

NATIONAL RECOGNITION REPORT

Initial Preparation of Science Teachers (2004 Standards)

NCATE recognition of this program is dependent on the review of the program by representatives of the National Science Teachers Association.

COVER PAGE

Name of Institution

University of Arkansas—Fort Smith

Date of Review

MM DD YYYY

08 / 01 / 2014

This report is in response to a(n):

- Initial Review
- Revised Report
- Response to Conditions Report

Program Covered by this Review

Biology with Life Science/Earth Science Teacher Licensure

Grade Level⁽¹⁾

7-12

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

Program Type

First Teaching License

Award or Degree Level

- Baccalaureate
- Post Baccalaureate
- Master's

PART A - RECOGNITION DECISION

SPA Decision on NCATE Recognition of the Program(s):

- Nationally recognized
- Nationally recognized with conditions

- Further development required **OR** Nationally recognized with probation **OR** Not nationally recognized [See Part G]

Test Results (from information supplied in Assessment #1, if applicable)

The program meets or exceeds an 80% pass rate on state licensure exams:

- Yes
 No
 Not applicable
 Not able to determine

Comments, if necessary, concerning Test Results:

Summary of Strengths:

Praxis scores are to be commended. Assessment 7, Research Module, is excellent and provides strong data for Assessment and Standard 1.

PART B - STATUS OF MEETING SPA STANDARDS

Standard 1. 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:

- (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) understand and can successfully convey to students the unifying concepts of science delineated by the National Science Education Standards;
- (c) understand and can successfully convey to students important personal and technological applications of science in their fields of licensure;
- (d) understand research and can successfully design, conduct, report and evaluate investigations in science;
- (e) understand and can successfully use mathematics to process and report data, and solve problems, in their field(s) of licensure.

Met

Met with Conditions

Not Met



Comment:

Assessment 1 provides evidence that candidates understand the concepts and principles of their scientific discipline.
Assessment 2 shows alignment between NSTA content requirements and program requirements using the Content Analysis Form and science content GPA.
Assessment 3 given provides alignment that candidates have the ability to develop an instructional unit plan to teach science concepts and principles (NSTA 2003 1a). Data need to be disaggregated by element.
Assessment 5 provides evidence that candidates are able to successfully convey to students science-specific concepts and principles (NSTA 2003 1a).

Research assessment provides convincing evidence of candidates' ability to do research in a science discipline and use mathematics at the college level (NSTA 2003 1d-1e).

Assessment 3 data need to be disaggregated by element.

Standard 2. Nature of Science. Teachers of science engage students effectively in studies of the history, philosophy, and practice of science. They enable students to distinguish science from nonscience, understand the evolution and practice of science as a human endeavor, and critically analyze assertions made in the name of science. To show they are prepared to teach the nature of science, teachers of science must demonstrate that they:

- (a) understand the historical and cultural development of science and the evolution of knowledge in their discipline;
- (b) understand the philosophical tenets, assumptions, goals, and values that distinguish science from technology and from other ways of knowing the world;
- (c) engage students successfully in studies of the nature of science including, when possible, the critical analysis of false or doubtful assertions made in the name of science.

Met



Met with Conditions



Not Met



Comment:

Standard 2 is met with conditions.

Planning assessment provides evidence for this standard. It is science specific and addresses candidates' use of pedagogy to develop lesson plans for the teaching of the Nature of Science, which includes enabling students to distinguish science from nonscience, understand the evolution and practice of science as a human endeavor, and critically analyze assertions made in the name of science (NSTA 2003 2c).

Effects on student learning assessment is aligned with NSTA 2003 2c and therefore provides evidence that candidates are able to successfully convey the Nature of Science to students (NSTA 2003 2c), which enables students to distinguish science from nonscience, understand the evolution and practice of science as a human endeavor, and critically analyze assertions made in the name of science.

Assessment 3 data need to be disaggregated by element.

Standard 3. Inquiry. Teachers of science engage students both in studies of various methods of scientific inquiry and in active learning through scientific inquiry. They encourage students, individually and collaboratively, to observe, ask questions, design inquiries, and collect and interpret data in order to develop concepts and relationships from empirical experiences. To show that they are prepared to teach through inquiry, teachers of science must demonstrate that they:

- (a) understand the processes, tenets, and assumptions of multiple methods of inquiry leading to scientific knowledge;
- (b) engage students successfully in developmentally appropriate inquiries that require them to develop concepts and relationships from their observations, data, and inferences in a scientific manner.

Met



Met with Conditions



Not Met



Comment:

Standard 3 is met with conditions.
Assessment 3 data need to be disaggregated by element.

Standard 4. Issues. Teachers of science recognize that informed citizens must be prepared to make decisions and take action on contemporary science- and technology-related issues of interest to the general society. They require students to conduct inquiries into the factual basis of such issues and to assess possible actions and outcomes based upon their goals and values. To show that they are prepared to engage students in studies of issues related to science, teachers of science must demonstrate that they:

- (a) understand socially important issues related to science and technology in their field of licensure, as well as processes used to analyze and make decisions on such issues;
- (b) engage students successfully in the analysis of problems, including considerations of risks, costs, and benefits of alternative solutions; relating these to the knowledge, goals and values of the students.

Met

Met with Conditions

Not Met



Comment:

Standard 4 is met with conditions.
Assessments provide evidence for this standard and address candidates' knowledge of socially important issues specific to science, and they do address the candidates' ability to engage students successfully in the analysis of problems.

Assessment 3 data need to be disaggregated by element.

Standard 5. General Skills of Teaching. Teachers of science create a community of diverse learners who construct meaning from their science experiences and possess a disposition for further exploration and learning. They use, and can justify, a variety of classroom arrangements, groupings, actions, strategies, and methodologies. To show that they are prepared to create a community of diverse learners, teachers of science must demonstrate that they:

- (a) vary their teaching actions, strategies, and methods to promote the development of multiple student skills and levels of understanding;
- (b) successfully promote the learning of science by students with different abilities, needs, interests, and backgrounds;
- (c) successfully organize and engage students in collaborative learning using different student group learning strategies;
- (d) successfully use technological tools, including but not limited to computer technology, to access resources, collect and process data, and facilitate the learning of science;
- (e) understand and build effectively upon the prior beliefs, knowledge, experiences, and interests of students;
- (f) create and maintain a psychologically and socially safe and supportive learning environment.

Met

Met with Conditions

Not Met



Comment:

curriculum that is consistent with the goals and recommendations of the National Science Education Standards. They begin with the end in mind and effectively incorporate contemporary practices and resources into their planning and teaching. To show that they are prepared to plan and implement an effective science curriculum, teachers of science must demonstrate that they:

- (a) understand the curricular recommendations of the National Science Education Standards, and can identify, access, and/or create resources and activities for science education that are consistent with the standards;
- (b) plan and implement internally consistent units of study that address the diverse goals of the National Science Education Standards and the needs and abilities of students.

Met

Met with Conditions

Not Met



Comment:

Standard 6 is met with conditions.

Evidence demonstrates that candidates understand state curricular requirements as well as curricular recommendations of the National Science Education Standards and can plan accordingly using science standards-based resources and activities.

Assessment 3 data need to be disaggregated by element.

Standard 7. Science in the Community. Teachers of science relate their discipline to their local and regional communities, involving stakeholders and using the individual, institutional, and natural resources of the community in their teaching. They actively engage students in science-related studies or activities related to locally important issues. To show that they are prepared to relate science to the community, teachers of science must demonstrate that they:

- (a) identify ways to relate science to the community, involve stakeholders, and use community resources to promote the learning of science;
- (b) involve students successfully in activities that relate science to resources and stakeholders in the community or to the resolution of issues important to the community.

Met

Met with Conditions

Not Met



Comment:

Standard 7 is met with conditions. Assessment 3 is properly aligned but does not provide adequate evidence for meeting this standard.

Assessment 3 data need to be disaggregated by element.

Standard 8. Assessment. Teachers of science construct and use effective assessment strategies to determine the backgrounds and achievements of learners and facilitate their intellectual, social, and personal development. They assess students fairly and equitably, and require that students engage in ongoing self-assessment. To show that they are prepared to use assessment effectively, teachers of science must demonstrate that they:

- (a) use multiple assessment tools and strategies to achieve important goals for instruction that are aligned with methods of instruction and the needs of students;
- (b) use the results of multiple assessments to guide and modify instruction, the classroom environment, or

the assessment process;

(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.

Met



Met with Conditions



Not Met



Comment:

Standard 8 is met with conditions.

Assessment 3 is properly aligned but does not provide adequate evidence for meeting this standard.

Assessment 3 data need to be disaggregated by element.

Standard 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:

(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.

(b) know and practice safe and proper techniques for the preparation, storage, dispensing, supervision, and disposal of all materials used in science instruction;

(c) know and follow emergency procedures, maintain safety equipment, and ensure safety procedures appropriate for the activities and the abilities of students;

(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.

Met



Met with Conditions



Not Met



Comment:

Standard 9 is met.

Assessments 4 and 6 are properly aligned with and provide adequate evidence for meeting this standard.

Standard 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:

(a) Engage actively and continuously in opportunities for professional learning and leadership that reach beyond minimum job requirements;

(b) reflect constantly upon their teaching and identify ways and means through which they may grow professionally;

(c) use information from students, supervisors, colleagues and others to improve their teaching and facilitate their professional growth;

(d) interact effectively with colleagues, parents, and students; mentor new colleagues; and foster positive relationships with the community.

Met



Met with Conditions



Not Met



Comment:

PART C - EVALUATION OF PROGRAM REPORT EVIDENCE

C.1. Candidates' knowledge of content

The program's use of Assessments 1 and 2 provides sufficient (partial) evidence that candidates understand the content in their subject area(s).

C.2. Candidates' ability to understand and apply pedagogical and professional content knowledge, skills, and dispositions

Data from Assessments 3 (Unit Plan), 4 (Student Teaching Evaluation), and 6 (Safety) provide primary evidence of candidate professional and pedagogical knowledge and skills. Assessment 3 data need to be disaggregated by element.

C.3. Candidate effects on P-12 student learning

Evidence was provided that the program's candidates are positively impacting P-12 student learning in the areas of science content, nature of science, inquiry, and issues in science.

PART D - EVALUATION OF THE USE OF ASSESSMENT RESULTS

Evidence that assessment results are evaluated and applied to the improvement of candidate performance and strengthening of the program (as discussed in Section V of the program report)

No indication that the program uses diverse sources of data as the basis for making changes in the program.

PART E - AREAS FOR CONSIDERATION

Areas for consideration

Assessment 3 data need to be disaggregated by element.

No indication is apparent that the program uses diverse sources of data as the basis for making changes in the program.

PART F - ADDITIONAL COMMENTS

F.1. Comments on Section I (Context) and other topics not covered in Parts B-E:

To be Nationally Recognized, the program must meet the following condition: data from Assessment 3 must be disaggregated by element.

F.2. Concerns for possible follow-up by the Board of Examiners:

PART G - DECISIONS

Please select final decision:

- National Recognition with Conditions.** The program will be listed as nationally recognized on websites and/or other publications of the SPA and NCATE. The institution may designate its program as nationally recognized by NCATE, through the time period specified below, in its published materials. National recognition is dependent upon NCATE accreditation.

NATIONAL RECOGNITION WITH CONDITIONS

The program is recognized through:

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08 / 01 / 2016

Subsequent action by the institution: To retain national recognition, a report addressing the conditions to recognition must be submitted in accordance with the instructions below. The program has **up to two opportunities** to address conditions. If the program is submitting a Response to Conditions Report **for the first time**, the possible deadlines for submitting that report are 9/15/14, 3/15/15, 9/15/15, or 3/15/16. *Note that the opportunity to submit a second Response to Conditions report (if needed), is only possible if the first Response to Conditions report is submitted on or before the 9/15/15 submission deadline; however, the program should NOT submit its Response to Conditions until it is confident that it has addressed all the conditions in Part G of this recognition report.*

If the program is currently Recognized with Conditions and is submitting a **second** Response to Conditions Report, the next report must be submitted by the date below. Failure to submit a report by the date below will result in loss of national recognition.

MM DD YYYY
03 / 15 / 2016

The following conditions must be addressed within 18 months (or within the time period specified above if the program's recognition with conditions has been continued). See above for specific date.

Data from Assessment 3 must be disaggregated by element.

No indication is apparent that the program uses diverse sources of data as the basis for making changes in the program.

Please click "Next"

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