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| S:\Communications\Logos and photos\SDBORLogos\final_sdbor_webreadyBW_trans.gif | **SOUTH DAKOTA BOARD OF REGENTS**ACADEMIC AFFAIRS FORMS |
| New Specialization |
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| --- | --- |
| **UNIVERSITY:** | **DSU** |
| **TITLE OF PROPOSED SPECIALIZATION:** | **Intermediate Education Specialization** |
| **NAME OF DEGREE PROGRAM IN WHICH SPECIALIZATION IS OFFERED:** | **B.S. in Mathematics** |
| **INTENDED DATE OF IMPLEMENTATION:** | **8/3/2018** |
| **PROPOSED CIP CODE:** | **27.0101** |
| **UNIVERSITY DEPARTMENT:** | **College of Arts and Sciences** |
| **UNIVERSITY DIVISION:** | **Mathematics** |

**University Approval**

*To the Board of Regents and the Executive Director: I certify that I have read this proposal, that I believe it to be accurate, and that it has been evaluated and approved as provided by university policy.*

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| --- | --- | --- |
| C:\Users\slaughts\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Dr. McKay Signature.jpg |  | 5/2/2018 |
| Institutional Approval Signature*President or Chief Academic Officer of the University* |  | Date |

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1. **Level of the Specialization (*place an “X” in the appropriate box*):**

|  |  |  |
| --- | --- | --- |
| Baccalaureate |[x]  Master’s |[ ]  Doctoral |[ ]

1. **What is the nature/purpose of the proposed specialization?**

Students that complete the Mathematics program with an Intermediate Education specialization will be prepared to be middle school mathematics teachers as well as lower level secondary math teachers. Program completers will meet the state of SD Department of Education criteria for the secondary education endorsement. As an education program, there is an education component that is required for this specialization and students are required to complete the K-12 Educational Technology Minor (each of the math specializations has a technology minor requirement).

1. **Provide a justification for the specialization, including the potential benefits to students and potential workforce demand for those who graduate with the credential.**[[1]](#footnote-1)

The American Mathematical Society has shown that the “Intensity of math competencies in its purest form over time is increasing” ([http://www.ams.org/about-us/governance/committees/ Jaco.pdf](http://www.ams.org/about-us/governance/committees/%20Jaco.pdf)). The mathematics specializations are designed to provide mathematics training to prepare students for the mathematical career path of their choice; career paths in education (intermediate level or secondary level) and technology (information systems or cryptography).

According to the U.S. Bureau of Labor Statistics there is a projected national job growth (2016 – 2024) for mathematicians of 33%.[[2]](#footnote-2) Graduates with the specialization in Intermediate Education will aid in filling math teaching positions within the state. For the 2014-2015 School Year, the Associated School Boards of South Dakota posted the following South Dakota Teaching Vacancies for Math[[3]](#footnote-3).

|  |  |
| --- | --- |
| **Month** | **Number of Vacancies** |
| **January** | **6** |
| **February** | **15** |
| **March** | **21** |
| **April** | **28** |
| **May** | **19** |
| **June** | **12** |
| **July** | **11** |
| **August** | **5** |
| **September** | **2** |
| **October** | **6** |
| **November** | **7** |
| **December** | **6** |

In an August 1, 2014 blog of the Association of School Boards of South Dakota titled “Plenty of Concern over Teacher Shortages” it was reported that 29 of the 62 spring mathematics teaching jobs in the state were still vacant on May 28th.[[4]](#footnote-4) The June 18,2014, blog post reported that “75 percent of superintendents responding to the survey believed the [**teaching applicant pool was inadequate**](http://asbsd.org/index.php/survey-says/).”[[5]](#footnote-5)

The Bureau of Labor Statistics projects a 15.7% increase in demand for math teachers in the state of South Dakota by 2024 and nationally an increase in demand by 16.4%.[[6]](#footnote-6)

Math Education is a critical teaching need in the state of South Dakota. There is a scholarship called the “South Dakota Critical Teaching Needs Scholarship” administered by the Board of Regents to support students majoring in math education (as well as other critical need programs) in the last two years of their programs.[[7]](#footnote-7)

Students that begin their college career in math education and want to teach mathematics, but struggle in the abstract upper-level courses, will now have a program that still contains classes to develop their math skills in preparation of being a middle school or lower-level high school mathematics teacher. Currently, students that struggle in upper-level math courses after completing the lower-level math courses that want to be math teachers move to elementary education and then take the middle school math exam to become endorsed in mathematics (lower- level endorsement – no math content coursework requirements). The new program will allow students the option of taking a few additional lower-level math courses and earning a degree in intermediate math education instead of switching to elementary education or general studies which will result in a graduate endorsed to teach high school mathematics.

1. **List the proposed curriculum for the specialization (including the requirements for completing the major – *highlight courses in the specialization*):**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Pref.** | **Num.** | **Title** | **Cr. Hrs.** | **New** **(Yes or No)** |
| **System Wide General Education Requirement**(All students are required to take MATH 123 as part of the general education requirements) | **30** |  |
|  |  |
| **Mathematics Core Requirements** | **12** |  |
| MATH | 201 | Introduction to Discrete Math | 3 | No |
| MATH | 281 | Introduction to Statistics | 3 | No |
| MATH | 315 | Linear Algebra | 3 | No |
| MATH | 316 | Discrete Mathematics | 3 | No |
|  |  |  |  |  |
| **Intermediate Education Specialization**(Student must take EPSY 210 & INED 211 as part of the general education requirements) |  |
| **Mathematics Component** | **16** |  |
| SEED | 301 | Technology for Math Teachers | 3 | No |
| MATH | 341 | MATH Concepts for Teachers I | 3 | No |
| MATH | 342 | Math Concepts for Teachers II | 3 | No |
| MATH | 361 | Modern Geometry | 3 | No |
| ELED | 422 | K-8 Science and Math Technology | 3 | No |
| MATH | 488 | Capstone | 1 | No |
|  |  |  |  |  |
| **K-12 Educational Technology Minor** | **18** |  |
| CSC | 105 | Introduction to Computers | 3 | No |
| EDER | 415 | Educational Assessment | 2 | No |
| CIS | 350 | Computer Hardware, Data Communications and Networking | 3 | No |
| EDFN | 365 | Computer-Based Technology & Learning | 3 | No |
| SEED | 401 | Methods of Educational Technology | 1 | No |
| Choose one of the following courses | 3 |  |
| CIS | 123 | Problem Solving and Programming | No |
| CIS | 130 | Visual Basic Programming | No |
| CSC | 150 | Computer Science 1 | No |
| Choose three of the following courses | 3 |  |
| CIS | 206 | Advanced Applications: | No |
| CIS | 207 | Advanced Applications Spreadsheet | No |
| CIS | 208 | Advanced Applications: Database | No |
| CIS | 209 | Advanced Applications: SAS | No |
| CIS | 210 | Quickbooks | No |
|  |  |  |
| **Education Component** |  | **28** |  |
| SPED | 100 | Introduction to Persons with Exceptionalities | 3 | No |
| EDFN | 338 | Foundations of American Ed | 2 | No |
| EDFN | 475 | Human Relations | 3 | No |
| EPSY | 300 | Survey of Middle Level Education | 1 | No |
| EPSY | 302 | Educational Psychology | 3 | No |
| SEED | 295 | Practicum | 1 | No |
| SEED | 302 | Secondary/Middle/Content Area Major | 2 | No |
| SEED | 440 | Classroom Management | 2 | No |
| SEED | 450 | Reading and content Literacy | 3 | No |
| SEED | 488 | 7-12 Student Teaching | 8 | No |
|  |  |  |  |  |
| **Electives**  | **16** |  |
| Total number of hours required for completion of specialization | 16 |  |
| Total number of hours required for completion of major | 74 |  |
| Total number of hours required for completion of degree | 120 |  |

1. **Delivery Location[[8]](#footnote-8)**

**A. Complete the following charts to indicate if the university seeks authorization to deliver the entire program on campus, at any off-campus location (e.g., UC Sioux Falls, Capital University Center, Black Hills State University-Rapid City, etc.) or deliver the entire program through distance technology (e.g., as an on-line program)?**

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| --- | --- | --- |
|  | **Yes/No** | ***Intended Start Date*** |
| **On campus** | Yes | **Fall 2018** |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Yes/No** | ***If Yes, list location(s)*** | ***Intended Start Date*** |
| **Off campus** | No |  | Choose an item.Choose an item. |

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| --- | --- | --- | --- |
|  | **Yes/No** | ***If Yes, identify delivery methods[[9]](#footnote-9)*** | ***Intended Start Date*** |
| **Distance Delivery (online/other distance delivery methods)** | Yes |  | **Fall 2018** |

**B. Complete the following chart to indicate if the university seeks authorization to deliver more than 50% but less than 100% of the certificate through distance learning (e.g., as an on-line program)? [[10]](#footnote-10)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Yes/No** | ***If Yes, identify delivery methods*** | ***Intended Start Date*** |
| **Distance Delivery (online/other distance delivery methods)** | No |  | Choose an item.Choose an item. |

1. For workforce related information, please provide data and examples; data sources may include but are not limited to the South Dakota Department of Labor, the US Bureau of Labor Statistics, Regental system dashboards, etc. [↑](#footnote-ref-1)
2. Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Mathematicians and Statisticians, on the Internet at <https://www.bls.gov/ooh/math/mathematicians-and-statisticians.htm> (visited *May 14, 2018*). [↑](#footnote-ref-2)
3. <http://teacher.asbsd.org/dl/JumpStartingYourJobSearch20152016.pdf> [↑](#footnote-ref-3)
4. <http://asbsd.org/index.php/plenty-of-concern/> [↑](#footnote-ref-4)
5. <http://asbsd.org/index.php/positions-tough-to-fill/> [↑](#footnote-ref-5)
6. <http://www.projectionscentral.com/Projections/LongTerm> [↑](#footnote-ref-6)
7. <https://www.sdbor.edu/teachers-counselors/Documents/Scholarship-Opportunities.pdf> [↑](#footnote-ref-7)
8. The Higher Learning Commission (HLC) and Board of Regents policy requires approval for a university to offer programs off-campus and through distance delivery. [↑](#footnote-ref-8)
9. Delivery methods are defined in [AAC Guideline 5.5](https://www.sdbor.edu/administrative-offices/academics/academic-affairs-guidelines/Documents/5_Guidelines/5_5_Guideline.pdf). [↑](#footnote-ref-9)
10. This question responds to HLC definitions for distance delivery. [↑](#footnote-ref-10)