

MAJOR: MATHEMATICS, B.S.

DEPARTMENT OF MATHEMATICS AND STATISTICS

Mathematics is fundamental to solving problems in physics, chemistry, biology, medicine, business, engineering, and technology. The mathematics major prepares students for careers in business, industry, and government and for further studies in law or graduate school. Note that the Statistics and Actuarial Science B.S. is listed separately.

TYPICAL PROGRAM OF STUDY			
FIRST YEAR			
FALL SEMESTER		SPRING SEMESTER	
WRIT 1120 College Writing	3 cr	CS 1511 Computer Science I	5 cr
MATH 1296 Calculus I or MATH 1596 Honors Calculus I ¹	5 cr	MATH 1297 Calculus II or MATH 1597 Honors Calculus II	5 cr
Liberal education requirement	<u>7 cr</u>	Liberal education requirement	<u>6 cr</u>
Total:	15 cr	Total:	16 cr
SECOND YEAR			
MATH 3280 Differential Equations w/Linear Algebra	4 cr	MATH 3299 Intermediate Analysis	3 cr
MATH 3355 Discrete Mathematics	4 cr	STAT 3611 Introduction to Probability & Statistics	4 cr
Liberal education or minor field courses	<u>6 cr</u>	Liberal education or minor field courses	<u>8 cr</u>
Total:	14 cr	Total:	15 cr
THIRD YEAR			
MATH 4326 Linear Algebra	3 cr	MATH elective ^{2,3}	3-4 cr
WRIT 31xx Advanced Composition	3 cr	MATH elective ^{2,3}	3-4 cr
Liberal education or minor field courses	<u>9 cr</u>	Liberal education or minor field courses	<u>7-8 cr</u>
Total:	15 cr	Total:	13-16cr
FOURTH YEAR			
MATH 3941 Undergraduate Colloquium	1 cr	MATH elective ^{2,3}	3-4 cr
MATH elective ^{2,3}	3-4 cr	MATH elective ^{2,3}	3-4 cr
Liberal education or minor field courses	<u>10-11cr</u>	Liberal education or minor field courses	<u>7-8 cr</u>
Total:	14-16cr	Total:	13-16cr

[^]First math course is determined by math placement exam. This schedule presupposes placement into Math 1296.

¹Students may take MATH 1290 Calculus for the Natural Sciences instead of MATH 1296.

²Students must take 16 credits of MATH and/or STAT electives. MATH elective courses must be 31xx or above. STAT elective courses must be 5xxx or above. (Students pursuing a second major in statistics and actuarial science cannot apply STAT courses as electives.) At least 6 credits of the 16 credits of electives must have MATH prefix and be 4xxx or above. At least 10 credits of the 16 elective credits must be 4xxx or above. Only one credit of MATH 3120 may count toward the math major. MATH 4371 cannot be counted toward the major.

³Program Areas of Emphasis: Mathematics includes a wide variety of areas in which students can specialize. Although no area of emphasis is required for the MATH major, students are encouraged to work with their advisors to develop a coherent major plan.

FOR ADDITIONAL INFORMATION:

Department of Mathematics and Statistics
Solon Campus Center 140
218-726-8747 or 218-726-8254
math@d.umn.edu
<http://www.d.umn.edu/math>

MATHEMATICS, B.S.

MAJOR COURSE REQUIREMENTS	CREDITS	PREREQUISITES	SEMESTER TO BE COMPLETED	GRADE
FIRST YEAR				
WRIT 1120 College Writing	3			
CS 1511 Computer Science I	5	3.5 years of HS math		
MATH 1296 Calculus I or MATH 1596 Honors Calculus I ¹ <i>AND</i> MATH 1297 Calculus II or MATH 1597 Honors Calculus II	5	Math placement or Math 1250 with 'C-' or better		
	5	Math 1290, 1296 or 1596 with 'C-' or better		
SECOND YEAR				
MATH 3280 Diff Equations w/ Linear Algebra	4	Math 1297 or 1597 with 'C-' or better		
MATH 3299 Intermediate Analysis	3	Math 1297 or 1597		
MATH 3355 Discrete Mathematics	4	MATH 1297 or 1597		
STAT 3611 Introduction to Probability & Statistics	4	Math 1290, 1296 or 1596 with 'C-' or better		
THIRD YEAR				
WRIT 31XX Advanced Writing	3	WRIT 1120; 60 credits		
MATH 4326 Linear Algebra	3	MATH 3280, & 3299 or 3355, with 'C-' or better		
MATH elective ^{2,3}	3-4			
MATH elective ^{2,3}	3-4			
FOURTH YEAR				
MATH 3941 Undergraduate Colloquium	1	Dept approval; must regis during sem of 16th point		
MATH elective ^{2,3}	3-4			
MATH elective ^{2,3}	3-4			
MATH elective ^{2,3}	3-4			

[^]First math course is determined by math placement exam. This schedule presupposes placement into Math 1296.

¹Students may also take MATH 1290 Calculus for the Natural Sciences.

²Students must take 16 credits of electives. MATH elective courses must be at least 3100. STAT elective courses must be at least 5000. At least 10 credits of MATH and/or STAT electives must be 4xxx or above. At least 6 credits of electives must have MATH prefix and be 4xxx or above. Only one credit of MATH 3120 may count toward the math major. MATH 4371 cannot be counted toward the major.

³Program Areas of Emphasis: Mathematics includes a wide variety of areas in which students can specialize. Although no area of emphasis is required for the MATH major, students are encouraged to work with their advisors to develop a coherent major plan.

NOTE: In addition to the above requirements, students must complete the liberal education program and a minor (or a second major) to earn a B.S. degree. Students with a second major may substitute courses from the Approved Nondepartmental List (see list on the UMD 2007-2009 catalog website) on a one elective MATH credit for two outside credits exchange basis for up to seven MATH elective credits. Students pursuing a second major in statistics and actuarial science cannot apply STAT courses as electives.