



MARQUETTE
UNIVERSITY

HELEN WAY KLINGLER
COLLEGE OF ARTS AND SCIENCES

Handbook

for

*Mathematics for Elementary School
Teachers (MELT) Majors*

2020-2021

Department of Mathematical and Statistical Sciences

INTRODUCTION

The MELT major prepares elementary school teachers to become leaders in their profession. Students will obtain a strong mathematics background, taking several of the mathematics courses required of the MATH major for secondary school teachers. Graduates will be well prepared to serve as “mathematics specialists” in their schools--able to mentor other teachers and play leading roles in curriculum decisions. The major is limited to students enrolled in the teacher education program in the College of Education who seek certification at the grades 1-8 level.

A good candidate for the MELT major:

- has excellent grades in all four years of high school mathematics through precalculus,
- has high scores on the mathematics portions of the SAT or ACT exams,
- enjoys learning mathematics and solving mathematical problems and puzzles,
- earns a grade of B or higher in MATH 1450 (Calculus 1)
- looks forward to the challenge of helping all students learn and enjoy mathematics

The MELT major is rewarding but also demanding. There is a change from the concrete mathematics of MATH 1450 and 1451 (Calculus 1 and 2) to the abstract nature of MATH 2350 (Foundations of Mathematics). There is a second jump from MATH 2350 to 3000 and 4000 level mathematics courses. Students should anticipate these challenges, and be prepared to work hard and seek help outside of class. [Richard Dahlke’s guide for students, *How to Succeed in College Mathematics*, is a valuable resource].

Students planning to complete the MELT major should consult with an adviser in the Department of Mathematical and Statistical Sciences, (Dr. Marta Magiera) and with the Director of Undergraduate Advising in the College of Education. It is important for students to meet with their advisers as early in their studies as possible, to map out a path to timely graduation.

Special note regarding academic progress in the major:

An average GPA of 2.750 in MATH courses is required for student teaching. So, grades of C or lower must be offset by grades of B or higher. A grade of C- or lower in a course is especially serious because the course must be repeated or replaced with another, possibly extending the time to graduation. Several grades of C- or lower make it unlikely that the student will be able to complete the major. In that case, a different academic major should be considered.

ADVISING AND PRE-REGISTRATION

Students wishing to declare a MELT major should do so at their earliest opportunity, by visiting the MSSC Department office (CU 340), where they will be assigned a Department adviser. In order to complete the MELT major in four years, it is important to take the two calculus courses (MATH 1450, 1451) during freshman year. It is essential that students meet with both the MSSC Department and College of Education advisers each semester, to ensure that appropriate requirements are being met.

PROGRAM LEARNING OUTCOMES

By the end of the program of study, the student will be able to

1. Demonstrate a knowledge of and ability to communicate school mathematics
2. Demonstrate a knowledge of the connections between student learning and mathematics as they relate to major topics in elementary school

REQUIREMENTS FOR THE MELT MAJOR

The major requires twenty-nine credits of mathematics courses beyond the nine* that are required for all Elementary Education majors. The mathematics courses comprise the following:

MATH 1450	Calculus 1
MATH 1451	Calculus 2
MATH 2030	*Problem Solving and Reasoning for Teachers
MATH 2031	*Number Systems and Operations for Elementary School Teachers
MATH 2032	*Algebra and Geometry for Teachers
MATH 2350	Foundations of Mathematics
MATH 3100	Linear Algebra and Matrix Theory
MATH 4310	History of Mathematical Ideas
MATH 4320	Theory of Numbers
MATH 4420	Foundations of Geometry
MATH 4630	Mathematical Modeling and Analysis
MATH 4720	Statistical Methods

(MATH 1450 and MATH 1451 each are 4-credit courses; all other courses are 3 credits)

REQUIRED UPPER DIVISION MATH COURSES FOR THE MELT MAJOR:

Course	Prerequisite	Offered
MATH 3100	MATH 2350	Every semester
MATH 4310	Jr. standing or Department consent	<i>Spring</i> semester of <i>odd-numbered</i> years; alternates with MATH 4320
MATH 4320	MATH 2350	<i>Spring</i> semester of <i>even-numbered</i> years; alternates with MATH 4310
MATH 4420	MATH 2350	Fall semester
MATH 4630	MATH 3100	Every semester
MATH 4720	MATH 1450	Every semester

REQUIREMENTS FOR CERTIFICATION

To be eligible for middle childhood/early adolescence teaching license, students must complete the following courses offered by the College of Education: EDUC 1000, EDUC 1001, EDUC 2001, EDUC 2002, EDUC 2330, EDUC 4000, EDUC 4003, EDUC 4307, EDUC 4217, EDUC 4327, EDUC 4337, EDUC 4357, EDUC 4367, EDUC 4964, and EDUC 4966. Students must also check with their advisers in the College of Education about to sequence and admission requirements. Usually, EDUC 4966, Student Teaching, is the last course in the program. Students must apply and be approved by the Office of Teacher Education to student teach. To qualify for Student Teaching students must maintain the minimum GPA in mathematics of 2.75.

BACHELOR OF SCIENCE FOR MELT MAJORS SAMPLE CURRICULUM

The following schedule allows students to complete the major in four years.

Freshman			
First Term	Credits	Second Term	Credits
ENGL 1001 (MCC)	3	PHIL 1001 or THEO 1001 (MCC)	3
PHIL 1001 or THEO 1001 (MCC)	3	MATH 2030	3
ARSC1020, BIOL1420, PHYS1007, PHYS1009	3	MATH 1451	4
MATH 1450	4	EDUC 1001 Psych. Dev. (MCC ESSV1)	3
EDUC 1000 Ed Inquiry 1	3	EDUC 4217 Educ Exceptional Learners	3
Service Learning		Service Learning	
Total:	16	Total:	16
Sophomore			
First Term	Credits	Second Term	Credits
CORE 1929 (MCC)	3	DSCV (MCC)	3
DSCV (MCC)	3	MATH 3100	3
MATH 2031 Number Systems & Operations for Teachers	3	MATH 2032 Algebra & Geometry for Teachers	3
MATH 2350	3	MATH 4310 or 4320	3
EDUC 2001 Teaching Practice 1	3	EDUC 2002 Teaching Practice 2	3
Field Experience		EDUC 4307 Early Childhood Development	3
		Field Experience	
Total:	15	Total:	18
Junior			
First Term	Credits	Second Term	Credits
DSCV (MCC)	3	DSCV (MCC)	3
MATH 4420	3	MATH 4630	3
EDUC 4327 Found Principles & Practicum Teaching Writing	4	MATH 4310 or 4320	3
EDUC 4003 Teaching Practice 3	3	EDUC 4337 Social Studies & Social Inquiry	3
EDUC 4367 Integrated Stem Methods	5	EDUC 4357 Found Principles & Practicum Teaching Reading	3
Field Experience		Field Experience	
Total:	18	Total:	15
Senior			
First Term	Credits	Second Term	Credits
CORE 4929	3	EDUC 4966 Student Teaching	15
MATH 4720	3		
EDUC 2330 Integrating Arts	3		
EDUC 4964 Reading Practicum	4		
EDUC 4000 Educational Inquiry 2 Adv Topics (MCC WRIT)	3		
Senior Level Practicum			
Total:	16	Total:	15

Total Credits: 129

A 2.75 GPA is required overall, in EDUC course work, and in the content major for eligibility to student teach. The Foundations of Reading Test and the Praxis Subject Assessment, Middle School Content Knowledge #5146 (if applicable), must be taken by February 15 for fall student teachers and August 15 for spring student teachers.

Students must complete the Writing Intensive (WRIT) and Engaging Social System and Values 2 (ESSV2) requirements of the MCC. These requirements can be fulfilled through the Ed Inquiry 2 class and in student teaching.