



2014-2015 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.

Signature of Teacher Education Advisor _____ Date _____ 20__

Signature of Content Advisor _____ Date _____ 20__

Signature of Department Head _____ Date _____ 20__

Signature of Registrar _____ Date _____ 20__

Students should work closely with a faculty advisor when selecting and scheduling courses prior to registration.

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 each of 3 areas: major content courses, education courses and overall GPA.
- 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.
- See the "Undergraduate Graduation Requirements" in the catalog for additional graduation information.
- A grade of "C" or higher must be earned in all courses unless otherwise stated.

GENERAL EDUCATION REQUIREMENTS (31 semester hours)

See the current catalog for a list of courses that fulfill the requirements below. If a course is on the general education list of options and a requirement for your major, you must use it to fulfill the major requirement and make a different selection within the general education requirement.

Course	No	Title	Sem.hrs	Grade	Term	Trns
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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*	_____	_____	_____	_____
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*3 credits apply to the General Ed 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)						

History (3 semester hours)						
HIST	_____	_____	_____	_____	_____	_____
<u>OTHER LOWER DIVISION REQUIREMENTS</u> (6 semester hours)						
Kinesiology (3 semester hours)						
KINE	100	Health and Wellness	1	_____	_____	_____
KINA	1	_____	1	_____	_____	_____
KINA	1	_____	1	_____	_____	_____
Applied Studies (3 semester hours)						
SPCH	102	Speechmaking	3	_____	_____	_____
(SPCH 102 Required with a grade of "B" or better)						
<u>FOUNDATION COURSES</u> (8 semester hours)						
MATH	151	Calculus I	5	_____	_____	_____
STAT	200	Probability and Statistics	3	_____	_____	_____
<u>MATHEMATICS – LEADING TO SECONDARY TEACHER LICENSURE MAJOR REQUIREMENTS</u>						
(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	_____	_____	_____	_____
Choose either MATH 310, MATH 365, or STAT 311						
_____ 3 _____						
Choose one: (CSCI 111) or (CSCI 110/110L) 4						
CSCI	_____	_____	_____	_____	_____	_____
CSCI	_____	_____	_____	_____	_____	_____
<u>ELECTIVES</u> (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)

***Prerequisites:** ENGL 111, ENGL 112, SPCH 102, PSYC 233, EDUC 211 (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 211	Foundations of Education	2	_____	_____	20 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.**

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	Spring Semester	Hours
MATH 119 Precalculus Mathematics	5	MATH 151 Calculus I	5
ENGL 111 English Composition	3	ENGL 112 English Composition	3
General Education Humanities	3	General Education Social/Behavioral Science	3
General Education Fine Arts	3	General Education History	3
KINA Activity (2 courses)	<u>2</u>	KINE 100 Health and Wellness	<u>1</u>
	16		15

SOPHOMORE YEAR

Fall Semester	Hours	Spring Semester	Hours
MATH 152 Calculus II	5	MATH 253 Calculus III	4
Elective	2	MATH 240 Introduction to Advanced Mathematics	4
General Education Natural Science	3	General Education Natural Science with Lab	4
PSYC 233 Human Growth and Development	3	STAT 200 Probability and Statistics	<u>3</u>
SPCH 102 Speechmaking	<u>3</u>		15
	16		

JUNIOR YEAR

Fall Semester	Hours	Spring Semester	Hours
MATH 325 Linear Algebra I	3	MATH 380 History of Mathematics	3
CSCI 111 Computer Science I <u>or</u>		MATH 386 Geometries	4
CSCI 110 Beginning Programming <u>and</u>		MATH 369 Discrete Structures	3
CSCI 110L Beginning Programming Lab	4	EDUC 342 Pedagogy/Assessment: Secondary/K12	3
MATH 352 Advanced Calculus	3	EDUC 343 Teaching to Diversity	<u>3</u>
**EDUC 211 Foundations of Education	2		16
General Education Social/Behavioral Science or Humanities	<u>3</u>		
	15		

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

SENIOR YEAR

Fall Semester	Hours	Spring Semester	Hours
**MATH 490 Abstract Algebra I <u>or</u>		EDUC 499G Teach. Intern/Colloquium: Secondary	<u>12</u>
**MATH 415 Abstract Algebra sec/ed	3		12
MATH 310 Number Theory <u>or</u>			
*MATH 365 Mathematical Modeling <u>or</u>			
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	<u>2</u>		
	15		

*Only offered in spring

**Only offered in fall

POLICIES:

1. It is your responsibility to determine whether you have met the requirements for your degree. Please see the Catalog for a complete list of graduation requirements.
2. 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. 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 Teacher Education fall graduates.**
4. Your content advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature.
5. Finally, the Department Head or the department administrative assistant will take the signed forms to the Registrar's Office. (Students cannot handle the forms once the advisor signs.)
6. 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.
7. NOTE: The semester before graduation, you will be required to take a Major Field Achievement Test (exit exam).