

## Foundations Concentration Catalog Description

The concentration in Foundations draws on courses from mathematics and philosophy to provide a close look at the underlying logical and philosophical issues in mathematics. Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 120 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
<b>General Education</b>		
<i>Area I: Communications</i>		
<i>English Composition - Level 1</i>		
<a href="#">ENGL 111G</a>	Rhetoric and Composition	4
<i>English Composition - Level 2</i>		
Choose one from the following:		3
<a href="#">ENGL 203G</a>	Business and Professional Communication	3
<a href="#">ENGL 211G</a>	Writing in the Humanities and Social Sciences	3
<a href="#">ENGL 218G</a>	Technical and Scientific Communication	3
<a href="#">ENGL 311G</a>	Advanced Composition	3
<a href="#">ENGL 318G</a>	Advanced Technical and Professional Communication	3
<i>Oral Communication</i>		
Choose one from the following:		3
<a href="#">AXED 201G</a>	Effective Leadership and Communication in Agricultural Organizations	3
<a href="#">COMM 253G</a>	Public Speaking	3
<a href="#">COMM 265G</a>	Principles of Human Communication	3
<a href="#">HON 265G</a>	Principles of Human Communication Honors	3
<i>Area II: Mathematics</i>		
<a href="#">MATH 191G</a>	Calculus and Analytic Geometry I (Departmental/College Requirement also) 1	4

<b>Prefix</b>	<b>Title</b>	<b>Credits</b>
<i>Area III/IV: Laboratory Sciences and Social/Behavioral Sciences</i>		10-11
Area III: Laboratory Science Course (4 credits) <sup>2</sup>		
Area IV: Social/Behavioral Science Course (3 credits) <sup>2</sup>		
Either an Area III/IV: Laboratory Science Course or Social/Behavioral Science Course (4 credits or 3 credits) <sup>2</sup>		
<i>Area V: Humanities</i> <sup>2</sup>		3
<i>Area VI: Creative and Fine Arts</i> <sup>2</sup>		3
<i>General Education Elective</i>		
<a href="#">MATH 192G</a>	Calculus and Analytic Geometry II (Departmental/College Requirement also)	4
<b>Viewing a Wider World</b> <sup>3</sup>		3
<b>Departmental/College Requirements</b>		21
<a href="#">MATH 279</a>	Introduction to Higher Mathematics	3
<a href="#">MATH 280</a>	Introduction to Linear Algebra	3
<a href="#">MATH 291G</a>	Calculus and Analytic Geometry III	3
<a href="#">MATH 331</a> or <a href="#">MATH 332</a>	Introduction to Modern Algebra Introduction to Analysis	3
<a href="#">MATH 411V</a>	Great Theorems: The Art of Mathematics	3
<a href="#">MATH 452</a>	Foundations of Geometry	3
<a href="#">MATH 454</a>	Logic and Set Theory	3
<i>Departmental Electives</i> <sup>4</sup>		
Select at least an additional 9 credits of approved upper-division courses prefixed MATH or STAT (at least 3 credits must be 400-level), excluding the following:		9
<a href="#">MATH 300</a>	Readings	1-3
<a href="#">MATH 313</a>	Fundamentals of Algebra and Geometry I	3
<a href="#">MATH 316</a>	Calculus with Hands-on Applications	3

Prefix	Title	Credits
<a href="#">MATH 400</a>	Undergraduate Research	1-3
<a href="#">MATH 459</a>	Survey of Geometry	3
<a href="#">STAT 400</a>	Undergraduate Research	1-3
<b>Non-Departmental Requirements (in addition to Gen.Ed/VWW)</b>		13
<a href="#">C.S 172</a>	Computer Science I	4
<a href="#">PHIL 312</a>	Formal Logic	3
Select <b>two</b> courses from the following, including at least one of PHIL 316, PHIL 413.		
<a href="#">PHIL 316</a>	Philosophy of Mathematics	3
<a href="#">PHIL 413</a>	Modal Logic	3
<a href="#">PHIL 350</a>	Epistemology	3
<a href="#">PHIL 351</a>	Philosophy of Science	3
<b>Second Language Requirement: (not required)</b>		
<b>Electives, to bring the total credits to 120 :</b>		39-40
<b>Total Credits</b>		120

#### Course List

- [MATH 191G](#) Calculus and Analytic Geometry I is required for the degree but students may need to take any prerequisites needed to enter [MATH 191G](#) first.  
*\*This could increase the total number of credits for the degree*
- See the [General Education](#) section of the catalog for a full list of courses.
- See the [Viewing a Wider World](#) section of the catalog for a full list of courses. This course must come from outside the college. Note that one of the VWW requirements will be solidified using the 9-credit hour rule with the PHIL courses that are required for the degree.
- [MATH 401](#) Special Topics must be approved by the department for credit towards the major.
- Elective credit may vary based on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

## Second Language Requirement

For the Bachelor of Science with a major in Mathematics with a Concentration in Foundations, there is no second language requirement for the degree.