

NATIONAL RECOGNITION REPORT

Initial Preparation of Science Teachers

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

Arkansas State University

Date of Review

MM DD YYYY

02 / 01 / 2010

This report is in response to a(n):

- Initial Review
- Revised Report
- Response to Conditions Report

Program Covered by this Review

Dual License: Chemistry/Earth; Biology/Earth; Physics/Earth

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

- jn No
- jn Not applicable
- jn Not able to determine

Comment:

Summary of Strengths:

The program is to be commended for making significant changes. The report indicated that teamwork from across disciplines was essential.

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
jn	jn	jn

Comment:

Assessments 3 and 5 indicate that unifying concepts are to be assessed and unifying concepts are included as part of the scoring rubrics. Assessment 7 has been modified to demonstrate inclusion of items 1d and 1e. Data have been provided to support this evaluation of candidate work.

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
j _n	j _n	j _n

Comment:

Assessment 3 addresses 2a, but no data are provided. Assessment 4 addresses 2a, 2b, and 2c in the addendum, but no data are included. The program is encouraged to include data from these assessments in future reports.

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
j _n	j _n	j _n

Comment:

Revisions to the Assessment 3 rubric show that Standards 3a and 3b are to be assessed; however, no data are provided to demonstrate how candidates perform on the assessment. Assessment 4 addresses 3a and 3b in the addendum, but data are not provided as evidence of candidate performance. Assessment 5 mentions 3b in the description but has been omitted from the rubric. The program is encouraged to include data from these assessments in future reports.

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
j _n	j _n	j _n

Comment:

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
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comment:

Standard 6. Curriculum. Teachers of science plan and implement an active, coherent, and effective 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
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comment:

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

jn

jn

jn

Comment:

Assessment 3 is specific to science. It addresses candidates' knowledge and ability to identify ways to relate science to the community, involve stakeholders, and use the resources to promote the learning of science and involve students successfully.

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

jn

jn

jn

Comment:

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

jn

jn

jn

Comment:

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
jn	jn	jn

Comment:

PART C - EVALUATION OF PROGRAM REPORT EVIDENCE

C.1. Candidates' knowledge of content

Assessments 3 and 4 address Standards 1, 2, 3, and 4, but no data are provided as evidence. Assessment 5 mentions 2c in the description but does not specifically addresses it in the rubric. Assessment 5 mentions many of the standards in the description but does not specifically address them in the rubric. Assessment 7 addresses Standards 1d and 1e.

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

Assessment 4 adequately addresses these issues.

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

Assessment 5 provides evidence that candidates have a positive impact on student learning.

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)

Evidence of the use of assessment results is presented, and program improvements are evident.

PART E - AREAS FOR CONSIDERATION

Areas for consideration

None.

PART F - ADDITIONAL COMMENTS

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

None.

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

None.

PART G -DECISIONS

Please select final decision:

- Program is nationally recognized. The program is recognized through the semester and year of the institution's next NCATE accreditation decision in 5-7 years. To retain recognition, another program report must be submitted before that review. The program will be listed as nationally recognized through the semester of the next NCATE accreditation decision on websites and/or other publications of the SPA and NCATE. The institution may designate its program as nationally recognized by NCATE, through the semester of the next NCATE accreditation decision, in its published materials. National recognition is dependent upon NCATE accreditation. *Please note that once a program has been nationally recognized, it may not submit a revised report addressing any unmet standards or other concerns.*

Please click "Next"

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