites at which the program is offered

13. Title of the state license for which candidates are prepared

Secondary Life/Earth and/or Secondary Physical/Earth

14. Program report status:

- Initial Review
- Response to One of the Following Decisions: Further Development Required, Recognition with Probation, or Not Nationally Recognized
- Response to National Recognition With Conditions

15. 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

SECTION I - CONTEXT

1. Provide the following contextual information:

Description of any state or institutional policies that may influence the application of NSTA standards. (Response limited to 4,000 characters.)

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. (Response limited to 8,000 characters.)

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. (Response limited to 4,000 characters.)

4. Description of the relationship of the program to the unit's conceptual framework². (Response limited to 4,000 characters.)

(2) The response should describe the program's conceptual framework and indicate how it reflects the unit's conceptual framework

5. Indication of the unique set of program assessments for science and their relationship of the program's assessments to the unit's assessment system³. (Response limited to 4,000 characters.)

(3) This response should clarify how the key assessments used in the program are derived from or informed by the assessment system that the unit will address under NCATE Standard 2.

6. This system will not permit you to include tables or graphics in text fields. Therefore any tables or charts must be attached as files here. The title of the file should clearly indicate the content of the file. Word documents, pdf files, and other commonly used file formats are acceptable. The system will not accept .docx files. Please include all information on an assessment (directions, scoring guide, data, and reflections on changes) in a single document. Note that if using MS Word, files must be in a version prior to MS Vista.

7. Attach the following contextual information:

1. A program of study that outlines the courses and experiences required for candidates to complete the program. The program of study must include course titles and numbers. (This information may be provided as an attachment from the college catalog or as a student advisement sheet.) AND forms showing requirements for science content courses for post degree or master's programs. Syllabi and course descriptions are not generally necessary (some exceptions may be in Assessment #2, the Content Analysis form). Please include directions for each level of candidate (e.g., undergraduate advising sheet and post degree or graduate advising sheet.) (Response limited to 6 pages)

8. Candidate Information

Directions: Provide three years of data on candidates enrolled in the program and completing the program, beginning with the most recent academic year for which numbers have been tabulated. Report the data separately for the levels/tracks (e.g., baccalaureate, post-baccalaureate, alternate routes, master's, doctorate) being addressed in this report. Report the data separately for each licensure area (e.g., chemistry, biology, broad field science, middle level). Data must also be reported separately for programs offered at multiple sites. Update academic years (column 1) as appropriate for your data span. Create additional tables as necessary.

Program:		
Academic Year	# of Candidates Enrolled in the Program	# of Program Completers ⁴

(4) NCATE uses the Title II definition for program completers. Program completers are persons who have met all the requirements of a state-approved teacher preparation program. Program completers include all those who are documented as having met such requirements. Documentation may take the form of a degree, institutional certificate, program credential, transcript, or other written proof of having met the program's requirements.

9. Faculty Information

Directions: Complete the following information for each faculty member responsible for science education professional coursework, clinical supervision, or administration in this program. This may be the science educator(s) or others directly involved in teaching science education portion of the licensure program.

Faculty Member Name	
Highest Degree, Field, & University ⁵	
Assignment: Indicate the role of the faculty member ⁶	
Faculty Rank ⁷	
Tenure Track	<input type="checkbox"/> YES
Scholarship ⁸ , Leadership in Professional Associations, and Service ⁹ : List up to 3 major contributions in the past 3 years ¹⁰	
Teaching or other professional experience in P-12 schools ¹¹	

(5) e.g., PhD in Curriculum & Instruction, University of Nebraska.

(6) e.g., faculty, clinical supervisor, department chair, administrator

(7) e.g., professor, associate professor, assistant professor, adjunct professor, instructor

(8) 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.

(9) 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.

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

(11) Briefly describe the nature of recent experience in P-12 schools (e.g. clinical supervision, inservice 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.

SECTION II - LIST OF ASSESSMENTS

1. In this section, list the 6-8 assessments that are being submitted as evidence for meeting the NSTA standards. All programs must provide a minimum of six assessments. If your state does not require a state licensure test in the content area, you must substitute an assessment that documents candidate attainment of content knowledge in #1 below. For each assessment, indicate the type or form of the assessment and when it is administered in the program.

Type and Number of Assessment	Name of Assessment (12)	Type or Form of Assessment (13)	When the Assessment Is Administered (14)
Assessment #1: Content Knowledge – Licensure Tests 15(required)	Praxis II-Content Knowledge	State licensure exams of science content	Ongoing throughout the program
Assessment #2: Content Knowledge – an assessment of general content knowledge in discipline to be taught (required)	Assessment of Content Knowledge-Science Course Sequences	Grades in required science courses within the emphasis program of study and overall	Ongoing throughout the program
Assessment #3: Pedagogical and Professional Knowledge, Skills and Dispositions – Planning instruction and assessment (required)	Unit of Instruction	Project to determine ability of candidate to plan instruction assessed through online portfolio	Assessed during the Methods and Materials for Teaching of Science in the Secondary Schools Course
Assessment #4: Pedagogical and Professional Knowledge, Skills and Dispositions – Student Teaching Assessment (required)	Faculty Supervisor and Clinical Supervisor Assessment of the Teacher Intern (Field III) Experience	Performance-Based	Conclusion of Field Experience III Semester
Assessment #5: Effects on Student Learning (required)	Proof of Teacher Effectiveness Assessment	Research-based assessment completed by intern	Field Experience III semester
Assessment #6: [Pedagogical and Professional Knowledge, Skills and Dispositions – Legal/Safety/Ethical Issues (required)	Science Lab Safety Training Module	Six hour science lab safety training module that must be successfully completed before the Field Experience III	Must be completed no later than the semester before the Field Experience III

Assessment#7: Content Knowledge – Research & Investigation (required)	Scientific Research Projects embedded in content science courses (Atm. Dyn. is required plus one additional course)	Assessment by science faculty in science content courses selected for research project assignments	Course and by science faculty in science content courses selected for research project assignments
Assessment #8: Content Knowledge – Contextual Content (required)	Teacher Internship Portfolio	Assessed by the University Supervisor using a Target, Acceptable, Unacceptable scoring rubric	Must be completed no later than the semester before the Field Experience III

(12) Identify assessment by title used in the program; refer to Section IV for further information on appropriate assessment to include.

(13) Identify the type of assessment (e.g., essay, case study, project, comprehensive exam, reflection, state licensure test, portfolio).

(14) Indicate the point in the program when the assessment is administered (e.g., admission to the program, admission to student teaching/internship, required courses [specify course title and numbers], or completion of the program).

(15) If licensure test data is submitted as Assessment #1, the assessment and scoring guide attachments are not required. If the state does not require a licensure test, another content based assessment must be submitted (including the assessment and scoring guide).

SECTION III - RELATIONSHIP OF ASSESSMENT TO STANDARDS

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

1. NSTA Standards^{16 17}

Content. Teachers of science understand and can articulate the knowledge and practices of contemporary science. They can interrelate and interpret important concepts, ideas, and applications in their fields of licensure; and can conduct scientific investigations. To show that they are prepared in content, teachers of science must demonstrate that they

	#1	#2	#3	#4	#5	#6	#7	#8
(a) understand and can successfully convey to students the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association	b	b	b	b	b	e	b	e
(b) understand and can successfully convey to students the unifying concepts of science delineated by the National Science Education Standards;	e	e	b	b	b	e	e	b
(c) understand and can successfully convey to students important personal and technological applications of science in their fields of licensure;	e	b	b	b	b	e	b	e
(d) understand research and can successfully design, conduct, report and evaluate investigations in science	e	b	e	e	e	e	b	e
(e) and understand and can successfully use mathematics to process and report data, and solve problems, in their field(s) of licensure.	e	b	e	e	b	e	b	e

(16) NCATE will provide a link to the full set of SPA standards, including indicators/elements/dimensions and supporting explanations.

(17) Dimensions of standards are split out from each other when it is highly likely they will be found in different assessment instruments. When the dimensions are likely to be apparent in the same assessment instrument, they have been left together.

of students;								
(b) use the results of multiple assessments to guide and modify instruction, the classroom environment, or the assessment process;	e	e	b	b	e	e	e	e
(c) use the results of assessments as vehicles for students to analyze their own learning, engaging students in reflective self-analysis of their own work.	e	e	b	b	e	e	e	b

9. Safety and Welfare. Teachers of science organize safe and effective learning environments that promote the success of students and the welfare of all living things. They require and promote knowledge and respect for safety, and oversee the welfare of all living things used in the classroom or found in the field. To show that they are prepared, teachers of science must demonstrate that they:

	#1	#2	#3	#4	#5	#6	#7	#8
(a) understand the legal and ethical responsibilities of science teachers for the welfare of their students, the proper treatment of animals, and the maintenance and disposal of materials;	e	e	b	b	b	b	e	b
(b) know and practice safe and proper techniques for the preparation, storage, dispensing, supervision, and disposal of all materials used in science instruction;	e	e	b	b	b	b	e	b
(c) know and follow emergency procedures, maintain safety equipment, and ensure safety procedures appropriate for the activities and the abilities of students;	e	e	b	b	b	b	e	b
(d) treat all living organisms used in the classroom or found in the field in a safe, humane, and ethical manner and respect legal restrictions on their collection, keeping, and use.	e	e	b	b	b	b	e	b

NOTE: A program must meet Standard 9a, b and c in order to receive either National Recognition or National Recognition with Conditions. Evidence must be shown in assessment 4 and assessment 6. Further information is available at the following URL: www.nsta.org/preservice

10. Professional Growth. Teachers of science strive continuously to grow and change, personally and professionally, to meet the diverse needs of their students, school, community, and profession. They have a desire and disposition for growth and betterment. To show their disposition for growth, teachers of science must demonstrate that they:

	#1	#2	#3	#4	#5	#6	#7	#8
(a) engage actively and continuously in opportunities for professional learning and leadership that reach beyond minimum job requirements;	e	e	e	b	e	e	e	b
(b) reflect constantly upon their teaching and identify ways and means through which they may grow professionally;	e	e	e	b	e	e	e	b
(c) use information from students, supervisors, colleagues and others to improve their teaching and facilitate their professional growth;	e	e	e	b	b	e	e	b
(d) interact effectively with colleagues, parents, and students; mentor new colleagues; and foster positive relationships with the community.	e	e	e	b	e	e	e	b

SECTION IV - EVIDENCE FOR MEETING STANDARDS

DIRECTIONS: The 6-8 key assessments listed in Section II must be documented and discussed in Section IV. The assessments must be those that all candidates in the program are required to complete and should be used by the program to determine candidate proficiencies as expected in the program

standards. Assessments and scoring guides should be aligned with the SPA standards. This means that the concepts in the SPA standards should be apparent in the assessments and in the scoring guides to the same depth, breadth, and specificity as in the SPA standards.

In the description of each assessment below, the SPA has identified potential assessments that would be appropriate. Assessments have been organized into the following three areas that are addressed in NCATE's unit standard 1:

- Content knowledge (Assessments 1 and 2)
- Pedagogical and professional knowledge, skills and dispositions (Assessments 3 and 4)
- Focus on student learning (Assessment 5)

Note that in some disciplines, content knowledge may include or be inextricable from professional knowledge. If this is the case, assessments that combine content and professional knowledge may be considered "content knowledge" assessments for the purpose of this report.

For each assessment, the compiler should prepare a document that includes the following items: a two page narrative that responds to questions 1, 2, 3, and 4 (below) and the three items listed in question 5 (below). This document should be attached as directed.

1. A brief description of the assessment and its use in the program (one sentence may be sufficient);
2. A description of how this assessment specifically aligns with the standards it is cited for in Section III. Cite SPA standards by number, title, and/or standard wording.
3. A brief analysis of the data findings;
4. An interpretation of how that data provides evidence for meeting standards, indicating the specific SPA standards by number, title, and/or standard wording; and
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.

It is preferred that the response for each of 5a, 5b, and 5c (above) be limited to the equivalent of five text pages, however in some cases assessment instruments or scoring guides may go beyond five pages.

All three components of the assessment (as identified in 5a-c) must be attached, with the following exceptions: (a) the assessment tool and scoring guide are not required for reporting state licensure data, and (b) for some assessments, data may not yet be available.

1. CONTENT KNOWLEDGE: Data from licensure tests of content knowledge in science education. If your state does not require licensure tests in the content area, data from another assessment must be presented to document candidate attainment of content knowledge. The NSTA standard that could be addressed by this assessment includes, but is not limited to, Standard 1a.

Provide assessment information (items 1-5) as outlined in the directions for Section IV

1. The names of all licensure tests or professional examinations required by the state for content and pedagogical or professional knowledge.¹⁸
2. Description of the alignment between licensure test data and applicable NSTA standards. However, if the test is a science content Praxis II test, the alignment is not required (e.g., Praxis II 20235: Biology Content).

3. Aggregated pass rates for each year over the past 3 years, including the most recent academic year.¹⁹ Data must be presented on all completers, even if there were fewer than 10 test takers during a single year. Eighty percent of program completers²⁰ who have taken the **content** test must pass the applicable state licensure test if the state has such a test.

4. The mean and range of sub-scores for the most recent academic year.

5. A single 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.

Data should be in aggregate form (not scores for each candidate) and disaggregated by licensure area (biology, chemistry, middle school, etc) and by program (undergraduate, post degree, masters of teaching).

(d) reflections on any rubric changes and why those changes occurred may be included here.

The narrative section for each assessment (1-5 above) is limited to two text pages. If the attachment exceeds the file size limit by NCATE, break the attachment into logical parts.

(18) For example, Praxis II Biology: Content Knowledge.

(19) NCATE will provide a link to a sample response for this requirement.

(20) NCATE uses the Title II definition for program completers. Program completers are persons who have met all the requirements of a state-approved teacher preparation program. Program completers include all those who are documented as having met such requirements. Documentation may take the form of a degree, institutional certificate, program credential, transcript, or other written proof of having met the program's requirements.

2. CONTENT KNOWLEDGE: An assessment that demonstrates candidate knowledge of the conceptual science to be taught and related fields. An assessment that demonstrates that candidates are well prepared in the breadth of knowledge needed to teach in their fields of licensure. The NSTA standard that could be addressed by this assessment includes, but is not limited to, Standard 1a.

Assessments could include content grade point averages and minimum grade requirements, portfolio requirements, or comprehensive examinations suitable for preparing teachers of a curriculum based on the content recommendations in the 2003 NSTA Standards 1a.

Provide assessment information (items 1-5) as outlined in the directions for Section IV in a single attachment

3. PEDAGOGICAL AND PROFESSIONAL KNOWLEDGE, SKILLS, AND DISPOSITIONS: An assessment that demonstrates candidates can plan effective classroom-based instruction, and design assessments, consistent with goals of the National Science Education Standards. NSTA standards that could be addressed by this assessment include, but are not limited to, standards 1a, 1b, 1c, 2c, 3b, 4b, 6, 7b, and 8.

A minimum indicator might include performance in the design of at least one major demonstration teaching unit (not a single lesson plan) aligned with goals as reflected in breadth of NSTA standards 1a-c, 2c, 3b, 4b, 6, 7b, and 8 (with lesson plans and varied assessments).

Provide assessment information (items 1-5) as outlined in the directions for Section IV

A minimum indicator might include performance in the design of at least one major demonstration teaching unit (not just a single lesson plan) that includes requirements for activities addressing unifying concepts, nature of science, inquiry, issues, personal and technological applications, and science in the

community (with lesson plans and varied assessments).

Provide assessment information (items 1-5) as outlined in the directions for Section IV in a single attachment

Revised Assessment 3

See **Attachments** panel below.

4. PEDAGOGICAL AND PROFESSIONAL KNOWLEDGE, SKILLS, AND DISPOSITIONS: Assessment that demonstrates candidates' knowledge, skills, and dispositions are applied effectively in practice. NSTA standards that could be addressed by this assessment include, but are not limited to, standard 9. The assessment instrument used in student teaching and the internship should be submitted.

An indicator could include performances on a subset of items from a student teaching observation form with each area of safety addressed explicitly: 9a- Legal and ethical, 9b – Safety procedures, 9c – Chemical use and storage and 9d – Use and care of animals.

NOTE: Safety is the most important part of learning to be a science teacher. Therefore, this assessment must explicitly address all aspects of the standard for a program with enough substance to ensure to external reviewers that preservice teachers are prepared and are able to address in student teaching in all areas of safety in the teaching of science.

Provide assessment information (items 1-5) as outlined in the directions for Section IV

An indicator could include performance in an internship that is evaluated using an observation form filled out by the cooperating teacher and supervisor.

Provide assessment information (items 1-5) as outlined in the directions for Section IV in a single attachment

Revised Assessment 4

See **Attachments** panel below.

5. EFFECTS ON STUDENT LEARNING: An assessment that demonstrates candidate effects on student learning of major concepts, principles, theories, laws; the unifying concepts of science; the nature of science; the practice of inquiry (including student engagement in inquiry); analysis of issues related to science and technology and the impact of science on themselves and their community. NSTA standards that must be addressed by this assessment include, but are not limited to, standards 1a, 2c, 3b and 4b.

An indicator might include an assessment of candidate on work samples aligned that is specific to science and explicitly evaluates each of the standards above. Work samples may include pre and post test data with analysis and reflections.

Provide assessment information (items 1-5) as outlined in the directions for Section IV in a single attachment

See **Attachments** panel below.

6. PEDAGOGICAL AND PROFESSIONAL KNOWLEDGE, SKILLS, AND DISPOSITIONS: An assessment that demonstrates candidates are prepared in legal issues, safety, and ethical treatment of living things. The NSTA standard addressed by this assessment includes, but is not limited to, standard 9.

Assessments might include performance in a safety module with minimum levels of performance in each of the areas: 9a, 9b, 9c and 9d. This assessment must address safety knowledge and understanding that a science teacher needs to know and be able to do.

NOTE: Safety is the most important part of learning to be a science teacher. Therefore, this assessment must clearly address all aspects of the standard for a program with enough substance to ensure to external reviewers that preservice teachers are prepared in all areas of safety in the teaching of science.

Provide assessment information (items 1-5) as outlined in the directions for Section IV

See **Attachments** panel below.

7. CONTENT KNOWLEDGE: An assessment that demonstrates knowledge of research and investigation in science. Candidates understand multiple forms of scientific inquiry; can design, conduct, and report research in their field; and can use mathematics and appropriate technology to collect, process, and explain data. NSTA standards that could be addressed by this assessment include, but are not limited to, standards 1d-e.

Assessments might include performance in or on a science content thesis, science research project, occupational experience in scientific research, or some similar confirmed experiences in the design of research in science, with criteria aligned with requirements of this assessment. This includes the candidate designing the experiment, collecting the data, analyzing the data and reporting on the data.

Provide assessment information (items 1-5) as outlined in the directions for Section IV

See **Attachments** panel below.

8. CONTENT KNOWLEDGE: An assessment that demonstrates knowledge of the contextual content of science. An assessment that demonstrates candidates have a strong understanding of the socially relevant issues, inquiry, history, philosophy and applications of science. NSTA standards addressed by this assessment include, but are not limited to 2a-b, 3a, and 4a

Assessments might include performance in a course specifically designed to cover these topics, or

performance on a portfolio subset with requirements specifically demonstrating preparation in the knowledge identified in this assessment.

Provide assessment information (items 1-5) as outlined in the directions for Section IV in the directions for Section IV in a single attachment

SECTION V - USE OF ASSESSMENT RESULTS TO IMPROVE PROGRAM

1. Evidence must be presented in this section that assessment results have been analyzed and have been or will be used to improve candidate performance and strengthen the program. This description should not link improvements to individual assessments but, rather, it should summarize principal findings from the evidence, the faculty's interpretation of those findings, and changes made in (or planned for) the program as a result. Describe the steps program faculty has taken to use information from assessments for improvement of both candidate performance and the program. **This information should be organized around (1) science content knowledge, (2) professional and pedagogical knowledge, skill, and dispositions, and (3) student learning.**

(Response limited to 12,000 characters)

SECTION VI - FOR REVISED REPORTS OR RESPONSE TO CONDITIONS REPORTS ONLY

1. **Describe what changes or additions have been made in response to issues cited in previous recognition report. List the sections of the report you are resubmitting and the changes that have been made. Specific instructions for preparing a revised report or a response to condition report are available on the NCATE web site at <http://www.ncate.org/institutions/process.asp?ch=4> (Response limited to 24,000 characters.)**

Since the start of the spring semester of 2009, the Science Education Committee of the Departments of Biological Sciences and Chemistry/Physics has met on a regular bases. A number of these discussions focused on the NSTA/NCATE Program Standards and how we might improve our program to address the conditions noted by NSTA upon evaluation of the initial report.

To address Standard 1: revisions were made to Assessment 3 involving the creation of a set of guidelines for the Unit of Instruction assignment in the SCIENCE METHODS and MATERIALS, SCED 4593 class. The scoring guide was also revised to address NSTA concerns that Assessment 3 does not support evidence that the candidates are able to use pedagogy. These guidelines are also very explicit in the requirement of the candidates to understand the Unifying Concepts of Science. Assessment 5 has also been revised by improving the instructions for the candidates' active research project. The instructions and scoring guide clearly document the candidates' impact on student learning of the specific concepts of science. Assessment 7 represents a combined effort of the science departments to develop a common research project through a newly designed and implemented course, Atmospheric Dynamics-PHYS 3043, which will enhance the candidates' science research experiences. This assignment assesses the candidates' ability to design, conduct, report and evaluate investigations in science and use mathematics to process the data. The first candidates successfully completed this course spring 2009. The scoring guides for all assessment now utilize a common template that is in line with the University rubrics for NCATE, however, are modified to be science specific.

To address Standard 2: Assessments 3 and 5 now specifically address the Nature of Science and the candidates impact on student learning.

To address Standard 3: Assessments 3 and 5 now expressly address Inquiry and the candidates' use of inquiry to teach students during their internship and active research project.

To address Standard 4: Assessments 3 and 5 now explicitly address the Issues of Science and measure the candidates' knowledge of the Issues of Science and their abilities to convey them to their students.

To address Standard 7: Assessments 3, 4, 5 now document the candidates' knowledge concerning Science in the Community and their success involving students in activities related to science in their community. Formative and summative evaluation instruments have been developed that are science specific and will be used this starting fall 2009 along with the university wide generic instruments to assess candidate interns.

To address Standard 9: Assessments 3, 5 and 7 are improved to better document Safety and Welfare in the science classroom especially the treatment of animals.

These revisions and responses have improved the program and the assessment of the program through this process. The committee is especially proud of the new common science research project assignment in the Atmospheric Dynamics course. Scoring guides for Assessment 3 & 5 more accurately reflect the knowledge of the candidates and their abilities to convey this knowledge to their students. New data is provided for Assessments 5 & 7. Initial data for the revised Assessments 3 & 6 will be collected this fall (2009) semester.

Please click "Next"

This is the end of the report. Please click "Next" to proceed.