




March 24, 2008

To: Dr. Dan Julius, Vice President Academic Affairs and Research  
UA Systemwide Academic Council

From: Robbie Stell, UAS Provost  25/3/08

Subject: New UAS Programs

The UAS School of Education has developed a new program provided for your review.

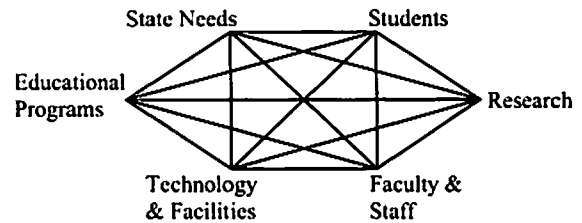
The M.Ed. in Mathematics Education is an advanced degree program for certified teachers who desire a deeper understanding of mathematics and mathematics pedagogy. This program is a logical extension of the Graduate Certificate in Mathematics Education.

This program has been approved through the normal UAS governance process. We are now asking for SAC review. UAS proposes that this proposal be submitted to the Board of Regents for consideration at the April 2008 meeting.

**University of Alaska Board of Regents  
Program Approval Summary Form**

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MAU: University of Alaska Southeast  
School of Education  
Title: M.Ed. Program in Mathematics Education  
Target admission date: Spring 2008



**How does the program relate to the education mission of the University of Alaska?**

The M.Ed. Program in Mathematics Education is an advanced degree program for certified teachers who desire a deeper understanding of mathematics and mathematics pedagogy. It is a logical extension of the Graduate Certificate Program in Mathematics Education. The program will consist of 36 graduate-level credits. Students who obtain the UAS Graduate Certificate in Mathematics Education can earn the M. Ed. by completing five additional 3 credit graduate-level courses, one of which is a graduate-level elective course. The Mathematics Education major joins the family of UAS M. Ed. degrees in Reading, Educational Technology, Early childhood Education and Special Education.

**What state needs are met by this program?**

Mathematics instruction is a high needs area for the nation and the state of Alaska. Standard 4 of the *Standards for Alaska Teachers*, Alaska Department of Education and Early Development (DEED), states, "A teacher knows the teacher's content area and how to teach it." Reports from the Alaska DEED indicate the need for highly qualified teachers in mathematics, during the academic year 2005-2006 35.8% of school classes were taught by teachers who were not highly qualified, and it's Spring 2007 Standards Based Assessment shows 29.9% of Alaska students in grades 5 through 10 were below proficiency in mathematics.

At this time, no M.Ed. Program in Mathematics Education exists in Alaska. The M.Ed. Program in Mathematics Education proposed will help teachers become mathematics education leaders and specialists. It will help the UA system meet its goal and objective to respond to state workforce needs for highly qualified mathematics teachers to meet federal No Child Left Behind guidelines. By emphasizing the application of mathematics to local communities and the cultures therein through connections to local, real-life problems and situations, this program will help teachers provide their students with connections to make mathematics real and increase their understanding.

It also addresses the objective of UA System Goal 2 to develop new and relevant programs that expand the range of degree programs and opportunities to deliver graduate training through distance delivery. It helps meet the goal of the UAS strategic plan of assisting current teacher education practitioners to make progress toward their professional development goals and to respond to the demands of the state and nation by providing teachers with opportunities to obtain graduate degrees in high-need areas.

**What are the student opportunities and outcomes and enrollment projections?**

The student opportunities and program outcomes for certified teachers outlined in the Graduate Certificate in Mathematics Education proposal are relevant to this M.Ed. proposal. There are also career ladder and professional opportunities beyond the classroom that this M.Ed. can provide.

More than half of all newly enrolled students in the Graduate Certificate in Mathematics Education are expected to continue into this M.Ed. program.

**Describe research opportunities:**

The M.Ed. program will help create and establish mathematics teacher-leaders who will help their colleagues become better math teachers by sharing their expertise. These teacher-leaders may pursue research to provide their peers assistance in the development and teaching of mathematics lessons that are tied to their local communities through real-life problems and applications. A strong national interest provides many opportunities to graduates of the M.Ed. in Mathematics Education to share their research, lessons and activities through state, regional and national conferences and publications.

**Describe fiscal plan for development and implementation:**

No additional cost for awarding the M.Ed. in Mathematics Education are expected since this is a logical extension to the current Graduate Certificate Program in Mathematics Education, and the only change is the institutional recognition of program completion.

**Admission Requirements**

Applicants must provide:

- A copy of a current teaching certificate;
- A completed graduate application;
- Official undergraduate/graduate transcripts with a minimum 3.0 GPA; and
- Two letters of recommendation

To successfully graduate from each program, candidates must maintain a GPA of 3.0 and complete the required professional portfolio.

**Course Delivery**

Candidates for the master's degree in mathematics education take one to two courses per semester. The courses are delivered live, asynchronously via the internet.

**Course Sequence**

The first seven courses listed below, 21 credits, are necessary to complete the Graduate Certificate in Mathematics Education. The five additional courses, 15 credits, four required and one elective, listed below must also be completed for the M.Ed. in Mathematics Education.

- ED 608 Mathematical Problem Solving: An Overview for K-8 Teachers (3)
- ED 614 Numeration and Operations: Math Content and Pedagogy for K-8 Teachers (3)
- ED 654 Algebra and Functions: Content and Pedagogy for K-8 Teachers (3)
- ED 655 Geometry and Measurement: Content and Pedagogy for K-8 Teachers (3)
- ED 656 Data Analysis, Statistics, and Probability: Content and Pedagogy for K-8 Teachers (3)
- ED 657 Concepts of Calculus and Trigonometry: Content and Pedagogy for K-8 Teachers (3)
- ED 698 Masters Project or Portfolio (3)

Additional courses for the M.Ed.

- ED 626 Classroom Research (Teacher Research) (3)
- ED 628 Technology in Instructional Design (3)
- ED 658\* Technology for Teaching and Learning Mathematics (3)
- ED 668 Educational Technology Leadership (3)

Additional elective course chosen from:

- ED 616 Math Methods in the K-8 Classroom (3),
- ED 679 Content Area Literacy (3), or
- EDSE 682 Inclusive Education for Students with Disabilities (3)

\*This course is currently under development.

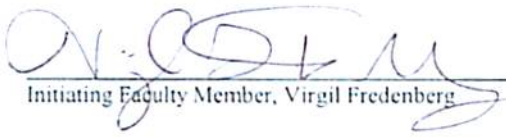


Program or certificate title: **M.Ed in Mathematics Education**

New  degree     certificate *OR*

Program deletion *OR*     Major revision *OR*     To offer existing program outside the state of Alaska

Approval Signatures:

  
Initiating Faculty Member, Virgil Fredenberg

1/28/08  
Date

N/A  
Chair of Faculty Group,

\_\_\_\_\_  
Date

  
Dean, Larry Harris

1-28-08  
Date

  
Faculty Senate President, Cathy Connor

1-29-08  
Date

  
Curriculum or Graduate Committee Chair, Mary Claire Tarlow

1/25/08  
Date

  
Registrar, Barbara Hegel

1/25/08  
Date

  
Provost, Robbie Stell

1-31-08  
Date