

Sample Four Year Plan for Math Major With Math Ed

This plan satisfies minimum requirements in both areas and assumes no previous math credits.

Year	Fall	Interim	Spring
FY	<ul style="list-style-type: none"> ○ M 120: Calculus I ○ ○ ○ 	<ul style="list-style-type: none"> ○ 	<ul style="list-style-type: none"> ○ M 126: Calculus II ○ S 212: Statistics for Science if necessary ○ ○
So	<ul style="list-style-type: none"> ○ M 220: Linear Algebra ○ S 272: Statistical Modeling (c) ○ <i>Ed 290: Ed Psych</i> ○ 	<ul style="list-style-type: none"> ○ 	<ul style="list-style-type: none"> ○ *M 262: Probability ○ <i>Ed 375 (1/2)</i> ○ *M 232: Discrete Math ○ ○
Jr	<ul style="list-style-type: none"> ○ *S 322: Statistical Theory (c,d) ○ * M 244 or 252 (a) ○ <i>Ed 330</i> ○ <i>Ed 372 (1/2)</i> ○ 	<ul style="list-style-type: none"> ○ <i>Education Interim</i> 	<ul style="list-style-type: none"> ○ *M 244 or *M252 (a) ○ <i>Ed 350: (spring before student teaching)</i> ○
Sr	<ul style="list-style-type: none"> ○ <i>Student Teaching and other Education courses (could be either semester)</i> 	<ul style="list-style-type: none"> ○ M 356: Geometry (c) 	<ul style="list-style-type: none"> ○ M226 or M230 ○ ○ ○

Bold courses satisfy one or more of the following mathematics major requirements as part of the general requirements of Calculus I and II (or equivalent), Linear Algebra, and 7 courses above Linear, including:

- a. Two of 242, 244, 252 (M244 and M252 are required for teachers)
- b. Courses from three of the four perspectives: axiomatic, continuous, discrete, modeling
- c. Two level III, at least one mathematics and at least one that is sequenced with a level II (M356 is such a sequenced 300 level course and is required for teachers. In this sample, we count S322 as the second 300 level course.)
- d. Total of two CS or Statistics courses can be counted toward the math major. (Here we count S322 as noted above.)

Starred courses* are math and statistics courses that fulfill Minnesota licensing requirements for teaching grades 5-12 mathematics: M120, M126/8, M220, M232, M244, M252, M262, M356, S272 or S322. *Note the following prerequisite and scheduling restrictions:*

- Mathematics 232, Discrete (Spring only)
- Mathematics 262, Probability Theory (Both semesters)
- Statistics 322, Statistical Theory (Pre: S272 and M262) (Fall only)
- Mathematics 356, Geometry (Pre: M244 or M252) (Interim only)

Courses in italics indicate Education courses needed for mathematics teaching licensure. Check with Education department for other required or recommended education courses.

Sample Four Year Plan for Math/MathEd/Stats Concentration

This plan satisfies minimum requirements in all three areas and assumes no previous credit for either calculus or elementary statistics

Year	Fall	Interim	Spring
FY	<ul style="list-style-type: none"> ○ *M 120: Calculus I ○ ○ ○ 	○	<ul style="list-style-type: none"> ○ *M 126: Calculus II ○ ○ ○
So	<ul style="list-style-type: none"> ○ *M 220: Linear Algebra ○ S 212: Statistics for Science, if necessary ○ Ed 290 ○ 	○	<ul style="list-style-type: none"> ○ *M 262: Probability (d) ○ <i>*S 272: Statistical Modeling @</i> ○ Ed 372 (1/2) ○ ○
Jr	<ul style="list-style-type: none"> ○ <i>*S 322: Statistical Theory (c,d)</i> ○ *M 244 or *252 (a) ○ Ed 330 ○ Ed 375 (1/2) ○ 	○ Education Interim	<ul style="list-style-type: none"> ○ <i>S 316: Adv. Statistical Modeling</i> ○ *M 244 or *252 (a) ○ Ed 350 ○
Sr	○ Student Teaching and other Ed courses	○ M *356: Geometry(c)	<ul style="list-style-type: none"> ○ *M 232: Discrete Math ○ ○ ○

Courses in italics satisfy statistics concentration. Note the following prerequisite and scheduling restrictions:

- Mathematics 232, Discrete Math (Spring)
- Statistics 316, Advanced Statistical Modeling (Pre: 272) (Spring only)
- Mathematics 262, Probability Theory (Both semesters)
- Statistics 322, Statistical Theory (Pre: 272, 262) (Fall only)

Bold courses satisfy one or more of the following mathematics major requirements as part of the general requirements of calculus I and II (or equivalent), Linear Algebra, and 7 courses above Linear, including:

- e. Two of 242, 244, 252
- f. Courses from three of the four perspectives: axiomatic, continuous, discrete, modeling
- g. Two level III, at least one mathematics and at least one that is sequenced with a level II
- h. Total of two CS or Statistics courses can be counted toward the math major

Starred courses* are math and statistics courses that fulfill Minnesota licensing requirements for teaching grades 5-12 mathematics: M120, M126/8, M220, M232, M244, M252, M262, M356, S272 or S322. Math 262 and Statistics 322 count for both Math Major and Statistics Concentration.

Sample Four Year Plan for Math/Econ Majors with MathEd

This plan satisfies minimum requirements in both areas and assumes no previous credits in majors.

Year	Fall	Interim	Spring
FY	<ul style="list-style-type: none"> ○ *M 120: Calculus I ○ ○ ○ 	<ul style="list-style-type: none"> ○ 	<ul style="list-style-type: none"> ○ *M 126/128: Calculus II ○ <u>One of Econ 110-121</u> ○ ○
So	<ul style="list-style-type: none"> ○ *M 220: Linear Algebra ○ <u>Econ 263: Economics Statistics</u>, if needed before S 272 ○ <u>Econ 261</u> ○ 	<ul style="list-style-type: none"> ○ 	<ul style="list-style-type: none"> ○ *M 232: Discrete Math ○ *S272: Statistical Modeling ○ <u>Econ 262</u> ○ <i>Ed 290</i>
Jr	<ul style="list-style-type: none"> ○ *M 244 or *M252 ○ <u>Econ Analysis, Level II</u> ○ <i>Ed 372 (1/2)</i> ○ ○ 	<ul style="list-style-type: none"> ○ <i>Ed Interim</i> 	<ul style="list-style-type: none"> ○ *M 244 or *M252 ○ <u>Econ Analysis, Level II or III</u> ○ <i>Ed 330</i> ○
Sr	<ul style="list-style-type: none"> ○ <u>Econ Analysis, Level III</u> ○ *M 262: Probability ○ <i>Ed 375 (1/2)</i> ○ ○ 	<ul style="list-style-type: none"> ○ *M 356: Geometry (sequenced from M220) 	<ul style="list-style-type: none"> ○ <i>Ed 350</i> ○ *Math Level III (Possibly <u>Econ 385</u> -petition to count for math 300 level) ○ <u>Econ Analysis, Level III</u> ○
9 th Sem	<ul style="list-style-type: none"> ○ <i>Student Teaching plus other Ed courses</i> 	DONE	DONE

Bold courses satisfy mathematics major requirements as part of the general requirements of Calculus I and II (or equivalent), Linear Algebra, and 7 courses above Linear Algebra, including:

- a. Two of 242, 244, 252 (*244 and *252 required for teacher candidates).
- b. Courses from three of the four perspectives: axiomatic, continuous, discrete, modeling
- c. Two level III, at least one mathematics and at least one that is sequenced with a level II (*M356 is required for teacher candidates)
- d. Maximum of two CS or Statistics courses can be counted toward the math major
- e. *Teacher candidates must include Math 232, 244, 252, 262, 356 and Statistics in major.

Underlined courses satisfy economics major requirements:

- a. One of Econ 110-121
- b. Econ 261, 262
- c. Econ 263 or (Statistics 272 and Econ 385)
- d. Four Level II or III Economics Analysis courses, including at least two Level III

Italicized courses are part of the requirements for Education courses and experiences. See Education requirements.

Sample Four Year Plan for Math/Physics Majors with MathEd

This plan satisfies minimum requirements and assumes no previous credits in majors

Year	Fall	Interim	Spring
FY	<ul style="list-style-type: none"> ○ <u>P130</u> ○ *M120 ○ ○ 	<ul style="list-style-type: none"> ○ 	<ul style="list-style-type: none"> ○ <u>P 131</u> ○ *M126/8 ○ ○
So	<ul style="list-style-type: none"> ○ <u>P 232</u> ○ *M220 ○ Ed 290 ○ — 	<ul style="list-style-type: none"> ○ 	<ul style="list-style-type: none"> ○ <u>P 244/245</u> ○ M230 ○ *M232 ○
Jr	<ul style="list-style-type: none"> ○ <u>P 374/384</u> (Prereq M230) ○ M226 ○ <i>Ed 375 (1/2)</i> ○ <i>Ed 330</i> ○ 	<ul style="list-style-type: none"> ○ <i>Education Interim</i> 	<ul style="list-style-type: none"> ○ <u>P 375/385</u> (Prereq M226, 230) ○ *M244 or *M252 ○ <i>Ed 372 (1/2)</i> ○ ○
Sr	<ul style="list-style-type: none"> ○ <u>P 376/386</u> (Prereq M226) ○ *M244 or *M252 ○ *M262 ○ 	<ul style="list-style-type: none"> ○ *M 356 (300 level sequenced with M220) 	<ul style="list-style-type: none"> ○ <u>Physics elective</u> ○ M330, 340 or 344 or petition ○ *S272 ○ <i>Ed 350</i>
	<ul style="list-style-type: none"> ○ <i>Student Teaching and other Education Courses</i> 	<ul style="list-style-type: none"> ○ 	<ul style="list-style-type: none"> ○

Bold courses satisfy mathematics major requirements as part of the general requirements of Calculus I and II (or equivalent), Linear Algebra, and 7 courses above Linear Algebra, including:

- a. Two of 242, 244, 252 (*244 and *252 required for teacher candidates).
- b. Courses from three of the four perspectives: axiomatic, continuous, discrete, modeling
- c. Two level III, at least one mathematics and at least one that is sequenced with a level II
- d. Maximum of two CS or Statistics courses can be counted toward the math major
- e. *Teacher candidates must include Math 232, 244, 252, 262, 356 and Statistics in major.

Underlined courses satisfy Physics Major Requirements (with Math Prerequisites)

- Physics 130 (concurrent or after Calculus I)
- Physics 131 (concurrent or after Calculus II)
- Physics 232, (concurrent or after Math 220)
- Physics 244/245. (concurrent or after Math 230).
- Physics 374 (after Math 230)
- Physics 375/385 (after Math 226 and 230).
- Physics 376/386 (after Math 226)
- At least one additional elective above Physics 120

Italicized courses are part of the requirements for Education courses for teaching licensure.

