

**Mathematics Major-BA (Matriculated at UMD in 2018)**

Freshman Year					
First Semester			Second Semester		
MTH151	Calculus I (US 1D)	4	MTH152	Calculus II	4
MTH181	Discrete Mathematics I	3	MTH182	Discrete Mathematics II	3
PHY113	Classical Physics I	4	PHY114	Classical Physics II (US 2A)	4
CAS101	Introduction to the Arts & Sciences (US 1E)	1	ENL102	Critical Reading & Writing II (US 1B)	3
ENL101	Critical Reading & Writing I (US 1A)	3			
		15			14
					<b>29</b>
Sophomore Year					
First Semester			Second Semester		
MTH211	Calculus III	4	MTH212	Differential Equations	3
MTH221	Linear Algebra	3	MTH280	Introduction to Scientific Computation	3
	US 2B elective (PHY115** recommended)	3		Free elective	3
	US 3B elective	3		US 3A elective	3
	US 4A elective	3		US 4B elective	3
		<b>16</b>			<b>15</b>
					<b>60</b>
Junior Year					
First Semester			Second Semester		
MTH311	Advanced Calculus I	3	MTH312	Advanced Calculus II (US 1C)	3
*/***	Mathematics/Technical elective	3	*	Mathematics elective	3
**	Science elective (if PHY115 not taken)	3	#	Foreign Language	3
	Free elective	3		US 4C elective	3
	Free elective	3		Free elective	3
		<b>15</b>			<b>15</b>
					<b>90</b>
Senior Year					
First Semester			Second Semester		
MTH441	Modern Algebra I	3	MTH451	Differential Geometry (US 5A & Mathematics elective)	3
MTH465	Small-world Networks (US 5B & Mathematics elective)	3	*/***	Mathematics/Technical elective	3
MTH421	Complex Analysis (US 5A)	3	***	Technical elective	3
#	Foreign Language	3	#	Foreign Language	3
	Free elective	3		Free elective	3
		<b>15</b>			<b>15</b>
					<b>120</b>

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<b>Required Mathematics Cores:</b>	
MTH151 _____	MTH152 _____ MTH181 _____ MTH182 _____ MTH211 _____ MTH212 _____
MTH221 _____	MTH280 _____ MTH311 _____ MTH312 _____ MTH421 _____ MTH441 _____
US courses: MTH465 (US 5B) _____ MTH421/451 (US 5A) _____	
<b>Required Physics Courses:</b> PHY113 _____ PHY114 _____	
<b>Plus:</b>	
* <b>9 units of Mathematics electives</b> , which include all upper level mathematics classes. Recommended courses are Number Theory (MTH302), Probability (MTH331), Mathematical Statistics (MTH332), Numerical Analysis I (MTH361), Numerical Analysis II (MTH362), Differential Geometry (MTH451), Elementary Topology (MTH461), Small-world Networks (MTH465), PDEs (MTH471), Numerical Linear Algebra (MTH473), Optimization (MTH474), Upper Level courses in Applied & Computational option, and Selected Topics in Mathematics (MTH499).	
** <b>3 units of Science electives</b> must be in addition to PHY113 & 114, and must be at the level taken by majors. CHM155, BIO121, PHY115, MLS115 are acceptable science electives.	
*** <b>Technical electives</b> must be at the 300 level or higher to give the required total of 30 units at this level. Up to 9 of these units may be non-science topics in CAS-disciplines.	
Students must complete <b>the total of 30 units at the 300 level or higher</b> Mathematics electives, Technical electives, and Science electives count here, too.	
Students must take <b>6 units of literature (US 3A), 9 units of Humanities</b> (no more than 6 in one department), <b>and 12 units of Social Science</b> (at least 6 of each and no more than 6 in one department).	
# Foreign language must be through 202.	
At the discretion of the Mathematics Department Chair, the requirements 5A & 5B in the mathematics department can be substituted with courses fulfilling 5A & 5B in other disciplines.	
Students must earn <b>a grade of C- or higher</b> in each mathematics course which <b>is counted toward</b> the completion of mathematics requirements of the major.	
Students must satisfy the University Studies requirements. Some Science, Literature, Humanities, and Social Sciences courses also satisfy University Studies requirements. Details are at the <b>University Studies Site</b> : <a href="http://www.umassd.edu/universitystudies/">http://www.umassd.edu/universitystudies/</a>	
Comment:	