

MATHEMATICS MAJOR REQUIREMENTS

The Department of Mathematics offers the mathematics major with five emphases: Applied, Pure, Statistics, Actuarial, and Secondary Education. *The Computer Mathematics major was phased out Spring 2014.* Following is a list of the required courses for the majors, their number of units, prerequisites and semester offered. **An approved minor is required with each major.**

Pure Mathematics Emphasis (37 units)

For those students interested in graduate work in mathematics or in combining their mathematics with concentrations in, for example, music, art, computer science, or language. For additional information visit www.ams.org and www.maa.org.

For students who declare Spring 2016 or later:

<u>Courses</u>			<u>Offered</u>	<u>Prerequisite</u>
M253	5 units	Calculus and Analytic Geometry I	E	M152 with C or better
M254	5 units	Calculus and Analytic Geometry II	E	M250 with B or M253 with C or better
M255	3 units	Calculus and Analytic Geometry III	E	M254 with C or better
M280	3 units	Discrete Mathematics	E	M250 with B or M253 with C or better
M301	3 units	Introduction to Analysis	E	M255 and M280
M355	3 units	Matrices and Linear Algebra	E	M253 with C or better or M250 with B or better
M452	3 units	Introduction to Abstract Algebra	E	M280 or instructor consent

Select four courses (12 units) from the following list:

M361	3 units	Differential Equations	F	M254 with C or better
M417	3 units	Theory of Numbers	SOY	M280 or M415 or instructor consent
M431	3 units	Topology	FEY	M255 and either M280 or instructor consent
M450	3 units	Graph Theory	FEY	M280 or CS215 and M253 with C or better or M250 with B or better
M453	3 units	Abstract Algebra	FOY	M355 and M452
M463	3 units	Complex Variables	FOY	M255
M464	3 units	Advanced Calculus	SEY	M301

Unique Requirements:

Three units of Computer Science numbered COMPSCI 170 or above, *except* COMPSCI 181

Three units of English 370 Advanced Composition **Or** English 372 Technical Writing

For students who declared before Spring 2016:

<u>Courses</u>			<u>Offered</u>	<u>Prerequisite</u>
M253	5 units	Calculus and Analytic Geometry I	E	M152 with C or better
M254	5 units	Calculus and Analytic Geometry II	E	M250 with B or M253 with C or better
M255	3 units	Calculus and Analytic Geometry III	E	M254 with C or better
M280	3 units	Discrete Mathematics	E	M250 with B or M253 with C or better
M301	3 units	Introduction to Analysis	E	M255 and M280
M355	3 units	Matrices and Linear Algebra	E	M253 with C or better or M250 with B or better
M361	3 units	Differential Equations	F	M254 with C or better
M417	3 units	Theory of Numbers	SOY	M280 or M415 or instructor consent
M452	3 units	Introduction to Abstract Algebra	E	M280 or instructor consent
M453	3 units	Abstract Algebra	FOY	M355 and M452
M464	3 units	Advanced Calculus	SEY	M301

Unique Requirements:

Three units of Computer Science numbered COMPSCI 170 or above, *except* COMPSCI 181

Three units of English 370 Advanced Composition **Or** English 372 Technical Writing

Milestones: Major Field Test, Math Exit Interview, GPA Requirement of 2.0

E - Every Semester S - Every Spring F - Every Fall SOY - Every Odd Spring SEY - Every Even Spring FOY - Every Odd Fall FEY - Every Even Fall