

# Individualized Mathematics Proposal (IMaP) for Math Major

## *Discuss your IMaP with an MSCS Faculty Member*

Name: \_\_\_\_\_ E-mail: \_\_\_\_\_

Graduation year: \_\_\_\_\_ Advisor: \_\_\_\_\_

Major(s) \_\_\_\_\_ Concentration(s) \_\_\_\_\_

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

Write a brief statement about your reasons for majoring in mathematics and ideas about your 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. Discuss these activities with an MSCS faculty member and check out the “Events” link on your webpage. List 2 or 3 activities that interest you.

**Directions:** In the sections below, check the courses you plan to take or have taken (since coming to St. Olaf) to complete your math major.

**Basic:** If courses were taken outside of St. Olaf (e.g. high school), indicate whether you have official St. Olaf credit for them. If not, you may be required to take particular electives listed on the reverse.

		<i>Course</i>	<i>Term, Year</i>	<i>St. Olaf credit? Yes/no</i>
	120	Calculus I		
	126/8	Calculus II		If no, then must take 226
	220	Linear Algebra		If no, then must take 252

Seven courses in addition to 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 Level III courses, at least one of which must be a Mathematics course
- a 200-300-level sequence of two courses, at least one of which must be a Mathematics course
- at least 6 courses that count toward the major must be taken after matriculation at St. Olaf

A maximum of two approved courses from outside of 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 [www.stolaf.edu/depts/math](http://www.stolaf.edu/depts/math). **NOTE:** Some upper level courses are not offered every semester or even every year. Consult the department chair or the department website for confirmation of an offering during a particular term or year.

**Perspectives:** Circle the perspective letters for the three courses you will use to satisfy the perspectives requirement. A course can only count for one perspective.

**Transition courses:** at least two required

		<i>Course</i>	<i>Perspectives</i>	<i>Term, Year</i>
	242	Modern Computational Mathematics	M	
	244	Real Analysis I	C	
	252	Abstract Algebra I	A	

**Other Level II courses**

		<i>Course</i>	<i>Perspectives</i>	<i>Term, Year</i>
	224	History of Math	n/a	
	226	Multivariable Calculus	C	
	230	Introduction to Differential Equations	C, M	
	232	Introduction to Math Reasoning	D	
	236	Mathematics of Biology	M	
	239	Number Theory--Budapest	D	
	262	Probability Theory	C, D, M	
	267	Mathematics of Finance	M	
	266	Operations Research	M	
	2xx	Other MATH course #:		
	S 212/214 OR 272 OR MSCS 264	One of statistics for the Sciences OR Statistical Modeling OR Introduction to Data Science	M	
	S 316	Advanced Statistical Modeling	M	
	One of:	Chem 371 or Econ 385 or Phys 375 Note: you must major in chem, econ, or physics	n/a	
	Other	Name: _____ submit paragraph		

**Level III courses:** Two are required, one must be part of a sequence, and at least one must be labeled Math 3xx.

		<i>Course</i>		<i>Sequence with</i>	<i>Term, Year</i>
	320	Advanced Linear Algebra	A	220	
	330	Differential Equations	M	230	
	332	Graph Theory	D	232	
	340	Complex Analysis	C	226	
	344	Real Analysis II	C	244	
	348	Topology	A	244	
	352	Abstract Algebra II	A	252	
	356	Geometry	A	220	
	364	Combinatorics	D	232	
	382	Topics in Math: (name)		Det. By instr.# _____	
	384	Topics in Applied Math: (name)		Det. By instr.# _____	
	396	Directed Undergraduate Research		Det. By instr.# _____	
	MSCS 341	Algorithms for Decision Making	M	220	
	MSCS 390	Practicum		n/a	
	S 322	Statistical Theory		262	
	CS 315	Bioinformatics		n/a	
	CS 333	Theory of Computation		n/a	
	Other	Name: _____ submit paragraph			

***Go online to Student Information System (SIS) and declare Mathematics, then submit this form to Ellen in RMS 307.***

Student Signature \_\_\_\_\_ Date \_\_\_\_\_

Faculty Signature \_\_\_\_\_ Date \_\_\_\_\_

Director of Mathematics signature \_\_\_\_\_ Date: \_\_\_\_\_