

11-8-1976

## C.B.T.E. Certification Program in Mathematics 7-12 Provisional

The College at Brockport, College Senate

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Routing #376-77

Resolution #3  
1976-1977

C.B.T.E. Program in Mathematics, 7-12

TO: PRESIDENT ALBERT W. BROWN

FROM: THE FACULTY SENATE

Meeting on November 8, 1976

(Date)

RE: \_\_\_\_\_ I. Formal Resolution (Act of Determination)  
\_\_\_\_\_ II. Recommendation (Urging the fitness of)  
\_\_\_\_\_ III. Other (Notice, Request, Report, etc.)

SUBJECT: C.B.T.E. Certification Program in Mathematics 7-12  
Provisional

{see attached}

Signed *Martilu Puthoff* Date Sent 11/8/76

(For the Senate)  
Martilu Puthoff, President, Faculty Senate

TO: THE FACULTY SENATE

FROM: PRESIDENT ALBERT W. BROWN

RE: I. DECISION AND ACTION TAKEN ON FORMAL RESOLUTION

- a. Accepted. Effective Date 12/2/76
- b. Deferred for discussion with the Faculty Senate on \_\_\_\_\_
- c. Inacceptable for the reasons contained in the attached explanation

- II, III. a. Received and acknowledged
- b. Comment:

DISTRIBUTION: Vice-Presidents: *Terry*

Others as identified: *Vigilio, For Sen*

Distribution Date: \_\_\_\_\_

Signed: *Albert W. Brown*  
(President of the College)

Date Received by the Senate: DEC 6 '76

12/2/76

Full  
copy. Passed

COMPETENCY BASED TEACHER EDUCATION CERTIFICATION

PROGRAM IN MATHEMATICS 7 - 12

PROVISIONAL

COVER SHEET

A. Date: September 1, 1976

B. Name of College:  
State University College at Brockport

C. Name of Participating School District:  
Greece Central School District

D. Title of New York State Certificate:  
Mathematics, 7-12

E. Level of Certificate:  
Provisional

F. Degree(s):  
Bachelor of Science  
Bachelor of Arts

G. Anticipated Date of Program Implementation:  
September 1, 1977

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## II. PROGRAM

### A. Analysis and Statement

The program described in this proposal is designed to lead to provisional teacher certification in mathematics, 7-12. The program is competency-based and field oriented. The competency-based format provides an explicit statement of the performances required for certification and the field orientation emphasizes that the knowledge, skills and attitudes assessed will be directly related to classroom practices.

The Skills, Knowledge and Attitudes (SKA) of the Programs were developed by applying the guidelines and recommendations set forth by the Board of Regents and the Association of Mathematics Teachers of New York State.

The Skills, Knowledge and Attitudes (SKA) have been separated into three (3) areas as recommended by AMINYS. The areas are:

1. Mathematics
2. Teaching - Learning Strategies
3. Humanness in Mathematics Classrooms.

The first numeral in the SKA listing will identify the area.

The Regent's Ten Goal statements, which focus on the needs of pupils in the schools, are addressed in the teacher preparation competencies.

The goal of SUC Brockport's Secondary Mathematics CBTE Program is to produce a teacher of mathematics with a broad liberal arts base who is also competent in mathematics and in the teaching of mathematics. In addition to successful completion of specific competencies, each CBTE candidate must complete the requirements for a baccalaureate degree, a major in mathematics and the professional education sequence as determined by the college before being recommended for provisional certification.

WHY?

The competent teacher at the provisional level must have a basic knowledge of algebra, analysis, geometry, and probability and statistics.

The mathematics major with a course in geometry will usually allow the candidate to acquire such competencies. The purpose of the algebra competencies is to understand the structure of finite operations such as addition while the analysis competencies cover the infinitary processes required to better understand the real numbers and other mathematical systems. The geometry competencies cover non-numerical structure and the concept of space relationships while the competencies in probability and statistics enable one to make decisions in the face of uncertainty and to organize data. Currently, the subject of geometry is in a state of change as the transformational approach is being tried. For provisional certification, competency in either the transformational approach or the traditional approach to geometry is sufficient.

Mathematics content competencies will be assessed in specific upper level mathematics courses. (Courses identified by course number)

PROGRAM FOR SECONDARY MATHEMATICS CERTIFICATION

Provisional Certification BA or BS - Mathematics Major (30 hrs. Mathematics)

<u>Algebraic Structure</u>	<u>Analysis Concepts</u>	<u>Concepts of Probability and Statistics (Basic)</u>
Linear Algebra I	Calculus I Calculus II Calculus III	
MIH 425 Modern Algebra I	MIH 457 Real Analysis I	MIH 445 Prob. & Stat. I

AND

<u>Geometric Concepts</u>	
<u>Traditional Approach</u>	<u>Transformational Approach</u>
MIH 432/532 College Geometry	MIH 434/534 Transformational Geometry
	OR

Professional education competencies will be assessed generally in the context of a total classroom situation rather than through completion of a multitude of small discrete acts which demonstrate the SKA necessary in teaching mathematics. A variety of courses to develop broad areas of SKA is required of all students. The competencies to be assessed will encompass those SKA developed within these broad areas, but concentrate on mathematics content and the teaching of mathematics.

Provisional Certification - BA or BS (Mathematics Major)

<u>Knowledge of Pedagogy</u>	<u>Teaching Performance</u>	<u>Rolls and Expectation of Public School Personnel</u>
EDI 322 Methods in Secondary Mathematics	EDI 308 Practicum in Secondary Education	EDI 309 Selected Problems in Secondary Education

Competencies would normally be tested in the courses identified above by course number. In addition students are required to complete PSH 384 - Developmental Psychology and one of the college approved courses in Drug Education (HLS 370, HLS 491, HLS 301) for provisional certification.

B. Requirements for Entrance into the Teacher Education Program

A student must be of Junior status in good standing with the college (minimum of 2.0 index).

C. Expected Skills, Knowledge and Attitudes

The expected Skills, Knowledge and Attitudes for Provisional Certification of Teachers of Secondary School Mathematics are listed in column one on pages 5 through 28.



D. Assessment

The Assessment Procedures, Conditions, and Standards for Provisional Certification of Teachers of Secondary School Mathematics are listed in columns two, three, and four on pages 5 through 28.

MATHEMATICAL COMPETENCIES FOR SECONDARY MATHEMATICS CERTIFICATION (Summary)

Provisional Certification BA or BS - Mathematics Major - (30 hrs. of Mathematics)

<u>Algebraic Structure</u>  Linear Algebra-I  MTH 425 Modern Algebra I	<u>Analysis Concepts</u>  Calculus I Calculus II Calculus III  MTH 457 Real Analysis I	<u>Concepts of Probability and Statistics (Basic)</u>  MTH 445 Probability and Statistics I
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AND

<u>Geometric Concepts</u>		
<u>Traditional Approach</u>  MTH 432/532 College Geometry	OR	<u>Transformational Approach</u>  MTH 434/534 Transformational Geometry

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EDUCATIONAL COMPETENCIES FOR SECONDARY MATHEMATICS CERTIFICATION (Summary)

Provisional Certification BA or BS (Mathematics Major)

<u>Knowledge of Pedagogy</u>  EDI 322 Methods in Secondary Mathematics	<u>Teaching Performance</u>  EDI 308 Practicum in Secondary Education	<u>Roles and Expectations of Public School Personnel</u>  EDI 309 Selected Problems in Secondary Education
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Competencies would normally be tested in the courses identified above by course number. In addition students are required to complete PSR 384 - Developmental Psychology and one of the college approved course in Drug Education (HLS 370, HLS 491, HLS 301) for provisional certification.

E. Student Guidance

Applicants for Provisional Certification in Secondary Mathematics will receive program advisement from both the Department of Mathematics and from the Department of Curriculum and Instruction. Prior to admission to the program, the student will be provided with appropriate college handbooks and with the details of the specific competencies, assessment procedures and assessment criteria of the program as well as information as to how these competencies can be attained. Advisement then takes the role of continuing re-evaluation of the student's progress and recommendations for alternate directions within the general framework of the program, with more intensive advisement and counselling during the professional semester.

A mathematics major declaring an intent to pursue secondary mathematics certification will be assigned a mathematics certification advisor. This faculty member from the mathematics department will help the student plan a program of study to fulfill the requirements for the baccalaureate degree and the major as well as meeting the specific competencies in mathematics. This advisor will keep a record of mathematical competencies completed by the student and will advise the student as to appropriate evaluation procedures.

The Advisement Coordinator for the Department of Curriculum and Instruction will explain the certification requirements of the Program, and the options available within the Program. The Advisement Coordinator will initially counsel the candidate concerning the selection of appropriate course work prior to the professional semester. As soon as feasible, the applicant, with the

Advisement Coordinator

guidance of the Advisement Coordinator, will select an Education Certification Advisor from among the Department of Curriculum and Instruction faculty members designated as Secondary Certification Program Advisors in mathematics education.

The applicant, the Certification Advisors, and the Advisement Coordinator will at all times have an up-to-date record of the applicant's progress in the program.

F. Program Evaluation and Management

1. Procedures for Collecting and Reviewing Information about Student Performance

- a. A record of the student's performance in Methods of Secondary Mathematics will be kept by the college instructor and transmitted to the student's Program Advisor and Advisement Coordinator.

2. Procedures Designed to Facilitate Program Modification

At the end of each college semester, representatives from all parties involved in the preparation of Mathematics teachers, 7-12, for provisional certification will be invited to evaluate the effectiveness of the present competencies and to recommend new ones to be added. Such personnel will include college Mathematics faculty members, college Mathematics Education faculty members, college clinical professors, public school teachers and supervisors, and college undergraduate mathematics certification students. On the basis of recommendations from such representatives,

the program of competency-based education for Secondary Mathematics teachers may be modified by an ad hoc committee of the policy board.

3. Plan for Gathering Information about Applicability of the Required Skills, Knowledge, and Attitudes in the School Setting Covered in F. 2.

III. INVOLVEMENT

A. Rights and Responsibilities of the Interested Parties for Program Implementation.

The parties of this project (the State University of New York, College at Brockport, the Greece Central School District and the Greece Teachers' Association) agree to conduct a Competency-Based Teacher Education Program. The parties herein referred to as the College, the School District, and the Teachers' Association enter into this program fully cognizant of and in accord with the following conditions:

1. All shall fulfill their obligations to the student trainees as their joint and separate responsibilities to train students in the art and science of teaching, to assess their progress, and to evaluate periodically the teacher education program herein described.
2. The college is primarily responsible for the overall education and training of their students, with the School District and the Teachers' Association joining in the professional education and training of said students. For provisional certification, the School District and Teachers' Association are parties to the teacher education program development, performing certain supervisory and counseling functions during the field experiences of the students and sharing with the College the assessment of certain student performances described herein.
3. The members of this consortium -- the College, the School District, and the Teachers' Association -- will form a Policy Board to govern the program.
  - a. Policy Board Function

The Policy Board will assess and evaluate the program as herein described and prescribe changes as they become necessary. The Policy Board has elected the Dean for Social Professions of the State University of New York at Brockport, to act as its

official designee to recommend applicants for provisional certification to the New York State Department of Education.

b. Policy Board Composition

The Policy Board shall consist of two representatives from the College, one representative from each School District, and three representatives from each Teachers' Association. These representatives vote within their respective agencies in matters pertaining to the Policy Board's functions outlined above. A majority vote within the agency dictates the direction of the agency unit. All agencies must agree to changes in governance policy.

4. Students' Rights and Responsibilities

- a. The student is a legal enrollee of the College and as such must comply with the policies and regulations governing student activities and program requirements which are made explicit in college descriptions of program requirements.
- b. The student, when engaged in field experiences at the Cooperating School District, is responsible for regulations formulated by the School District as well as those required by the College.
- c. The student shall not be used regularly by the School Districts or their personnel as sources of paraprofessional or clerical help, nor shall he or she supplant regularly employed teachers of the School Districts.

5. Cooperating Teachers (School District Personnel)

Cooperating teachers volunteer to be assigned as field associates to work with teacher education candidates in guided experiences which are planned to account for the levels of readiness and needs of the teaching candidates. This assignment

shall be in accord with the State University of New York College at Brockport's policies and procedures.

6. The Schools and Colleges

In order to provide close liaison, coordination and continuous feedback as to program objectives, implementation, and assessment, a Site Committee will be formed in each school district where any component of the program is in operation. Such a committee will consist of representatives of the College, representatives of the Teachers' Association, and of the School District Administration. Decisions by the Site Committee are constrained by all directives from the State Education Department and the Policy Board. The role of the Site Committee is to provide decentralized and flexible decision making within general policy limits.

7. College Personnel

College personnel will serve the following functions:

- a. Act as advisors and inform students of program objectives and expectations.
- b. Serve as Clinical Professors on the Site Committees
- c. Serve as Coordinators of Field Experiences and make the necessary arrangements for assigning students to school sites.
- d. Make provisions for the cooperating teachers to receive necessary training related to the guidance, supervision, and evaluation of preservice students.

8. The School District and the College

These parties shall be responsible for orienting students and teachers to this competency-based program and for informing both participating and non-participating teachers about development, implementation, and progress of the programs. The School District and College shall do this only after having consulted with



representatives from the Teachers' Associations.

9. College

The Department of Curriculum and Instruction at the State University of New York College at Brockport will maintain a record-keeping system which will provide data on the progress of the students.

The following letters indicate the full cooperation and involvement in the development of the various aspects of the Competency-Based Teacher Education Program described herein.

