TO: The Academic Senate
FROM: Committee on Instruction and Curriculum (CIC)
SUBJECT: 16-17 CIC 25: Revision request for Foundational-level Mathematics, Single Subject Matter Preparation

PURPOSE: Information to the Academic Senate

ACTION REQUESTED: That the Senate accept the information that the revision request for Foundational-level Mathematics, Single Subject Matter Preparation has been approved by CIC.

BACKGROUND INFORMATION:
The Senate process for approving transformed degree programs for the semester calendar is defined by 14-15 CIC 36. The Graduate Programs Subcommittee of CIC discussed the Foundational-level Mathematics, Single Subject Matter Preparation at its October 12 meeting. It was approved by the subcommittee unanimously with the acknowledgement that some non-substantive changes may occur in the Catalog copy. The proposal may be viewed within Curriculog: the summary is attached as a PDF document per ExCom’s request.
Foundational-level Mathematics, Single Subject Matter Preparation

6. Semester Conversion Request for Approval of New or Revised Graduate Certificate, Credential or Subject Matter Preparation Program

General Catalog Information

***READ BEFORE YOU BEGIN***

Use this form to request a revision to your Graduate certificate, credential, or subject matter preparation program.

*Please turn on Help Text by clicking the Show Help Text icon above this section of the form.*

Select **Program** unless otherwise instructed by APGS

Select PROGRAM

- Program
- Shared Core

**Effective Term:** Fall 2018

**Effective Catalog:** 2018-2019

**Department:** *Department of Mathematics*

**Full and exact title of Certificate, Credential or Subject Matter Preparation:**

- Foundational-level Mathematics, Single Subject Matter Preparation

**Program Description and Admission Requirements:**

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https://csueastbay.curriculog.com/proposal:3227/print
The CSUEB Single Subject Matter Program in Foundational Mathematics includes a variety of courses intended to prepare students for a career as a middle school mathematics teacher. CSUEB’s Single Subject Matter Preparation Program in Foundational Mathematics yields a State Board of Education approved certification. The certification allows a student to waive taking the two required math California Subject Examinations for Teachers (CSETs). If a student subsequently wishes to complete a California Secondary Teaching Credential in Foundational-level Mathematics, in addition to the required mathematics courses, a year of education courses and practice teaching is required. Thirty three semester units are required in the Single Subject Matter Preparation Program in Foundational Mathematics.

Has your program received transformation funding?*

Yes ☐ No ☐

If the program received transformation funding, please summarize the transformative changes made:
Summary of Transformative Changes

The new semester Single Subject Matter Preparation Program in Foundational Mathematics has significantly transformed. This transformation was done with state requirements for subject matter programs clearly in mind. These include both content and pedagogical requirements. The goals of this transformation are to modernize the program to align closely with new state standards; to improve recruitment and retention of future middle school mathematics teachers and to incorporate innovative pedagogy. All content in the Foundational Math Subject Matter Domain requirements are included in the new subject matter program and the California Standards for Mathematical Practice will be met.

Obtaining State Approval: The California Commission on Teacher Credentialing requires documentation which proves that the Single Subject Matter Preparation Program in Foundational Mathematics meets the state standards. A matrix will be developed to provide evidence that the transformed program meets the state content and pedagogy standards. This matrix and a supporting narrative will be submitted to the California Commission on Teacher Credentialing for review. If the program is not approved during the first review then the program will be updated to meet the reviewers’ concerns and new documentation will be resubmitted to obtain approval.

Structural change: Scheduling will be more transparent allowing for better planning and facilitating completion of the program. Additionally, students will complete rigorous courses that were not previously required, such as Calculus II, Introduction to Mathematical Proof, and Modern Geometry.

Content and cognitive change: The subject matter program more clearly includes the transformed outcomes and objectives described below which will be introduced, developed and mastered according to a new curriculum map. These outcomes and objectives are in alignment with the new California Common Core State Standards in Mathematics. These outcomes and objectives will be clearly communicated to students via departmental syllabi and through other department guides and publicity materials.

Transformed Outcomes and Objectives

1) The use of technology for exploration, computation, motivation and
1) The use of technology for exploration, computation, motivation and visualization. Students will be introduced to and asked to use a variety of technological tools: e.g., GeoGebra, Graphing Calculators, Matlab, Mathematica, Maple, etc. Knowledge and facility with technology enhances teaching and learning and has significant benefits after college and beyond the classroom. Experience with these tools will enable the students to enhance learning in their future classrooms.

2) A focus on applications to other fields and within mathematical fields to explore, motivate and illustrate the theory and practice of mathematics and other mathematically-intensive fields. The application of mathematics to ideas and problems in a variety of areas will serve to deepen students’ understanding and appreciation of mathematical theory and also better prepare them for careers after graduation. Knowledge of applications is key to becoming an inspiring middle school mathematics teacher.

The elements of transformation described above are strongly in line with the state standards to prepare future middle school mathematics teachers.

Please read before completing Curricular Requirements Section

Instructions:

Start with the View Curriculum Courses icon directly beneath the Curricular Requirements field. Select the Add Courses button to enter each individual course that will be used in your program. (Note: Include the Course Units in the Course Title (name) field for ease of review by campus committees).

Next select the View Curriculum Schema icon (to the left of the Curriculum Courses icon). Select Add Core to build the headers and requirements for your catalog page (i.e. add headers for Course Requirements, Electives, or subject areas.) Please include total units in core headers.

Preview your catalog chapter by selecting the Preview Curriculum icon.

Core (20 units)

STAT 100 Elements of Statistics and Probability (3)
MATH 120 Precalculus (3)
MATH 340 Modern Geometry (3)
MATH 402 Mathematics for K-8 Educators I (4)
MATH 403 Mathematics for K-8 Educators II (4)
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<tr>
<th>Subject</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>MATH 406</td>
<td>Advanced Study for School Mathematics</td>
<td>3</td>
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<tr>
<td></td>
<td><strong>Extended Study (13 units)</strong></td>
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<tr>
<td>MATH 130</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 131</td>
<td>Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 210</td>
<td>Linear Algebra with Differential Equations</td>
<td>3</td>
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**Total number of units:** 33

**Is this program approved as an online program?**
- Yes [ ]
- No [x]

**If no, is there any pathway in the revised degree that is more than 50% online?**
- Yes [ ]
- No [x]

**Resource implications of the proposed revision, if any:**
- n/a
This program waives the requirement to pass the first two Math CSET exams for the Single Subject Foundational-level Mathematics credential program.

Consultation with other affected departments and programs:

The following department(s) has (have) been consulted and raised no objections:

The following department(s) has (have) been consulted and raised concerns:

Catalog Item Types

<table>
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<tr>
<th>Program Type*</th>
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<tr>
<td>Single Subject Preparation</td>
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Attachments for Foundational-level Mathematics, Single Subject Matter Preparation

This proposal does not have any attachments.