Board of Regents Program Action Request  
University of Alaska  
Proposal to Add, Change, or Delete a Program of Study

1a. Major Academic Unit  
(choose one) UAF

1b. School or College  
CNSM

1c. Department  
BIOL

2. Complete Program Title:  Graduate Certificate in Science Teaching and Outreach

3. Type of Program  
☐ Undergraduate Certificate  
☐ AA/AAS  
☐ Baccalaureate  
☐ Post-Baccalaureate Certificate  
☐ Master's  
☒ Graduate Certificate  
☐ Doctorate

4. Type of Action  
☒ Add  
☐ Change  
☐ Delete

5. Implementation date (semester, year)  
Spring, 2014

6. Projected Revenue and Expenditure Summary. Not Required if the requested action is deletion.  
(Provide information for the 5th year after program or program change approval if a baccalaureate or doctoral degree program; for the 3rd year after program approval if a master's or associate degree program; and for the 2nd year after program approval if a graduate or undergraduate certificate. If information is provided for another year, specify (1st) and explain in the program summary attached). Note that Revenues and Expenditures are not always entirely new; some may be current (see 7d.)

Projected Annual Revenues in FY 15  

<table>
<thead>
<tr>
<th>Revenue source</th>
<th>Unrestricted</th>
<th>Restricted</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Fund</td>
<td>$5,648</td>
<td>$60,800</td>
</tr>
<tr>
<td>Student Tuition &amp; Fees</td>
<td>$55,152</td>
<td>TOTAL EXPENDITURES</td>
</tr>
<tr>
<td>Indirect Cost Recovery</td>
<td>$</td>
<td>One-time Expenditures to Initiate Program (if &gt;$250,000)</td>
</tr>
<tr>
<td>TVEP or Other (specify):</td>
<td>$</td>
<td>(These are costs in addition to the annual costs, above.)</td>
</tr>
</tbody>
</table>

Projected Annual Expenditures in FY 15  

<table>
<thead>
<tr>
<th>Revenue source</th>
<th>Continuing</th>
<th>One-time</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. In current legislative budget request</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>b. Additional appropriation required</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>c. Funded through new internal MAU redistribution</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>d. Funds already committed to the program by the MAU</td>
<td>$5,648</td>
<td>$</td>
</tr>
<tr>
<td>e. Funded all or in part by external funds, expiration date</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>f. Other funding source Specify Type:</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

Page # of attached summary where the budget is discussed, including initial phase-in: 16

7. Budget Status. Items a., b., and c. indicate the source(s) of the General Fund revenue specified in item 6. If any grants or contracts will supply revenue needed by the program, indicate amount anticipated and expiration date, if applicable.

8. Facilities: New or substantially (>=$25,000 cost) renovated facilities will be required.  
☐ Yes  
☒ No

If yes, discuss the extent, probable cost, and anticipated funding source(s), in addition to those listed in sections 6 and 7 above.

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2 Sometimes the courses required by a new degree or certificate program are already being taught by an MAU, e.g., as a minor requirement. Similarly, other program needs like equipment may already be owned. 100% of the value is indicated even though the course or other resource may be shared.
9. Projected enrollments (headcount of majors). If this is a program deletion request, project the teach out enrollments.

| Year 1: 6 | Year 2: 12 | Year 3: 12 | Year 4: 12 |

Page number of attached summary where demand for this program is discussed: 12

10. Number* of new TA or faculty hires anticipated (or number of positions eliminated if a program deletion):

| Graduate TA |  |
| Adjunct |  |
| Term |  |
| Tenure track |  |

11. Number* of TAs or faculty to be reassigned:

| Graduate TA |  |
| Adjunct |  |
| Term |  |
| Tenure track |  |

Former assignment of any reassigned faculty: For more information see page ___ of the attached summary.

12. Other programs affected by the proposed action, including those at other MAUs (please list):

<table>
<thead>
<tr>
<th>Program Affected</th>
<th>Anticipated Effect</th>
<th>Program Affected</th>
<th>Anticipated Effect</th>
</tr>
</thead>
</table>

Page number of attached summary where effects on other programs are discussed:

13. Specialized accreditation or other external program certification needed or anticipated. List all that apply or ‘none’: None

14. Aligns with University or campus mission, goals, core themes, and objectives (list): Linking research with teaching, expanding internship opportunities, development of career skills

Page # in attached summary where alignment is discussed: 8

15. State needs met by this program (list):

Page in the attached summary where the state needs to be met are discussed:

16. Program is initially planned to be: (check all that apply)

- Available to students attending classes at UAF campus(es).
- Available to students via e-learning.
- Partially available students via e-learning.

Page # in attached summary where e-learning is discussed:

Submitted by the University of Alaska Fairbanks with the concurrence of its Faculty Senate.

Provost: [Signature] 1/14/13
Chancellor: [Signature] 1/15/13

Recommend Approval
Recommend Disapproval

UA Vice President for Academic Affairs on behalf of the Statewide Academic Council: [Signature] 1/18/2018

Recommend Approval
Recommend Disapproval

Chair, Academic and Student Affairs Committee: [Signature]
<table>
<thead>
<tr>
<th>Recommend Approval</th>
<th>Recommend Disapproval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UA President / Date</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Approved</th>
<th>Disapproved</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chair, Board of Regents / Date</td>
</tr>
</tbody>
</table>

*Net FTE (full-time equivalents). For example, if a faculty member will be reassigned from another program, but his/her original program will hire a replacement, there is one net new faculty member. Use fractions if appropriate. Graduate TAs are normally 0.5 FTE. The numbers should be consistent with the revenue/expenditure information provided.

Attachments:  ☐ Summary of Degree or Certificate Program Proposal  ☐ Other (optional)
STATEMENT OF THE PROPOSED PROGRAM
OBJECTIVES AND CAREER OPPORTUNITIES

We hereby propose a new graduate certificate in Science Teaching and Outreach, to be offered at the University of Alaska Fairbanks. Many science graduate students have an interest in enhancing their teaching and outreach skills. In response, two courses and a seminar that meet this need have already been developed and are currently offered. An additional course on mentoring also exists. The proposed graduate certificate would package these courses, with the addition of an internship and two 1-credit seminars, to offer a formal credential to science students who want to enhance their teaching skills. The certificate is expected to increase the students' ability to compete higher education job market, as well as prepare them to be better communicators of their science knowledge.

Program Goals:
1) To provide students with a formal credential that documents their efforts to enhance their teaching, mentoring, and outreach skills
2) To better prepare future professionals for careers in science and engineering by increasing skill in teaching, mentoring, and/or community engagement
3) To increase student familiarity with pedagogical theory and best practices in teaching

NEED FOR THE PROGRAM

The need for improvements in how science and engineering graduate students are trained with respect to teaching and mentoring is well-documented. Despite the multifaceted nature of responsibilities graduate students will have in their careers, most graduate programs in the sciences have not traditionally offered explicit training in teaching and mentoring. However, this trend is changing. As of 2009, about 45 institutions offered the option of earning a certificate in college teaching to their graduate students. Some programs focus explicitly on preparing STEM faculty, while other programs are offered across disciplines. Such training may enhance a candidate's marketability in higher education and in other science and engineering careers. In a published national survey, hiring departments in a broad range of institutions placed high value on teaching readiness, as indicated by college-level teaching credentials.

In addition, the certificate will help to prepare participants for the service component of faculty and other professional positions by requiring students to work with K-12 and public audiences. This experience should also increase a student's ability to create meaningful broader impacts projects for federally funded grant proposals. Finally, participation in the courses leading to the certificate is expected to have a direct impact on teaching skills in the short term. Because many science graduate students serve as teaching assistants, this is expected to have positive outcomes for undergraduates taking science courses at UAF.