

2012 NATIONAL RECOGNITION REPORT

Initial Preparation of Science Teachers (2012 Standards)

National 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

Kutztown University of Pennsylvania

Date of Review

MM DD YYYY

08 / 01 / 2017

This report is in response to a(n):

- Initial Review
- Revised Report
- Response to Conditions Report

Program Covered by this Review

Science Education Baccalaureate

Grade Level⁽¹⁾

7-12

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

Program Type (First Teaching License or Unspecified)

First Teaching License

Title for State License for which candidates are prepared, including science areas licensed to teach ⁽²⁾

Biology (7-12), Chemistry (7-12), Earth and Space Science (7-12), Physics (7-12), General Science (7-12)

(2) i.e., Single Field -Biology; Dual Field -- Biology and Chemistry; Broad Field, Integrated Science, etc.

Award or Degree Level

- Baccalaureate
- Post Baccalaureate
- Master's

PART A - RECOGNITION DECISION

SPA decision on national 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 SPA benchmarked licensure test data requirement, if applicable:

- Yes
- No
- Not applicable
- Not able to determine

Comments, if necessary, concerning Test Results:

Summary of Strengths:

Strengths of Program include:
100% pass rate of the ETS Subject Assessment exams, for the 16 program completers in the past three academic years, each program's coursework exceeds 90% alignment with Content Analysis Form. The assessment system aligns fully with NSTA Standards with candidate data showing that all elements of all standards are met (exceeding preponderance of evidence for all six standards). Furthermore, all "Evidence for Meeting Standards" reports effectively communicate alignment of assessment with NSTA Standards via narrative details organized in a clear table. Exemplary report! The portfolio assignment further exceeds requirements of the standards.

PART B - STATUS OF MEETING SPA STANDARDS

NSTA Standard 1

Effective teachers of science understand and articulate the knowledge and practices of contemporary science. They interrelate and interpret important concepts, ideas, and applications in their fields of licensure.

Preservice teachers will:

1a) Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.

1b) Understand the central concepts of the supporting disciplines and the supporting role of science-specific technology.

1c) Show an understanding of state and national curriculum standards and their impact on the content knowledge necessary for teaching P-12 students.

Met



Met with Conditions



Not Met



Comment:

Assessment 1, state licensure exam, provides evidence that candidates understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association and that more than 80% of the candidates have passed the exam in the past three years. Subscore data (with the mean and range scores) for the most recent year are provided. The program includes a Content Analysis Form (CAF) for Assessment 2 that demonstrates 90% or greater alignment with the 2012 NSTA Standards. The courses for the science major align with the appropriate CAF. Specific levels of achievement (e.g., Target, Acceptable, Unacceptable) levels of achievement are established for these GPA data.

NSTA Standard 2

Effective teachers of science understand how students learn and develop scientific knowledge. Preservice teachers use scientific inquiry to develop this knowledge for all students.

Preservice teachers will:

2a) Plan multiple lessons using a variety of inquiry approaches that demonstrate their knowledge and understanding of how all students learn science.

2b) Include active inquiry lessons where students collect and interpret data in order to develop and communicate concepts and understand scientific processes, relationships and natural patterns from empirical experiences. Applications of science-specific technology are included in the lessons when appropriate.

2c) Design instruction and assessment strategies that confront and address naive concepts/preconceptions.

Met



Met with Conditions



Not Met



Comment:

Assessment 3, Unit Plan, provides evidence that candidates can plan multiple lessons that demonstrate their understanding of how students learn science, that actively engage students in inquiry using science-specific technology where appropriate, and that confront and address students' naive concepts/preconceptions about science.

NSTA Standard 3

Effective teachers of science are able to plan for engaging all students in science learning by setting appropriate goals that are consistent with knowledge of how students learn science and are aligned with state and national standards. The plans reflect the nature and social context of science, inquiry, and appropriate safety considerations. Candidates design and select learning activities, instructional settings, and resources--including science-specific technology, to achieve those goals; and they plan fair and equitable assessment strategies to evaluate if the learning goals are met.

Preservice teachers will design a Unit of Study that:

3a) Use a variety of strategies that demonstrate the candidates' knowledge and understanding of how to select the appropriate teaching and learning activities – including laboratory or field settings and applicable instruments and/or technology- to allow access so that all students learn. These strategies are inclusive and motivating for all students.

3b) Develop lesson plans that include active inquiry lessons where students collect and interpret data using applicable science-specific technology in order to develop concepts, understand scientific processes, relationships and natural patterns from empirical experiences. These plans provide for equitable achievement of science literacy for all students.

3c) Plan fair and equitable assessment strategies to analyze student learning and to evaluate if the learning goals are met. Assessment strategies are designed to continuously evaluate preconceptions and ideas that students hold and the understandings that students have formulated.

3d) Plan a learning environment and learning experiences for all students that demonstrate chemical safety, safety procedures, and the ethical treatment of living organisms within their licensure area.

Met



Met with Conditions



Not Met



Comment:

Assessment 3, Unit Plan, provides evidence that candidates can implement a variety of teaching strategies that are inclusive and motivating (3a) and that illustrate active inquiry strategies to help students understand scientific processes and develop their science literacy (3b). Assessment 3 also demonstrates that candidates implement fair and equitable assessment strategies (3c) and that the learning environment and experiences are safe and appropriate for their licensure area (3d).

NSTA Standard 4

Effective teachers of science can, in a P-12 classroom setting, demonstrate and maintain chemical safety, safety procedures, and the ethical treatment of living organisms needed in the P-12 science classroom appropriate to their area of licensure.

Preservice teachers will:

4a) Design activities in a P-12 classroom that demonstrate the safe and proper techniques for the preparation, storage, dispensing, supervision, and disposal of all materials used within their subject area science instruction.

4b) Design and demonstrate activities in a P-12 classroom that demonstrate an ability to implement emergency procedures and the maintenance of safety equipment, policies and procedures that comply with established state and/or national guidelines. Candidates ensure safe science activities appropriate for the abilities of all students.

4c) Design and demonstrate activities in a P-12 classroom that demonstrate ethical decision-making with respect to the treatment of all living organisms in and out of the classroom. They emphasize safe, humane, and ethical treatment of animals and comply with the legal restrictions on the collection, keeping, and use of living organisms.

Met



Met with Conditions



Not Met



Comment:

Assessment 4, Student Teaching Observation Form, provides evidence that candidates demonstrate proper chemical and materials safety (4a), use of safety procedures (4b), and ethical treatment of living organisms (4c) in P-12 classroom settings and in a manner appropriate for their area(s) of licensure.

NSTA Standard 5

Effective teachers of science provide evidence to show that P-12 students' understanding of major science concepts, principles, theories, and laws have changed as a result of instruction by the candidate and that student knowledge is at a level of understanding beyond memorization. Candidates provide evidence for the diversity of students they teach.

Preservice teachers will:

5a) Collect, organize, analyze, and reflect on diagnostic, formative and summative evidence of a change in mental functioning demonstrating that scientific knowledge is gained and/or corrected.

5b) Provide data to show that P-12 students are able 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.

5c) Engage students 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:

Assessment 5, Evidence of P-12 Student Learning, provides evidence that candidates demonstrate the impact of their instruction on P-12 students' scientific knowledge (5a), ability to understand aspects of the nature of scientific practices (5b), and use of scientific inquiries (5c).

NSTA Standard 6

Effective teachers of science strive continuously to improve their knowledge and understanding of the ever changing knowledge base of both content, and science pedagogy, including approaches for addressing inequities and inclusion for all students in science. They identify with and conduct themselves as part of the science education community.

Preservice teachers will:

6a) Engage in professional development opportunities in their content field such as talks, symposiums, research opportunities, or projects within their community.

6b) Engage in professional development opportunities such as conferences, research opportunities, or projects within their community.

Met



Met with Conditions



Not Met



Comment:

Assessment 6, Evidence of Professional Knowledge and Skills, provides evidence that candidates engage in professional development both within their content area (6a) and within science pedagogy (6b).

PART C - EVALUATION OF PROGRAM REPORT EVIDENCE

C.1. Candidates' knowledge of content

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

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

Data from Assessments 3 (Unit Plan), 4 (Student Teaching Observation Form), and 6 (Professional Knowledge and Skills) provide primary evidence of candidate professional and pedagogical knowledge and skills.

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 all elements of Standard 5.

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)

Section V Narrative provides clear indication that the program leaders use diverse sources of data as the basis for analysis and improvement in the program.

PART E - AREAS FOR CONSIDERATION

Areas for consideration

Assessment system is well-aligned with all elements of all NSTA Standards.

PART F - ADDITIONAL COMMENTS

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

F.2. Concerns for possible follow-up by the CAEP site visitors:

PART G -DECISIONS

Please select final decision:

-  National Recognition. The program is recognized through the semester and year of the provider's next CAEP accreditation decision in 5-7 years. The Recognition Report will serve as program level evidence for the accreditation cycle it has been initiated. To retain recognition and to gather new evidence for the next accreditation cycle, another program report must be submitted mid-cycle 3 years in advance of the next scheduled accreditation visit. The program will be listed as Nationally Recognized through the semester of the next CAEP accreditation decision on websites and/or other publications of the SPA and CAEP. The institution may designate its program as Nationally Recognized by the SPA, through the semester of the next CAEP accreditation decision, in its published materials. National recognition is dependent upon CAEP accreditation. Please note that once a program has been Nationally Recognized, it may not submit another report addressing any unmet standards or other concerns cited in the recognition report.

Please click "Next"

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