



THE STATE EDUCATION DEPARTMENT / THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234

To: Higher Education Committee

From: Joseph P. Frey

Subject: Emergency Adoption of Proposed Regulations to Allow Individuals with Advanced Degrees in Science, Technology, Engineering, and Mathematics and Related Teaching Experience at the Postsecondary Level to Obtain a Teaching Certificate in Earth Science, Biology, Chemistry, Physics, Mathematics or in a Closely Related Field

Date: November 28, 2010

Authorizations:

### **SUMMARY**

#### **Issue for Decision**

Should the Board of Regents adopt as an emergency measure the proposed amendment to allow individuals with advanced degrees in Science, Technology, Engineering and Mathematics (STEM) and related teaching experience at the postsecondary level to obtain a teaching certificate in Earth Science, Biology, Chemistry, Physics, Mathematics or in a Closely Related Field?

#### **Reason(s) for Consideration**

Review of policy.

#### **Proposed Handling**

The proposed amendment is submitted to the Higher Education Committee for adoption as an emergency measure at its December 2010 meeting.

#### **Procedural History**

At the September 2010 meeting, the Board of Regents approved the conceptual framework to allow college faculty with an advanced degree in STEM subjects and related teaching experience at the postsecondary level to become certified in STEM related subject areas.

## Background Information

Supply and demand data has shown that in many regions of New York there is a shortage of certified teachers in the areas of science, technology, and mathematics. To address this issue, the proposed regulations have been developed to create an expedited pathway for individuals with advanced degrees in STEM and related teaching experience at the postsecondary level to become certified teachers in the STEM subject areas.

The proposed amendment ensures that individuals prepared through the expedited pathway are effective teachers through rigorous admission requirements and additional pedagogical study:

### Admission Requirements:

- Graduate degree or higher in the STEM areas;
- Graduate major in the subject or a closely related subject area of the certificate sought; and
- At least two years of satisfactory teaching experience at the postsecondary level in the certificate area to be taught or in a closely related subject area.

### Pedagogical Study:

- The candidate shall complete at least six credits of undergraduate pedagogical core study or four credits of graduate pedagogical study for the initial certificate in the area of the candidate's certificate; and
- The pedagogical core study shall include study in the methods of teaching in the certificate area, teaching students with disabilities; curriculum and lesson planning aligned with the New York State Learning Standards; and classroom management and teaching at the developmental level of students to be taught.

Candidates who have not completed the coursework but who have met all the other admission requirements may be awarded a Transitional G certificate which will allow the candidate to teach in the public schools of the State for a year while they are completing the required pedagogical study for an initial certificate.

Enactment of these emergency regulations does not preclude consideration of additional input and comments from the field. Following action by the Board of Regents, a Notice of Proposed Rule Making will be published in the State Register on December 8, 2010. There will be a 45-day public comment period on the proposed regulations. Such comment may warrant amendments to the regulatory language prior to confirmation as a permanent rule. However, it is critical that the Board of Regents adopt the proposed regulations now to address the shortage of certified teachers in the science, technology, and mathematics certification areas. A statement of facts and circumstances justifying the emergency action is attached.

## Recommendation

VOTED: That a new subparagraph (xviii) be added to paragraph (3) of subdivision (b) of section 52.21; a new paragraph (45) of subdivision (b) be added to Section 80-1.1; that subparagraph (i) of paragraph (2) of subdivision (a) of section 80-3.3 be amended; that clause (c) of subparagraph (ii) of paragraph (3) of subdivision (a) of section 80-3.7 be amended and a new section 80-5.22 is added to the Regulations of the Commissioner of Education, effective December 17, 2010, as an emergency action upon a finding by the Board of Regents that such action is necessary to protect the general welfare of the public to address the demonstrated shortage of certified teachers in science, mathematics and related certification areas in grades 5-9 and 7-12.

## Timetable for Implementation

If adopted as an emergency measure at the December Regents meeting, the proposed amendment will become effective on December 17, 2010. A second emergency adoption will be necessary at the February 2011 Regents meeting to ensure that the regulations remain continuously in effect until the regulation becomes effective as a permanent rule in March 2011.

AMENDMENT TO THE REGULATIONS OF THE COMMISSIONER OF EDUCATION

Sections 207, 305, 3001, 3004 and 3006 of the Education Law.

1. A new subparagraph (xviii) is added to paragraph (3) of subdivision (b) of section 52.21 of the Regulations of the Commissioner of Education, effective December 17, 2010, to read as follows:

(xviii) Alternative teacher certification program leading to initial and professional certificates in certain subject areas (grades 5-9) or (grades 7-12), for individuals with advanced degrees in either science, technology, engineering or mathematics and teaching experience at the post-secondary level.

(a) The general requirements in subparagraphs (2) (i) and (iv) of this subdivision shall be applicable. The other requirements of paragraph (2) of this subdivision shall not be applicable.

(b) The program shall meet the requirements in each of the following subclauses:

(1) Admission requirements.

(i) The program shall require candidates to hold a graduate or higher degree in science, technology, engineering or mathematics from a regionally accredited institution of higher education or from an institution authorized by the Board of Regents to confer degrees. Candidates shall have achieved a 3.0 cumulative grade point average, or its equivalent, in the program leading to the graduate or higher degree.

(ii) Candidates for a certificate in the classroom teaching service shall have completed a graduate major in the subject of the certificate sought, or in a closely related subject area acceptable to the Commissioner.

(iii) The program shall require candidates to show evidence of at least two years of satisfactory teaching experience at the post-secondary level in the certificate area to be taught or in a closely related subject area acceptable to the Department.

(2) Pedagogical study.

(i) The program shall include at least six credits of undergraduate pedagogical core study or four credits of graduate pedagogical study for the initial certificate in the area of the candidate's certificate, as prescribed for the certificate title in this paragraph, which shall include study in the methods of teaching in the certificate area, teaching students with disabilities; curriculum and lesson planning aligned with the New York State Learning Standards; and classroom management and teaching at the developmental level of students to be taught.

(ii) Candidates enrolled in this program who have met all the requirements in this subparagraph except the pedagogical study requirement in subparagraph (b)(2)(ii) of this subparagraph shall be permitted to teach with a transitional G certificate provided that they meet the prescribed requirements for such a certificate in Part 80 of the Commissioner's regulations. Such candidates must complete the required pedagogical study in (b)(2)(ii) of this subparagraph before completion of their first school year of teaching under the transitional G certificate.

2. A new paragraph (45) of subdivision (b) is added to Section 80-1.1 of the Regulations of the Commissioner of Education, effective December 17, 2010, to read as follows:

(45) Transitional G certificate means the first teaching certificate obtained by a candidate who holds an appropriate graduate or higher degree in science, technology, engineering or mathematics and has two years of acceptable experience teaching in a post-secondary institution and is enrolled in an alternative teacher certification program pursuant to section 52.21(b)(3)(xviii) of the Commissioner's regulations or is enrolled in pedagogical study as prescribed under section 80-3.7(a)(3)(ii)(c)(iii), that qualifies that individual to teach in the public schools of New York State, subject to the requirements and limitations of this Part, and excluding the provisional certificate, initial certificate, internship certificate, conditional initial certificate, transitional A certificate, transitional B certificate and transitional C certificate.

3. Subparagraph (i) of paragraph (2) of subdivision (a) of section 80-3.3 of the Regulations of the Commissioner of Education is amended, effective December 17, 2010, to read as follows:

(i) [The] (a) Except as otherwise provided in subdivision (b) of this section, the candidate shall submit evidence of having achieved a satisfactory level of performance on the New York State Teacher Certification Examination liberal arts and sciences test, written assessment of teaching skills, and content specialty test(s) in the area of the certificate, except that a candidate seeking an initial certificate in the title of Speech and Language Disabilities (all grades) shall not be required to achieve a satisfactory level of performance on the content specialty test.

(b) Examination requirement for candidates with a graduate or higher degree in science, technology, engineering or mathematics and two years of post-secondary teaching experience in the area of the certificate sought. Any candidate seeking an initial certificate in earth science, biology, chemistry, physics, mathematics or in a closely related field as determined by the Department in (grades 5-9) or (grades 7-12) and who has completed a program registered by the department pursuant to section 52.21(b)(3)(xviii) of the Commissioner's regulations or who is seeking an initial certificate through individual evaluation under section 80-3.7(a)(3)(ii)(c)(iii) shall not be required to achieve a satisfactory level of performance on the written assessment of teaching skills examination or the content specialty test.

4. Clause (c) of subparagraph (ii) of paragraph (3) of subdivision (a) of section 80-3.7 of the Regulations of the Commissioner of Education is amended, effective December 17, 2010, to read as follows:

(c) For candidates with a graduate or higher degree in science, technology, engineering or mathematics and two years of postsecondary teaching experience in the certificate area to be taught or in a closely related subject area acceptable to the Department, who apply for a

certificate or license on or after February 2, 2011 in earth science, biology, chemistry, physics, mathematics or a closely related field, the candidate shall not be required to meet the general requirements in paragraph (2)(iii)(iv) or (v) of subdivision (a) of this section. However, the candidate shall meet the following requirements:

(i) Degree completion. The candidate shall possess a graduate or higher degree in science, technology, engineering or mathematics from a regionally or nationally accredited institution of higher education, a higher education institution that the Commissioner deems substantially equivalent, or from an institution authorized by the Board of Regents to confer degrees and whose programs are registered by the Department. The candidate shall have achieved a 3.0 cumulative grade point average, or its equivalent, in the program leading to the graduate or higher degree. The candidate shall have completed a graduate major in the subject of the certificate sought, or in a related field approved by the department for this purpose.

(ii) Post-secondary teaching experience. The program shall require candidates to show evidence of at least two years of satisfactory teaching experience at the post-secondary level in the certificate area to be taught or in a closely related subject area acceptable to the Department.

(iii) Pedagogical study. The candidate shall complete at least six credits of undergraduate pedagogical core study or four credits of graduate pedagogical study for the initial certificate in the area of the candidate's certificate, as prescribed for the certificate title in this paragraph, which shall include study in the methods of teaching in the certificate area, teaching students with disabilities; curriculum and lesson planning aligned with the New York State Learning Standards; and classroom management and teaching at the developmental level of students to be taught.

5. Section 80-5.22 of the Regulations of the Commissioner is added, effective December 17, as follows:

§80-5.22 Transitional G certificate for career changers and others holding a graduate or higher degree in science, technology, engineering or mathematics and with at least two years of acceptable post-secondary teaching experience.

(a) General requirements.

(1) Time validity. The transitional G certificate shall be valid for one year.

(2) Limitations. The transitional G certificate shall authorize a candidate to teach only in a school district for which a commitment for employment has been made. In addition, it shall only be valid as long as the candidate is enrolled in study at an institution of higher education to complete the pedagogical study requirements for an initial certificate in this subject area, unless the candidate has completed such study.

(b) The candidate shall meet the requirements in each of the following paragraphs:

(1) Education. A candidate shall hold a graduate or higher degree in science, technology, engineering or mathematics from a regionally or nationally accredited institution of higher education, a higher education institution that the Commissioner deems substantially equivalent, or from an institution authorized by the Board of Regents to confer degrees. A candidate shall complete study in the means for identifying and reporting suspected child abuse and maltreatment, which shall include at least two clock hours of coursework or training in the identification and reporting of suspected child abuse or maltreatment in accordance with the requirements of section 3004 of the Education Law. In addition, the candidate shall complete at least two clock hours of coursework or training in school violence prevention and intervention, as required by section 3004 of the Education Law, which is provided by a provider approved or deemed approved by the Department pursuant to Subpart 57-2 of this Title.

(2) Examination. The candidate shall submit evidence of having achieved a satisfactory level of performance on the New York State Teacher Certification Examination liberal arts and sciences test.



(3) Pedagogical study. The candidate shall submit satisfactory evidence of enrollment at an institution of higher education to complete the pedagogical study requirements for an initial certificate, as prescribed in section 52.21(b)(3)(xviii) or section 80-3.7(a)(3)(ii)(c)(iii) of the Commissioner's regulations.

(4) Post-secondary teaching experience. The program shall require candidates to show evidence of at least two years of satisfactory teaching experience at the post-secondary level in the certificate area to be taught or in a closely related subject area acceptable to the Department.

(5) Employment and support commitment. The candidate shall submit satisfactory evidence of having a commitment from a school district of at least one year of employment as a teacher with the school district in the area of the certificate sought, which shall include mentoring and support.

STATEMENT OF FACTS AND CIRCUMSTANCES  
WHICH NECESSITATE EMERGENCY ACTION

Supply and demand data has shown that, in many regions of New York, there is a shortage of certified teachers in the areas of science and mathematics in grades 5-9 and 7-12. To address this issue, the proposed regulations have been developed to create an expedited pathway for individuals with advanced degrees in science, technology, engineering and mathematics and with at least two years of teaching experience at the postsecondary level to become certified teachers in these shortage areas.

The proposed amendment ensures that individuals prepared through the expedited pathway are effective teachers through rigorous admission requirements and additional pedagogical study. To be eligible for the expedited pathway, the candidate must hold a graduate degree or higher in science, technology, engineering or mathematics; have a graduate major in the subject or a closely related subject area of the certificate sought; and have at least two years of satisfactory teaching experience at the postsecondary level in the certificate area to be taught or in a closely related subject area. At this point, the candidate would be eligible to receive a Transitional G teaching certificate, which would authorize the candidate to teach in the public schools of the State for a year while the candidate completes at least six semester hours of undergraduate pedagogical core study or four semester hours of graduate pedagogical study in the area of the candidate's certificate.

Emergency action at the December 2010 Board of Regents meeting is necessary for the preservation of the general welfare to provide teacher education programs with

sufficient notice of the new program registration requirements for this expedited pathway in the science, mathematics and related areas. Emergency action is also needed to address the State's persistent shortages of certified teachers who are qualified to teach in one of the sciences or mathematics at the 5-9 or 7-12 grade level. The proposed amendment is designed to support the Department's continuing efforts to certify a sufficient number of properly qualified candidates to fill the need for science and mathematics teachers in the State's schools. Candidates who meet the requirements of the new Transitional G certificate will be able to serve as teachers in the classroom in these shortage areas immediately.

It is anticipated that the proposed amendment will be presented to the Board of Regents for adoption as a permanent rule at its March 2011 meeting, which is the first scheduled meeting after the expiration of the 45-day public comment period mandated by the State Administrative Procedures Act.