Individualized Mathematics Proposal (IMaP) for Math Major

Discuss your IMaP with a Math Faculty Member

Name: _____ Email: _____

Graduation year: _____ Advisor: _____

Major(s) _____ Concentration(s) _____

Do you plan to get a mathematics teaching license (grades 5-12)? Yes ☐ No ☐

Why do you want to major in mathematics? Write a brief statement about your interest in math and possible post-graduate plans.

We hope you will want to be part of the MSCS community by attending colloquia, working for the department (as a grader, tutor, or teaching assistant), participating in contests, playing games, and more. Check out the Events link on the MSCS website, and list a few activities that interest you.

Basic Courses: The following three courses are required for the math major. Indicate when you took or plan to take each course, and whether you have official St. Olaf credit.

Course	Title	Term, Year	St. Olaf Credit?				
MATH 119/120	Calculus I		Yes	☐	No	☐	
MATH 126/128	Calculus II		Yes	☐	No	☐	If no, then must take 226
MATH 220	Linear Algebra		Yes	☐	No	☐	If no, then must take 252

Seven courses beyond the basic courses are required. These must include:

- Two transition courses
- At least one course from three of the following perspectives: Axiomatic/Algebraic (A), Continuous/Analytic (C), Discrete/Combinatorial (D), and Modeling/Computation (M)
- Two 300-level courses, at least one of which must have a MATH subject code
- A 200-300-level sequence of two courses, at least one of which must have a MATH subject code
- At least six courses that count toward the major must be taken at St. Olaf

A maximum of two approved courses with subject codes other than MATH may be counted toward the mathematics major. Approved courses are listed on the next page.

At any time, a student may petition to the director of the Mathematics Program for exceptions to the mathematics major requirements.

For more information on the requirements, see the St. Olaf Mathematics website. NOTE: Some upper-level courses are not offered every semester or even every year. Consult the planning guides on the department website for the most likely schedule of course offerings.

Directions: Mark at least seven courses that you plan to take to complete the math major, and indicate when you plan to take each course. Circle the perspective letters for the three courses you will use to satisfy the perspectives requirement. (Each course can only count for one perspective.)

Transition Courses: At least two are required

Course	Title (Perspectives)	Prerequisites	Term, Year
MATH 242	Modern Computational Mathematics (M)	220	
MATH 244	Real Analysis I (C)	126/128 and 220	
MATH 252	Abstract Algebra I (A)	220	

Other Level II Courses

Course	Title (Perspectives)	Prerequisites	Term, Year
MATH 226	Multivariable Calculus (C)	126/128 and 220	
MATH 230	Differential Equations (C, M)	126/128 and 220	
MATH 234	Discrete Mathematical Reasoning (D)	126/128 or CSCI 221; not after 244 or 252	
MATH 236	Mathematics of Biology (M)	126/128 and R programming	
MATH 239	Number Theory - Budapest abroad (D)	220	
MATH 257	Noether and Kovalevskaya: Algebra/Analysis/Access in Europe abroad (A, C)	252 or (230 and 244)	
MATH 261	Computational Geometry (D, M)	242 or 244 or 252 or (234 and CSCI 221)	
MATH 262	Probability Theory (C, D, M)	126/128	
MATH 266	Operations Research (M)	126/128 and 220	
SDS 272 or SDS 264	Statistical Modeling or Introduction to Data Science (M)		
SDS 341	Algorithms for Decision Making (M)		
One of	CHEM 371, ECON 384, ECON 385, PHYS 375, CSCI 353, or EDUC 350 [Note: You must also major in the subject of this course]		
Other	Name:	Discuss with Director of Mathematics	

Level III courses: At least two are required, at least one must be part of a sequence, and at least one must be labeled MATH

Course	Title (Perspectives)	Prerequisites	Sequence	Term, Year
MATH 320	Advanced Linear Algebra (A)	244 or 252	220	
MATH 330	Differential Equations II (M)	226 and 230	230	
MATH 332	Graph Theory (D)	244 or 252	234	
MATH 340	Complex Analysis (C)	226 or 244	226	
MATH 344	Real Analysis II (C)	244	244	
MATH 348	Topology (A)	244	244	
MATH 352	Abstract Algebra II (A)	252	252	
MATH 356	Geometry (A)	244 or 252	220	
MATH 364	Combinatorics (D)	252	234	
MATH 382/384	Topics in Math (varies)	varies		
MATH 396	Directed Undergraduate Research (varies)	varies		
SDS 322	Statistical Theory	262 and SDS 272	262	
CSCI 333	Theory of Computation	proof writing course		
Other	Name:	Discuss with Director of Mathematics		

Student Signature: _____ Date: _____

Math Faculty Signature: _____ Date: _____

Director of Mathematics Signature: _____ Date: _____