MASTER OF SCIENCE
Teaching, Learning and Leadership
Option: Mathematics/Science Education

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M.S. Teaching, Learning, and Leadership (TLL)  
Option: Mathematics/Science Education

Program Area Goals Statement

The goal of the M.S. Teaching, Learning, and Leadership (TLL) degree with an option in Mathematics/Science Education is to provide a sound knowledge base in content, curriculum, and pedagogy. It is designed for those who want to increase their understanding, effectiveness, and leadership qualities in their work with learners. This option focuses on mathematics and science education and prepares graduates for positions as curriculum planners, school educational leaders, informal educators, and teacher researchers.

APPLICATION PROCEDURES

All applicants must apply using the new graduate college online application: https://www.applyweb.com/oksugrad/

When asked to choose the program area, you will select “Master of Science in Teaching, Learning, and Leadership with an option in Mathematics/Science Education.” For additional information on the application process, go to: http://gradcollege.okstate.edu/faq/faq.html.

The following items are required for a complete application and are uploaded during the application process:

1) Resume/CV  
   Your resume/vita should include at minimum: educational background, professional experience, professional awards and honors, publications (if any), professional service, and references.

2) Statement of goals  
   Your statement of goals should include your reasons for pursuing a master’s degree and why this degree will help you with your career goals in approximately 500 words.

3) Official transcripts  
   Submit all official transcripts from all institutions of higher education directly to the Graduate College. (Note: A minimum grade point average in graduate coursework of 3.50 on a 4.00 scale is required.)

Notes:

- This program does not lead to initial certification
- Special students can apply no more than 9 graduate hours to a degree program.
- Once admitted to the program you should download the STCL Graduate Student Handbook at: https://education.okstate.edu/sites/default/files/stcl/stcl_graduate_handbook.pdf
- International applicants must also submit TOEFL scores if English is a second language.
# Program Faculty

<table>
<thead>
<tr>
<th>Faculty Name</th>
<th>Area of Specialty</th>
<th>Office Number</th>
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*Program Faculty Coordinator*
REQUIRED OF ALL STUDENTS FOR ADMISSION:
Undergraduate degree in education or related field; vita/resume; type written goals statement (about 500 words) consistent with mission of graduate degree program and program option; the equivalent of an undergraduate major or minor in mathematics or science OR a satisfactory score on the quantitative portion of the Graduate Record Exam. Faculty in each program option will review admissions materials once a month, make admissions recommendations, and assign a temporary advisor to admitted students in that program option. The review process may take 4-6 weeks fall and spring semesters or longer during summer session.

A minimum of 36 hours beyond the Bachelor’s degree is required.

COMMON CORE (Specific courses required of all TLL majors) 6 hours
CIED 5053 Curriculum Issues®
CIED 5813 Educational Advocacy and Leadership®

RESEARCH REQUIREMENT 6 hours
CIED 5073 Pedagogical Research
MATH 5913 Introduction to Research in Mathematics Education
REMS 5013 Research Design and Methodology*
REMS 5953 Statistical Methods in Education*
STAT 5013 Statistics for Experimenters I
SCFD 5913 Introduction to Qualitative Research
 Or other research methodology focused courses approved by advisor
*These are required pre-requisites for students wishing to pursue a PhD in Education

AREAS OF EMPHASIS 18 hours
Choose 18 hours in the appropriate area of emphasis.

Elementary Mathematics Education
SMED: 5253 Rational Number Concepts, Proportional Reasoning, and Classroom Interactions at the Elementary Level (PK-6)
SMED: 5273 Number Concepts and Assessment at the Elementary Level (PK-6)
SMED 5283 Problem-Centered Learning in Mathematics®
SMED: 5913 Algebra and Mathematical Tasks at the Elementary Level (PK-6)
SMED: 5923 Geometry, Spatial Visualization, and Learning Trajectories at the Elementary Level (PK-6)
SMED: 5933 Teaching Measurement and Data at the Elementary Level (PK-6)
SMED: 5943 Mathematics Leadership and Coaching

Secondary Mathematics Education
SMED 5050 Integrating Mathematics and Science Applications
SMED: 5253 Rational Number Concepts, Proportional Reasoning, and Classroom Interactions at the Elementary Level (PK-6)
SMED 5263 Assessment and Evaluation in Mathematics
SMED: 5273 Number Concepts and Assessment at the Elementary Level (PK-6)
SMED 5283 Problem-Centered Learning in Mathematics®
SMED 5293 Teaching and Learning Mathematics with Technology®
SMED 5613 Effective Teaching of Mathematics in the Secondary®
SMED 5750 Seminar in Mathematics Education
SMED: 5913 Algebra and Mathematical Tasks at the Elementary Level (PK-6)
SMED: 5923 Geometry, Spatial Visualization, and Learning Trajectories at the Elementary Level (PK-6)
SMED: 5933 Teaching Measurement and Data at the Elementary Level (PK-6)
SMED: 5943 Mathematics Leadership and Coaching
Science Education
CIED 5193  Inquiry and Problem-Based Learning in Science Education
CIED 5730  Seminar in Education
SMED 5050  Integrating Mathematics and Science Applications
SMED 5223  Teaching Science in Schools®
SMED 5243  Environmental Education in the Curriculum
SMED 5280  Workshop in Science Education

Elementary Mathematics and Science Education
Students will work with their advisor to choose 18 hours of SMED coursework that includes both science education and mathematics education courses appropriate for the elementary teacher.

ELECTIVES or THESIS (Select thesis OR creative component and 6 hours of courses)  6 hours

Important Information:
• © Indicates courses with at least one-third research content. Students in this program must complete at least three courses with an ©.
• Elementary teachers wishing to meet certification requirements for the elementary mathematics specialist certification should work with their advisor to take the appropriate 18 hours of SMED courses and meet other certification requirements.
• Secondary teachers are recommended to take at least 6 hours of graduate level (1) mathematics and/or statistics content courses or (2) science content courses.
• Secondary teachers wishing to meet the Higher Learning Commission’s requirement of a master’s degree with 18 hours of mathematics/science coursework should work with their advisor to meet this requirement. It will require an extra 3 hours on your degree plan. [18 hours = 6 hours in Research area + 3 hours math/science prefix course in emphasis area + 6 areas of Elective Math/science + 3 hours of math/science above the 36 hours in the degree]

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