



SAMPLE PROGRAM OF STUDY – MATHEMATICS: APPLIED COMPUTATIONAL OPTION

There is considerable flexibility in designing a program of study. The example given below is not likely to fit every situation and is provided for information as you develop your own plan with your academic advisor. All course requirements for the B.S. Mathematics Applied Computational Option are included in this sample plan. See the 2026-2027 Academic Catalog for details.

Fall Semester Year 1		Credits
MATH 1225	Calculus of a Single Variable (Pathway 5f)	4
MATH 1004	Discovering Mathematics I (fall only) ¹	1
MATH 1454	Intro Math Prog (fall only; coreq: MATH 1225) ²	3
ENGL 1105	First-Year Writing (Pathway 1f)	3
	Pathway 2	3
	Pathway 3	3
		17

Spring Semester Year 1		Credits
MATH 1226	Calculus of a Single Variable (Pathway 5f)	4
MATH 1044	Discovering Mathematics II (spring only) ¹	2
ENGL 1106	First-Year Writing (Pathway 1f)	3
	Pathway 2	3
	Pathway 7 (req. suspended) ³ / Free Elective	3
		15

Fall Semester Year 2		Credits
MATH 2114	Intro to Linear Algebra	3
MATH 2204	Intro to Multivariable Calculus	3
	Pathway 3	3
	Pathway 4 (BIOL, CHEM, GEOS, ISC, NEUR PHYS, or PSYC)	3
	Free Elective	3
		15

Spring Semester Year 2		Credits
MATH 2214	Intro to Differential Equations (Pathway 5a)	3
MATH 3034	Intro to Proofs (prereq: C in MATH 2114)	3
	Pathway 6a	3
	Pathway 4 (BIOL, CHEM, GEOS, ISC, NEUR PHYS, or PSYC)	3
	Pathway 6d	3
<i>Submit Interdisciplinary Application of Mathematics Course Plan (IAMCP)⁴</i>		15

Fall Semester Year 3		Credits
MATH 3144	Linear Algebra I	3
MATH 3214	Vector Calculus	3
MATH 4445	Intro to Numerical Analysis	3
	IAMCP Course ⁴	3
	Pathway 1a	3
		15

Spring Semester Year 3		Credits
MATH 3224	Advanced Calculus	3
MATH 4446	Intro to Numerical Analysis (spring only)	3
	IAMCP Course ⁴	3
	Free Elective	3
	Free Elective	3
		15

Fall Semester Year 4		Credits
MATH 3124	Modern Algebra	3
MATH 4425	Fourier Series PDE (fall only) or CMDA 4604	3
	IAMCP Course ⁴	3
	Free Elective	3
	Free Elective	3
		15

Spring Semester Year 4		Credits
MATH 4426	Fourier Series PDE (spring only)	3
or	4414 Issues in Scientific Computing ⁵	3
or	4454 Applied Mathematical Modeling (spring only) ⁵	3
	IAMCP Course ⁴	3
	Free Elective	3
	Free Elective	3
	Free Elective	1
		13

¹ MATH 1004 and MATH 1044 are strongly recommended free electives for first-year math majors.

² MATH 1225 is a corequisite for MATH 1454. Discuss choice of programming course with academic advisor. Other programming course options: CS 1044, CS 1054, CS 1064, CS 1114, BMES 2074, ECE 2514, ME 2004

³ The course selected in Pathway 7 may double-count with one other Pathway Concept if the selected course is also in another Pathway Concept.

⁴ See [Undergraduate Handbook for Mathematics Majors](#) for details.

⁵ Check prerequisites for MATH 4414 and MATH 4454 carefully. MATH 4414 is taught by math faculty in the fall while MATH 4454 is only taught in the spring. Any programming course will suffice as the programming prerequisite for MATH 4454.

Minimum Graduation Requirements:

Credit Hours: 120
Overall GPA: 2.0
In-Major GPA: 2.0