

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.**

Applied Mathematics Emphasis (37 units)

Designed for students who wish to prepare for a career in industry, business or applied scientific research, offering a solid foundation in the mathematics required for solving complex real-world problems. For additional information, please visit www.siam.org, www.ams.org and www.maa.org.

For students who declare Fall 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
M361	3 units	Differential Equations	F	M254 with C or better
M381	3 units	Mathematical Modeling and Simulation	S	M254 with C or better and M355
M459	3 units	Partial Differential Equations	SEY	M361

Select two courses from the following list:

M458	3 units	Applied Mathematical Analysis	SOY	M361
M463	3 units	Complex Variables	FOY	M255
M471	3 units	Numerical Analysis	FEY	M355 and CS171 or instructor consent
M474	3 units	Dynamical Systems & Chaos	SOY	M361 with C or better

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 Fall 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
M458	3 units	Applied Mathematical Analysis	SOY	M361
M459	3 units	Partial Differential Equations	SEY	M361
M463	3 units	Complex Variables	FOY	M255
M471	3 units	Numerical Analysis	FEY	M355 and CS171 or instructor consent

Unique Requirements:

Three units from CS171, CS172, CS174 or CS347

Three units from 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