A student who is either in the LS&A Honors Program or is approved by the Departmental Honors Committee may declare an Honors major in mathematics. The **Honors Mathematics** major will acquire a greater command of abstractions and of the subtleties of mathematical rigor. Members of the Honors Committee of the Department of Mathematics counsel honors majors. Honors students who complete an honors major with distinction may receive on their diplomas the designations "with honors," "with high honors," or "with highest honors." However, these designations are not restricted to students officially enrolled in the Honors Program; any student whose course selection has followed the pattern of an honors major may ask the Chair of the Honors Committee to be considered for an honors designation. An honors citation will be awarded to any student who completes the honors major requirements with a major GPA of at least 3.25 and an LSA cumulative GPA of at least 3.4 at the time of graduation. Honors will automatically remove students without a 3.4 GPA. Citations of high and highest honors are awarded at the discretion of the Honors Committee on the basis of superior performance in advanced courses as attested by grades and individual faculty evaluations.

The Honors concentration program must include at least nine courses: four basic courses **(II.)**, four elective courses **(III.)**, and one cognate course **(IV.)** as described below.

I.   *Prerequisites** (4-9 courses)*   *{must be completed with C- or better}*

Instructions	Course(s)	Student Elections (enter your course selections here)
Select **one** of the following **introductory sequences**:	Math 156, 285 & 286 Math 175, 176, 285 & 286 Math 185, 186. 285 & 286 Math 295, 296, 395 & 396 Math 217 & 297 (Math 395-396 strongly recommended)	*1.* _____ *2.* _____ *3.* _____ *4.* _____ *(strongly recommended)*
All of these sequences are **strongly recommended**:	Physics 140 & Physics 141 Physics 240 & Physics 241	*5.* _____ *6.* _____ *7.* _____ *8.* _____ *9.* _____

***Students intending to pursue an **Honors Math** major are advised to take one of the Honors introductory sequences 156-286, 175-286, 185-286, 295-396, 217-297 or some combination of these five. Please note that the sequence 295-396 is very theoretical. It is recommended that students in the 156-286, 175-286, and 185-286 tracks also complete Math 217.*

II. Basic Courses** (4 courses)   {must be completed with C- or better}

Instructions	Course(s)		Student Elections (enter your course selections here)
Group 1. Select the following **Analysis** course for **option a & b**:	Math 451		**1(a or b).** _____ *A student who has completed Math 295-296 or 217-297, with a grade of at least a C- is exempt from Math 451*
Group 2. Select the following **Modern Algebra** course for **option a**:	Math 493		**2(a).** _____
Group 3. Select **one** of the following **Linear Algebra** courses for **option a & b** :	Math 420 Math 494	Math 571	**2(b)** or **3(a).** _____ *A student who has completed Math 295-395 or 297-395, with a grade of at least a C- is exempt from Math 420*
Group 4. Select **one** of the following **Geometry/Topology** courses for **option a**:	Math 431 Math 433	Math 490 Math 590	**4(a).** _____
Group 5. Select the following **Probability** course for **option b**:	Math 525		**3(b).** _____
Group 6. Select **one** of the following **Differential Equations** courses for **option b**:	Math 404 Math 454 Math 556	Math 557 Math 558	**4(b).** _____

** *The basic courses consist of one course from each of groups 1, 2, 3 and 4 (option a) or groups 1, 3, 5 and 6 (option b).*

III. Electives** (4 courses)

Instructions	Course(s)			Student Elections (enter your course selections here)
Select **four** of the following **Electives**:	Math 289 Math 389 Math 416 Math 431 Math 433 Math 440 Math 452 Math 462 Math 463 Math 464 Math 465 Math 471 Math 481	Math 490 Math 525 Math 526 Math 537 Math 551 Math 555 Math 556 Math 557 Math 558 Math 559 Math 561 Math 563 Math 565	Math 566 Math 567 Math 571 Math 572 Math 575 Math 582 Math 590 Math 591 Math 592 Math 593 Math 594 Math 596 Math 597	**1.** _____ **2.** _____ **3.** _____ **4.** _____ *The elective courses must be chosen in consultation with an honors advisor to provide a cohesive program that explores an area of mathematics in some depth. There is a good deal of freedom allowed here, but a random selection of courses will not satisfy this requirement.* *A student who completes the requirements for part II by choosing courses from option b must complete a course in Complex Analysis.*

** *Math 289 is a repeatable 1-credit course and can be used to satisfy the elective requirement only if taken three times. An honors counselor may approve another mathematics course or a course from another department with advanced mathematical content as one of these elective courses. The honors counselor may ask that the student arrange supplemental work in a given class not listed below to conform to expectations for an honors elective.*

*Cognate** (1 course)*

Instructions	Student Elections
	(enter your course selections here)
Select **one cognate** course **with the approval** of a mathematics honors advisor:	*1.* _____

Almost any field is acceptable, but the course must be at the 300+ level and should have significant mathematical content, at least at the level of Math 215. A list of suggested courses is available online at https://lsa.umich.edu/math/undergraduates/advising/cognate-courses.html but in all cases **approval of an advisor is required.