

# ACCELERATED MASTER OF SCIENCE- MATHEMATICS (5-YEAR BS TO MS)

## SUMMARY

Code	Title	Hours
	General Education Core Curriculum (p. 1)	43
	Major Requirements (p. 1)	62
	Other Requirements (p. 2)	18
	Minor & Second Major (p. )	21
	<b>Total Hours</b>	<b>144</b>

## GENERAL EDUCATION CORE CURRICULUM (STANDARD)<sup>1</sup>

Code	Title	Hours
<b>Communication</b>		
ENGL 1301	Freshman English I	3
ENGL 1302	Freshman English II	3
<b>Mathematics</b>		
MATH 2413	Calculus & Analytic Geomtry I	4
<b>Life and Physical Sciences</b>		
CHEM 1311	Chemistry I	3
	or BIOL 1308 Survey of Life Science	
PHYS 2325	University Physics I	3
<b>Language, Philosophy, and Culture</b>		
ENG 2XX <sup>3</sup>		3
<b>Creative Arts<sup>4</sup></b>		
	Select one of the following:	3
	MUSI XXX	
	ART XXX	
	THEA XXX	
<b>American History</b>		
HIST 1301	Soc & Pol Hist US to 1877	3
HIST 1302	Soc & Pol Hist US Since 1877	3
<b>Government/Political Science</b>		
POLS 2305	American Government	3
POLS 2306	Texas Government	3
<b>Social and Behavioral Sciences<sup>5</sup></b>		
	Select one of the following:	3
	PSY XXX	
	SOC XXX	
	ECON XXX	
<b>Institutional Options</b>		
COMM 1321	Business & Professional Comm	3
	or COMM 1315 Public Address	
COSC 1301	Intro To Compr Science I	3
	<b>Total Hours</b>	<b>43</b>

1

Students should be advised by a major advisor prior to registering for any credit, particularly any core curriculum credit as listed.

2

ENGL 2332 World Literature I, ENGL 2333 World Literature II, ENGL 2326 American Literature, or ENGL 2328 African-American Literature (TCCN: ENGL 2332, ENGL 2333, ENGL 2326, or ENGL 2326)

3

MUSI 1306 Music Appreciation, MUSI 1315 Fine Arts In Daily Living, THEA 1310 Introduction to Theatre, ARTS 1315 Intro African Art

4

PSYC 2301 General Psychology, SOCI 1301 Introduction To Sociology, SOCI 1306 Contemporary Social Issues, SOCI 2306 Soc Of Human Sexuality, SOCI 2346 Introduction To Anthropology, ECON 2301 Principles Of Economics I or ECON 2302 Principles Of Economics II

## MAJOR (MATHEMATICS)

Code	Title	Hours
<b>BS MATHEMATICS 38 credits</b>		
MATH 2414	Calculus&Analytic Geometry II	4
MATH 243	Calculus & Analytic Geo III	4
MATH 250	Linear Algebra	3
MATH 251	Differential Equations	3
MATH 331	Foundations of Mathematics	3
MATH 336	Introduction to Abstract Algebra	3
MATH 439	Introduction to Analysis	3
MATH 473	Probability & Statistics I	3
	or MATH 3339 Statistics For Sciences	
MATH 498	Capstone Courses in Math	3
<b>Math Electives</b>		
<b>Electives used for BS</b>		
MATH 3XX or 4XX <sup>1</sup>		6
MATH 4XX <sup>2</sup>		6
<b>Electives used for MS</b>		
<b>MS MATHEMATICS 24 credits</b>		
MATH 631	Intro To The Found Of Math	3
MATH 633	Theory Functions Real Variable	3
MATH 634	Theory Functions Complex Var	3
MATH 636	Point Set Topology	3
MATH 733	Abstract Algebra	3
MATH 5XX or 6XX or 7XX Elective		3
MATH 5XX or 6XX or 7XX Elective		3
MATH 5XX or 6XX or 7XX Elective		3
	<b>Total Hours</b>	<b>65</b>

1

Select Math Electives from the Electives List below.

2

Counted toward both BS Degree and MS Degree in Mathematics.

**ELECTIVES**

Code	Title	Hours
MATH 332	Introduction to Graph Theory	3
MATH 335	Foundations Of Geometry	3
MATH 3338	Introduction To Probability	3
MATH 3339	Statistics For Sciences	3
MATH 345	Applied Mathematics and Statistics for Scientists and Engineers	3
MATH 376	Applied Mathematical Analysis	3
MATH 430	The History Of Mathematics	3
MATH 431	Software for Scientific Computing	3
MATH 460	Intro To Complex Analysis	3
MATH 461	Introduction to Partial Differential Equations	3
MATH 462	Intro To Topology	3
MATH 463	Introduction to Numerical Analysis	3
MATH 465	Introduction to Data Science and Machine Learning	3
MATH 471	Topics In Math I	3
MATH 474	Probability & Statistics II	3
MATH 475	Abstract Algebra	3
MATH 490	Independent Study Undergrad	3
MATH 499	Seminar	3

**OTHER REQUIREMENTS**

Code	Title	Hours
CS 120	Introduction to Programming Using C++	3
CS 124	Fund Machine Computation	3
PHYS 217	University Physics Laboratory I	1
PHYS 2325	University Physics I	3
PHYS 218	University Physics Laboratory II	1
FS 102	Freshman Seminar/ first Year Experience	1
<b>Total Hours</b>		<b>12</b>

**MINOR/SECOND MAJOR REQUIREMENTS (21 credits)**

Students interested in receiving a Bachelor of Science Degree in Math and in teaching mathematics grades 8-12 may substitute courses required by the College of Education for educator preparation and certification in place of "Minor Requirements." These courses include:

Code	Title	Hours
EDCI 310	Field Based I Perf Focus Tchng	3
EDCI 328	Field Based -II Perf Focus Tch	3
EDCI 339	Classrm Mngt	3
EDCI 350	Desgng & Implg Inst/Assessment	3
EDCI 464	DIR STU TCH HS	6
RDG 400	Con Are Rdg	3
RDG 402	Informal Diagnosis	3

Students interested in teaching may also take cross-referenced courses:

Code	Title	Hours
PHYS 2325/1301	University Physics I	3
PHYS 217/213	University Physics Laboratory I	1
PHYS 252/1302	University Physics II	3
PHYS 218/214	University Physics Laboratory II	1

Course	Title	Hours
<b>First Year</b>		
<b>First Semester</b>		
ENGL 1301	Freshman English I <sup>1</sup>	3
MATH 2413	Calculus & Analytic Geomtry I <sup>1</sup>	4
CHEM 1311	Chemistry I	3
	or BIOL 1308 or Survey of Life Science	
COMM 1321	Business & Professional Comm	3
	or COMM 1315 or Public Address	
FS 102	Freshman Seminar/ first Year Experience	1
HIST 1301	Soc & Pol Hist US to 1877	3
<b>Hours</b>		<b>17</b>

<b>Second Semester</b>		
ENGL 1302	Freshman English II	3
MATH 2414	Calculus&Analytic Geometry II	4
	Social and Behavioral Science	3
BIOL 1308	Survey of Life Science	3
HIST 1302	Soc & Pol Hist US Since 1877	3
<b>Hours</b>		<b>16</b>

<b>Second Year</b>		
<b>Third Semester</b>		
ENG 2XX Any 200-level English <sup>2</sup>		3
MATH 243	Calculus & Analytic Geo III	4
PHYS 2325	University Physics I	3
PHYS 217	University Physics Laboratory I	1
POLS 2305	American Government	3
MATH 250	Linear Algebra	3
<b>Hours</b>		<b>17</b>

<b>Fourth Semester</b>		
MATH 251	Differential Equations	3
MATH 331	Foundations of Mathematics	3
PHYS 252	University Physics II	3
PHYS 218	University Physics Laboratory II	1
POLS 2306	Texas Government	3
CS 124	Fund Machine Computation	3
<b>Hours</b>		<b>16</b>

<b>Third Year</b>		
<b>Fifth Semester</b>		
Creative Arts		3
MATH 439	Introduction to Analysis	3
MATH 431	Software for Scientific Computing	3
CS 120	Introduction to Programming Using C++	3
MATH 336	Introduction to Abstract Algebra	3
<b>Hours</b>		<b>15</b>

<b>Sixth Semester</b>		
MATH Elective 3XX or 4XX		6
Free Elective		9

<b>Student should apply for the 4+1 program</b>		
<b>Hours</b>		<b>15</b>
<b>Fourth Year</b>		
<b>Seventh Semester</b>		
MATH 473	Probability & Statistics I	3
or MATH 3339	or Statistics For Sciences	
MATH 3XX or 4XX		3
MATH 4XX		3
Free Elective		3
MATH 631	Intro To The Found Of Math	3
<b>Hours</b>		<b>15</b>
<b>Eighth Semester</b>		
MATH 498	Capstone Courses in Math	3
MATH Elective (MATH 4XX)		3
Free Elective		6
MATH 633	Theory Functions Real Variable	3
<b>Student should apply for BS graduation</b>		
<b>Student should apply for MS program</b>		
<b>Hours</b>		<b>15</b>
<b>Fifth Year</b>		
<b>Ninth Semester</b>		
MATH 733	Abstract Algebra	3
MATH 5XX or 6XX or 7XX Elective		3
MATH 5XX or 6XX or 7XX Elective		3
<b>Hours</b>		<b>9</b>
<b>Tenth Semester</b>		
MATH 634	Theory Functions Complex Var	3
MATH 636	Point Set Topology	3
MATH 5XX or 6XX or 7XX Elective		3
<b>Student should apply for MS graduation</b>		
<b>Hours</b>		<b>9</b>
<b>Total Hours</b>		<b>144</b>

1

Pending acceptable scores on English and Math placement examinations.

2

ENGL 2332 World Literature I, ENGL 2333 World Literature II, ENGL 2326 American Literature, or ENGL 2328 African-American Literature (TCCN: ENGL 2332, ENGL 2333, ENGL 2326, or ENGL 2326)

3

MUSI 1306 Music Appreciation, MUSI 1315 Fine Arts In Daily Living, THEA 1310 Introduction to Theatre, ART 135 Topics in Contemp Art & Cultur, ARTS 1315 Intro African Art (TCCN: MUSI 1306, HUMA 1315, DRAM 1310, ARTS 1301, or HUMA 2323).

4

PSYC 2301 General Psychology, SOCI 1301 Introduction To Sociology, SOCI 1306 Contemporary Social Issues, SOCI 2306 Soc Of Human Sexuality, SOCI 2346 Introduction To Anthropology, ECON 2301 Principles Of Economics I or ECON 2302 Principles Of Economics II