2016-2017 PETITION/PROGRAM SHEET
Degree: Bachelor of Science
Major: Mathematics
Concentration: Secondary Teaching

About This Major . . .

The major in mathematics with a concentration in secondary education will prepare students to teach in both middle schools and in high schools. While completing this degree, students develop problem-solving and critical thinking skills and are introduced to the logical and historical development of mathematical ideas. Students also learn the professional skills in teaching methods and content necessary for secondary mathematics teachers. Nationally recommended curriculum guidelines are followed in order to ensure that graduates have the mathematical content and conceptual understanding necessary for all high school mathematics courses. Graduates from this program are in great demand both locally and statewide with the scarcity of mathematics teachers in this country.

For more information on what you can do with this major, go to http://www.coloradomesa.edu/career/whatmajor.html and/or http://www.coloradomesa.edu/mathstat/links.html.

All CMU baccalaureate graduates are expected to demonstrate proficiency in critical thinking, communication fluency, quantitative fluency, and specialized knowledge/applied learning. In addition to these campus-wide student learning outcomes, graduates of this major will be able to:

1. Construct multi-step problem solving strategies, use mathematical software tools appropriately, and communicate solutions effectively in written form. (Critical Thinking / Communication Fluency)
2. Use mathematical software (including calculators) to aid in problem-solving and investigation, and understand its limitations. (Applied Learning)
3. Prove propositions deductively from definitions and theorems in clear and precise prose. (Quantitative Fluency)
4. Demonstrate familiarity with the logical and historical development of mathematics and the implications of this development. **(**Specialized Knowledge)
5. Effectively communicate mathematics using oral and written exposition appropriate for teachers of mathematics. (Communication Fluency)
6. Instruct K-12 students based on self-written learning plans to address individual learning and developmental patterns in Mathematics. (Specialized Knowledge)
7. Design a safe and supportive learning environment for elementary and secondary education students. (Applied Learning)
8. Apply Mathematics content knowledge while working with learners to access information in real world settings assuring learner mastery of the content. (Specialized Knowledge)
9. Integrate assessment, planning, and instructional strategies in coordinated and engaging ways through multiple means of communication. Critical Thinking/Communication Fluency)
10. Engage in meaningful and intensive professional learning and self-renewal by regularly examining practice through ongoing study, self-reflection, and collaboration. (Applied Learning)

NAME: _____ **STUDENT ID #:** _____

LOCAL ADDRESS AND PHONE NUMBER: _____

_____ **( )** _____

I, (Signature)_____, hereby certify that I have completed (or will complete) all the courses listed on the Program Sheet. I have read and understand the policies listed on the last page of this program sheet. I further certify that the grade listed for those courses is the final course grade received except for the courses in which I am currently enrolled and the courses which I complete next semester. I have indicated the semester in which I will complete these courses.

_____ _____ 20_____
Signature of Teacher Education Advisor Date

_____ _____ 20_____
Signature of Content Advisor Date

_____ _____ 20_____
Signature of Department Head Date

_____ _____ 20_____
Signature of Registrar Date

DEGREE REQUIREMENTS:

- 120 semester hours total (Students must complete a minimum of 30 of the last 60 hours of credit at CMU, with at least 15 semester hours in major discipline courses numbered 300 or higher).
- 40 upper division credits (A minimum of 15 taken at the 300-400 course levels within the major at CMU).
- A cumulative grade point average of 2.8 or higher must be maintained for: major content courses, and overall GPA.
- All EDUC courses must be completed with a grade of B or better
- Pre-collegiate in all CMU coursework (usually numbered below 100) cannot be used for graduation.
- When filling out the program sheet a course can be used only once.
- A student must follow the CMU graduation requirements either from 1) the program sheet for the major in effect at the time the student officially declares a major; or 2) a program sheet for the major approved for a year subsequent to the year during which the student officially declares the major and is approved for the student by the department head. Because a program may have requirements specific to the degree, the student should check with the faculty advisor for additional criteria. It is the student's responsibility to be aware of, and follow, all requirements for the degree being pursued. Any exceptions or substitutions must be approved by the student's faculty advisor and Department Head.
- Students are required to participate in exit examinations or other programs deemed necessary to comply with the college accountability requirement.
- Students must PASS the PLACE or PRAXIS II exam in the content area prior to beginning the internship. Also, ALL other coursework toward the degree must be successfully completed prior to the internship.
- Essential Learning Capstone should be completed between 45 and 75 hours.
- See "Requirements for Undergraduate Degrees and Certificates" in the catalog for additional graduation information.
- A grade of "C" or higher must be earned in all courses unless otherwise stated.

ESSENTIAL LEARNING REQUIREMENTS (31 semester hours)
See the current catalog for a list of courses that fulfill the requirements below. If a course is an Essential Learning option and a requirement for your major, you must use it to fulfill the major requirement and make a different selection for the Essential Learning requirement.

Course No	Title	Sem.hrs	Grade	Term/Trns

English (6 semester hours, must receive a grade of "**B**" or better and must be completed by the time the student has 60 semester hours.)

ENGL 111	English Composition	3		
ENGL 112	English Composition	3		

Math (3 semester hours, must receive a grade of "C" or better, must be completed by the time the student has 60 semester hours.)

MATH 119	Pre-calculus Mathematics	5*		

*3 credits apply to the Essential Learning requirements and 2 credits apply to elective credit

Humanities (3 semester hours)

Course No	Title	Sem.hrs	Grade	Term/Trns

Social and Behavioral Sciences (6 semester hours)

PSYC	233	Human Growth & Development	3		

PSYC 233 required with a grade of "**B**" or better

Fine Arts (3 semester hours)

Natural Sciences (7 semester hours, one course must include a lab)

	L				

History (3 semester hours)

HIST					

WELLNESS REQUIREMENT (2 semester hours)

KINE 100	Health and Wellness	1		
KINA 1		1		

ESSENTIAL LEARNING CAPSTONE (4 semester hours)

ESSL 290	Maverick Milestone (see English & math pre-reqs)	3		
ESSL 200	Essential Speech (co-requisite)	1		

FOUNDATION COURSES (8 semester hours)

MATH 151	Calculus I	5		
STAT 200	Probability and Statistics	3		

MATHEMATICS – LEADING TO SECONDARY TEACHER LICENSURE MAJOR REQUIREMENTS
(39 semester hours) Must pass all courses with a grade of "C" or higher. Except one "D", at most, may be used in completing the major requirements.

MATH 152	Calculus II	5		
MATH 240	Intro to Advanced Mathematics	4		
MATH 253	Calculus III	4		
MATH 325	Linear Algebra	3		
MATH 369	Discrete Structures	3		
MATH 380	History of Mathematics	3		
MATH 386	Geometries	4		
MATH 352	Advanced Calculus	3		
MATH 415	Abstract Algebra sec/ed			
OR				
MATH 490	Abstract Algebra I	3		

Choose either MATH 310, MATH 365, **OR** STAT 311

			3		

Choose one: (CSCI 111) **OR** (CSCI 110/110L) 4

CSCI					
CSCI					

ELECTIVES (7 semester hours) (All college level courses appearing on your final transcript, **not listed above** that will bring your total semester hours to 120 hours.) MATH 340 is an option for students.

*MATH 119	Pre-calculus Mathematics	2			

Secondary Education Requirements (29 semester hours)
ENGL 111, ENGL 112, PSYC 233, EDUC 115, EDUC 215 (all with a grade of **B** or better), MATH 119 or higher with a declared major in Mathematics– Leading to Secondary Teacher Licensure and formal acceptance to the Teacher Education Program

Course No	Title	Sem.hrs	Grade	Term/Trns	
EDUC 115	What It Means to be a Teacher	1	_____	_____	8 Field Experience Hours
EDUC 215	Teaching as a Profession	1	_____	_____	12 Field Experience Hours
EDUC 342	Pedagogy & Assessment: Secondary/K-12	3	_____	_____	20 Field Experience Hours
EDUC 343	Teaching to Diversity	3	_____	_____	20 Field Experience Hours
EDUC 442	Integrating Literacy Across the Curriculum	4	_____	_____	60 Field Experience Hours
EDUC 497	Content Methodology Practicum	3	_____	_____	80 Field Experience Hours
EDUC 497C**	Methods of Teaching Secondary Math	2	_____	_____	
EDUC 499G	Teaching Internship and Colloquium	12	_____	_____	600 Field Experience Hours

**This course is only offered in the fall semester. It may be taken with either the 300-level or 400-level EDUC courses but must be taken before the student teaching semester.

*****All EDUC prefix courses listed above must be completed with a grade of B or better to progress through the program sequence.**

POLICIES:

1. Please see the catalog for a complete list of graduation requirements.
2. This program sheet must be submitted with your graduation planning sheet to your advisor during the **semester prior to the semester of graduation, no later than October 1 for spring graduates, no later than March 1 for fall graduates.** You must turn in your "Intent to Graduate" form to the Registrar's Office **by September 15 if you plan to graduate the following May, and by February 15 if you plan to graduate the following December**.
3. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature. Finally, the Department Head will submit the signed forms to the Registrar's Office. (Students cannot handle the forms once the advisor signs.)
4. If your petition for graduation is denied, it will be your responsibility to reapply for graduation in a subsequent semester. Your "Intent to Graduate" does not automatically move to a later graduation date.
5. NOTE: During your senior year, you will be required to take a capstone exit assessment/project (e.g,, Major Field Achievement Test).

SUGGESTED COURSE SEQUENCING FOR A MAJOR IN MATHEMATICS – LEADING TO SECONDARY TEACHER LICENSURE

This is a recommended sequence of course work. Certain courses may have prerequisites or are only offered during the Fall or Spring semesters. It is the student's responsibility to meet with the assigned advisor and check the 2 year course matrix on the Colorado Mesa website for course availability.

FRESHMAN YEAR

Fall Semester		Hours
MATH 119	Precalculus Mathematics	5
ENGL 111	English Composition	3
ESSL	Humanities	3
ESSL	Fine Arts	3
KINA	Activity	1
		15

Spring Semester		Hours
MATH 151	Calculus I	5
ENGL 112	English Composition	3
ESSL	Social/Behavioral Science	3
ESSL	History	3
KINE 100	Health and Wellness	1
		15

SOPHOMORE YEAR

Fall Semester		Hours
MATH 152	Calculus II	5
Elective		2
ESSL	Natural Science	3
PSYC 233	Human Growth and Development	3
ESSL	Social/Behavioral Science OR Humanities	3
EDUC 115*	What It Means to be a Teacher	1
		17

Spring Semester		Hours
MATH 253	Calculus III	4
MATH 240	Introduction to Advanced Mathematics	4
ESSL	Natural Science with Lab	4
STAT 200	Probability and Statistics	3
		15

JUNIOR YEAR

Fall Semester		Hours
MATH 325	Linear Algebra I	3
CSCI 111	Computer Science I **OR**	
CSCI 110	Beginning Programming **AND**	
CSCI 110L	Beginning Programming Lab	4
MATH 352	Advanced Calculus	3
EDUC 215***	Teaching as a Profession	1
ESSL 290	Maverick Milestone	3
ESSL 200	Essential Speech	1
		15

Spring Semester		Hours
MATH 380	History of Mathematics	3
MATH 386	Geometries	4
MATH 369	Discrete Structures	3
EDUC 342	Pedagogy/Assessment: Secondary/K12	3
EDUC 343	Teaching to Diversity	3
		16

***Must be taken prior to acceptance into the Center for Teacher Education. Offered in summer, fall and spring semesters.

SENIOR YEAR

Fall Semester		Hours
**MATH 490	Abstract Algebra I **OR**	
**MATH 415	Abstract Algebra sec/ed	3
MATH 310	Number Theory **OR**	
*MATH 365	Mathematical Modeling **OR**	
STAT 311	Statistical Methods	3
EDUC 442	Integrating Literacy Across the Curriculum	4
EDUC 497	Content Methods Practicum	3
**EDUC 497C	Methods of Teaching Secondary Math	2
		15

Spring Semester		Hours
EDUC 499G	Teach. Intern/Colloquium: Secondary	12
		12

*Only offered in spring
**Only offered in fall