Mathematics Major

BA – Secondary Ed concentration (36-39 credits)

Calculus Sequence – 8 Credits

Majors must take one calculus sequence

☐ MA-143 Differential Calculus (4 cr)
☐ MA-144 Integral Calculus (4 cr)

Or

☐ MA-123 Elementary Calculus I
☐ MA-124 Elementary Calculus II
☐ MA-125 Intermediate Calculus (2 cr)

Additional Calculus Courses – 6-8 Credits

Choose at least two of the following. Majors must take at least 14 credits total in Calculus.

☐ MA-273 Multivariable Calculus I (4 cr)
☐ MA-274 Multivariable Calculus II (4 cr)
☐ MA-375 Advanced Calculus
☐ MA-377 Ordinary Differential Equations
or MA-379 Differential Equations for Engineers (4 cr)

Required Courses – 16 Credits

Each of the following courses must be taken

☐ MA-247 Introductory Linear Algebra
☐ MA-248 Math Tech Lab (1 cr)
☐ MA-250 Transitions to Advanced Mathematics
☐ MA-350 College Geometry
☐ MA-400 History of Mathematics
☐ MA-441 Modern Algebra

Capstone Experience – 0 Credits

To be satisfied in an upper division MA course during the student's senior year.

Statistics, Probability, or Discrete Math – 3 Credits

Take one of the following courses

☐ MA-132 Statistics for the Life Sciences
☐ MA-212 Elementary Statistics
☐ MA-222 Intermediate Statistics
☐ MA-316 Intermediate Discrete Mathematics
☐ MA-335 Probability Theory
☐ MA-336 Mathematical Statistics
☐ MA-337 Statistical Computing with R
☐ MA-338 Regression Analysis
☐ MA-389 Topics in Statistics

Mathematics Elective – 3-4 Credits

Take one of these courses. A course cannot be counted as an elective course and towards another major requirement.

☐ MA-316 Intermediate Discrete Mathematics
☐ MA-335 Probability Theory
☐ MA-336 Mathematical Statistics
☐ MA-337 Statistical Computing with R
☐ MA-338 Regression Analysis
☐ MA-347 Topics in Linear Algebra
☐ MA-350 College Geometry
☐ MA-375 Advanced Calculus
☐ MA-377 Ordinary Differential Equations
or
MA-379 Differential Equations for Engineers (4 cr)
☐ MA-382 Mathematical Modeling
☐ MA-385 Topics in Applied Mathematics
☐ MA-387 Topics in Mathematics
☐ MA-389 Topics in Statistics
☐ MA-399 Independent Study
☐ MA-417 Introduction to Topology
☐ MA-441 Modern Algebra
☐ MA-442 Topics in Modern Algebra
☐ MA-467 Functions of Complex Variables
☐ MA-481 Numerical Analysis

Saint Peter's University

Core for Math

BA – Secondary Ed (45 credits)

Composition – 3 credits

Additional Composition course(s) may be required based on placement testing

☐ CM-102 English Composition II

Core Requirement 1.1 – select one 3-4 credit course

SLO 1.1: Problem solve and analyze quantitative information based on placement testing

☐ MA-123 Elementary Calculus I
☐ MA-124 Elementary Calculus II
☐ MA-143 Differential Calculus
☐ MA-144 Integral Calculus
☐ MA-273 Multivariable Calculus (4 cr)
☐ MA-274 Multivariable Calculus (4 cr)

Core Requirement 2.1 – select one from each field

SLO 2.1: Critically think about ideas and events that have shaped the humanistic tradition

☐ Literature – 3 credits

☐ EL-201 English Lit I
☐ EL-202 English Lit II
☐ EL-203 American Lit I
☐ EL-204 American Lit II
☐ EL-205 Survey of World Lit
☐ EL-206 Poetry
☐ EL-207 Drama
☐ EL-208 Fiction

☐ History – Any 100 or 200 level course, 3 credits

☐ Social Sciences – 3 credits

☐ EC-101 Principles of Macroeconomics (recommended)
☐ PO-100 Perspectives on Politics
☐ UR-151 The Contemporary City
☐ UR-125 Intro to Social Work

Core Requirement 2.2 – select one from each field

SLO 2.2 Distinguish behaviors and characteristics that support effective and appropriate interaction in a variety of cultural contexts

☐ Arts/Languages – 3 credits

☐ AR-110 Art in the City
☐ AR-127 Intro to Visual Arts
☐ AR-128 Intro to Music
☐ Modern, Classical or Cultural Language

☐ Additional Humanities – 3 credits

☐ AR-110 Art in the City
☐ AR-127 Intro to Visual Arts
☐ AR-128 Intro to Music
☐ EL-201 English Lit I
☐ EL-202 English Lit II
☐ EL-203 American Lit I
☐ EL-204 American Lit II
☐ EL-205 Survey of World Lit
☐ EL-206 Poetry
☐ EL-207 Drama
☐ EL-208 Fiction
☐ HS-100/200-level
☐ Modern, Classical or Cultural Language

☐ Social Sciences – 3 credits

☐ SO-121 Intro to Sociology
☐ AS/AT/LS/SJ/SO-101 Intro to Latin Am. and Latino Studies
☐ AT/GS/SJ/SO-136 Intro to LGBTQ Studies
☐ AT/GS/LS/SJ/SO-140 Intro to Women's Studies
☐ AS/LS/SJ/SO-177 Intro to Africana Studies
☐ SO-206 Exploring American Identities *(CELAC students only)*

Core Requirement 2.3 – select one from each field

SLO 2.3: Discern ethical and moral principles in order to more fully understand one's role as an individual in a larger community

☐ Philosophy – 3 credits

☐ PL-130 Intro to Philosophy
☐ PL-140 Intro to Ethics

☐ Theology – 3 credits

☐ TH-110 Religious Faith in the Modern World
☐ TH-120 Intro to the Study of Christianity

☐ Any 200 or 300-level Philosophy or Theology – 3 credits

Core Requirement 3.1 – select one from each field

SLO 3.1 Apply fundamental scientific principles and methods of inquiry to understand the impacts of the scientific research technology

☐ Natural Sciences – 3 credits

Either BI-122 or BI-124 is recommended.

☐ BI-122 Nutrition in Health and Disease
☐ BI-124 Human Structure and Function
☐ Biology, Chemistry, or Physics

☐ STEM – 3 credits

☐ CS-180 Introduction to Programming (required)

Core Requirement 4.1 – select one from each field

SLO 4.1 Recognize the role of service, leadership and Ignatian ideals in the realization of a just, civil society

☐ Ignatian Seminar (FY-100 level) – 3 credits

Must be completed within first 30 credits, with the exception of transfer students

☐ Interdisciplinary – 3 credits

Courses offered will vary by term and year; please check Student Planning

Distributive Requirements

In some cases, these may be satisfied as part of the major requirements. Some courses may satisfy more than one of these requirements.

☐ Pluralism _____
☐ Values _____ *Pre-requisite courses: one PL and one TH course*
☐ Writing Intensive _____ *must have greater than 30 credits*
☐ Oral Communication _____

Credit Requirement for Graduation – 120 credits

At least 37-39 additional credits are need to reach 120 credits (minimum for graduation). Students are encouraged to fulfill these credits with a minor.

☐ _____ (3 Credits)
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