

**ASSOCIATION REPORT AND RECOMMENDATIONS**

**Professional Organization:** National Science Teachers Association

**Institution Submitting Program:** Loyola College **State:** Maryland **Date of Review:** 11/17/00

**Program Degree Level:** Undergraduate and graduate, **Licensure Areas:** (Secondary Science), chemistry, Biology, Physics

**SUMMARY OF THE PROGRAM:**

The secondary science program at Loyola College is not recommended by the NSTA for national recognition. The content preparation is strong and well designed, but the report does not address applications in teaching and is not sufficiently specific about the requirements and assessments in the professional program. The report deals with disciplinary preparation and little with pedagogical preparation and outcomes. Standards not met includes those for nature of science, inquiry, context of science, skills of teaching, curriculum, social context, assessment classroom environment and professional practice. Standards for content preparation are met, but weakness are apparent in these standards that must be addressed. No performance data were provided (nor expected at this time) showing candidates are prepared in relation to the standards, a weakness that must be addressed by the next review.

**Rating Systems:**

**For Program(s)**

*Recommended for Recognition:* The Association feels candidates are prepared in relation to the NSTA standards, but weaknesses may be noted in relation to the standards that must be addressed in subsequent reviews. For the Fall 2000 review, the assessment focuses on experiences that prepare candidates, rather than assessment data. Assessment data must be reported for all standards in the next review in five years for a continuing recommendation.

*Not Recommended for Recognition.* Candidates are not acceptably prepared in relation to the NSTA standards. The program has one or more serious weaknesses in relation to the requirements of the standards that need to be remedied before any positive recommendation can be made OR insufficient information has been provided to complete the review.

**For Individual Program Standards**

*Met.* Candidates have adequate to good preparation given the experiences and data provided. Weaknesses in relation to the standard may still exist. Progress must be demonstrated toward removing identified weaknesses in a rejoinder or in subsequent reviews. As of Fall 2000, performance data are not required but will be required in subsequent reviews for a standard to continue to be met.

*Not Met.* Candidates are not shown to be prepared in relation to the standard and may not be presumed to have an acceptable level of expertise based on the information provided. More information may be needed OR there are serious weaknesses in the program.

### **General Criteria for Acceptable Data**

For Fall 2000 reviews, decisions are made, as they have been in the past, on the quality of the experiences provided to candidates. It is likely some performance data can be provided for some standards, but performance data are not expected or required. Lack of performance data will be cited as a weakness in each standard to which it applies, but will not at this time affect the decision on whether the standard is met or not met. Data provided in relation to each standard must show clearly that (a) experiences are planned, required elements of the program; (b) appropriate and equivalent experiences are required of all candidates in the program across disciplines; (c) experiences can provide data validating level or preparation; and (d) experiences address both preparation of and planning by candidates and performance with students where the latter is appropriate.

### **Critiques**

#### **General Weaknesses of the Program**

- The report identifies courses rather than specific experiences except where courses are experiences.
- Experiences and assessments are not aligned.
- Content knowledge is not well related to knowledge of teaching.
- Assessments are vague and poorly defined
- The program focuses on experience provided by the program rather than performances of candidates.
- The program does not show that candidates are acceptably prepared in relation to all dimensions using performance data.

#### **Rationale: NO RATING.**

To adequately review the Rationale, the separate Knowledge base section was included in the assessment.

Based on this review, no specific weaknesses are noted

#### **Standard 1, Content: Met**

Based on this review, no specific weaknesses are noted

#### **Standard 2, Nature of Science: Not Met**

- Participation in science courses per se is assumed to lead to understanding of the nature of science.
- The ability to conduct inquiry is assumed to result in knowledge of the nature of science.
- There is no planned program component addressing knowledge of the nature of science.
- Candidates are not shown to understand the nature of science.
- Candidates are not shown to successfully address the nature of science with students.

**Standard 3, Inquiry: Not Met**

There is evidence that the program goes well beyond traditional validation laboratories and involves students in inquiry based experiences. However,

- There is no evidence that candidates are effectively prepared to use inquiry.
- There is no evidence that candidates can actually engage students in inquiry at an acceptable level.

**Standard 4, Context of Science: Not Met**

With the exception of biology:

- There is no evidence that context is addressed as a planned part of the program.
- Candidates are not shown to be prepared to teach science in social, technological and personal contexts.
- Candidates are not shown to be able to engage students effectively in study of the context of sciences.

**Standard 5, Skills of Teaching: Not Met**

Even though DEDU437, Methods of Teaching Science in Secondary Schools syllabus is included on page 128, no reference is given in the matrix. This leads reviewers to question whether the education and content preparation program components are effectively communicating. Further more, the methods syllabus is a 1998 copy from the College of Notre Dame. No affiliation is provided. As a result:

- Candidates are not shown to be able to vary experiences to meet the needs of diverse learners.
- Candidates are not shown to possess or effectively use knowledge of pedagogy in the context of science.
- No relationship is demonstrated between candidate actions and learning by students.
- There is little or no evidence that candidates are effective in promoting science learning and achievement.
- There is little or no evidence that candidates can use advanced technologies (including but not limited to computers) for teaching science.

**Standard 6, Curriculum: Not Met**

An extended curriculum framework to help students establish goals and plan for instruction is absent. As a result,

- Candidates are not prepared to align instruction with state and national standards or address contemporary goals of science education.
- Candidates are not shown to be able to plan and implement instruction to meet the diverse abilities, needs and interests of students.
- No evidence is presented that candidates can plan and implement instruction using contemporary resources.

**Standard 7, Social Context: Not Met**

- Candidates are not shown to be able to relate science to the community.
- Candidates are not shown to use community resources effectively in teaching.

**Standard 8, Assessment: Not Met**

- No evidence that candidates effectively plan and use diverse assessment strategies with students.
- Assessment strategies are not contemporary.
- Assessment strategies are generic and do not cover the dimensions of the science experience.
- No evidence that candidates use assessment outcomes to plan or change instruction.

**Standard 9 Environment for Learning: Not Met**

- Candidates are not shown to develop and maintain an effective environment for learning science.
- Candidates are not prepared in sufficient depth to manage safety in the classroom, storage areas and field.
- Candidates are not monitored or assessed in their management of safety in K-12 classroom setting.
- Candidates are not prepared in sufficient depth to manage the ethical care and treatment of living organisms in the K-12 classroom.

**Standard 10, Professional Practice: Not Met**

- Candidates are not shown to participate in professional activities outside of the classroom.
- Candidates are not monitored for behaviors in keeping with the best interests of students and the profession.
- No evidence of reflection on practice.

**Summary and Goals: (NO RATING)**

- No data collected from diverse sources as the basis for making changes in the program.
- No changes made based on analysis of data and other sources.
- No goals or goals are poorly defined or stated tentatively.
- No clear plan or timeline for improvement.

**REJOINDERS:** A rejoinder may be filed with NCATE if you feel additional information may result in a change in one or more ratings or removal of weaknesses. Please include a clarification directly addressing the review *and all supporting evidence* needed for the reassessment. *Do not refer to previous folios.* Please do not send a rejoinder unless explanations support a case for changing the rating(s). **Three copies of a rejoinder are needed.**