PURDUE UNIVERSITY

Core Mathematics
College of Science

MATH-BS
Code-MATH
120 Credits

Departmental/Program Major Courses (70-99 credits)

Required Major Courses (40-43 credits): Average GPA in courses must be 2.00 excluding Calculus I, II and III. cc Identified as a critical course. Student should earn minimum of a B- see advisor for further details.

_____ (4-5) Calculus I Option – Select from MA 16100, MA 16500 ***(satisfies Quantitative Reasoning for core)*** cc
_____ (4-5) Calculus II Option – Select from MA 16200, MA 16600 ***(satisfies Quantitative Reasoning for core)***
_____ (4-5) Calculus III Option – Select from MA 26100, MA 27101 ***(satisfies Quantitative Reasoning for core)***
_____ (3) MA 35100 Elementary Linear Algebra cc
_____ (4) MA 36600 Ordinary Differential Equations
_____ (3) MA 34100 Foundations Of Analysis or MA 44000 Real Analysis Honors
_____ (3) MA 35300 Linear Algebra II With Applications
_____ (3) Advanced Calculus Selective: MA 36200 Topics In Vector Calculus/MA 44200 - Multivariate Analysis I Honors
_____ (3) MA 45000 - Algebra Honors or MA 45300 - Elements Of Algebra I
_____ (3) MA Selective
_____ (3) MA Selective
_____ (3) MA Selective

Other Departmental /Program Course Requirements (30-56 credits)

_____ Met within Major Calculus I Option – Select from MA 16100, MA 16500 ***(satisfies Quantitative Reasoning for core)*** cc
_____ Met within Major Calculus II Option – Select from MA 16200, MA 16600 ***(satisfies Quantitative Reasoning for core)***
_____ (3-4) ENGL 10600 or ENGL 10800 - ***(satisfies Written Communication and Information Literacy for core)***
_____ (0-4) Language I Option* ***(Select courses COULD satisfy Human Cultures Humanities for core)***
_____ (0-4) Language II Option* ***(Select courses COULD satisfy Human Cultures Humanities for core)***
_____ (0-4) Language III/Culture/Diversity Option* ***(Select courses COULD satisfy Human Cultures Humanities for core)***
_____ (3-6) Technical Writing Option and Technical Presenting Option ***(Select courses COULD satisfy Oral Communication for core)***
_____ (3-4) Laboratory Science I Option ***(satisfies Science Selective for core)***
_____ (3-4) Laboratory Science II Option ***(satisfies Science Selective for core)***
_____ (3) General Education I Option ***(Select courses COULD satisfy Human Culture Behavioral/Social Science or Humanities for core)***
_____ (3) General Education II Option ***(Select courses COULD satisfy Human Culture Behavioral/Social Science or Humanities for core)***
_____ (3) General Education II Option ***(Select courses COULD satisfy Human Culture Behavioral/Social Science or Humanities for core)***
_____ (3) STAT 35000 Introduction To Statistics
_____ (3-4) Computing Option
_____ (0-4) Teambuilding and Collaboration Experience*
_____ (3) Great Issues Option
_____ (0-3) Multidisciplinary Experience* ***(Select courses COULD satisfies Science, Technology, and Society Selective for core)***

*Requirement may be met with a zero credit experiential learning option. See your advisor for more information

Electives (21-50 credits)

_____ ( ) _____	_____ ( ) _____	_____ ( ) _____	_____ ( ) _____
_____ ( ) _____	_____ ( ) _____	_____ ( ) _____	_____ ( ) _____
_____ ( ) _____	_____ ( ) _____	_____ ( ) _____	_____ ( ) _____
_____ ( ) _____	_____ ( ) _____	_____ ( ) _____	_____ ( ) _____

University Core Requirements

Human Cultures Humanities	☐ _____	*Science, Technology & Society Selective*	☐ _____
Human Cultures Behavioral/Social Science	☐ _____	*Written Communication*	☐ _____
Information Literacy	☐ _____	*Oral Communication*	☐ _____
Science Selective	☐ _____	*Quantitative Reasoning*	☐ _____
Science Selective	☐ _____		

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The student is ultimately responsible for knowing and completing all degree requirements.

(Degree Works) MyPurduePlan is knowledge source for specific requirements and completion

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Revised 2/2016 (effective Fall 2016)

Core Mathematics

Suggested Arrangement of Courses:

Credits	**Fall 1st Year**	**Prerequisite**	Credits	**Spring 1st Year**	**Prerequisite**
4-5	Calculus I Option[cc]	ALEKS 85	4-5	Calculus II Option	Calculus I C- or higher
3-4	ENGL 10600/10800		3-4	Computing Option (rec. CS 17700 & meets Teambuilding and Collaboration Experience)	Varies
3-4	Language I Option		3-4	Language II Option	Language 10100
1	Free Elective (MA 10800)				
3-4	Free Elective		2	Free Elective	
			3	Free Elective	
15-17			**15-18**		

Credits	**Fall 2nd Year**	**Prerequisite**	Credits	**Spring 2nd Year**	**Prerequisite**
4-5	Calculus III Option	Calculus II C- or higher	3	MA 35100[cc] Elementary Linear Algebra	Calculus III C- or higher
3-4	Laboratory Science I Option		3	STAT 35000 Introduction To Statistics	Calculus II C- or higher
3-4	Language III/Culture/Diversity Option	See Course Info	3-4	Laboratory Science II Option	Lab Sci Option I
3	Free Elective (MA 30100)	Calculus II C- or higher	3-6	Technical Writing Option and Technical Presenting Option (COM 21700)	
2	Free Elective		0-3	Free Elective	
15-18			**15-16**		

Credits	**Fall 3rd Year**	**Prerequisite**	Credits	**Spring 3rd Year**	**Prerequisite**
4	MA 36600 Ordinary Differential Equations	co-req or pre MA 35100 C- or higher	3	MA 35300 Linear Algebra II With Applications	MA 35100 C- or higher
3	MA 34100 or MA 44000	Calculus III (grade requirement depends on course)	3	Advance Calculus Selective	Varies by Class
3	General Education I Option		3	General Education II Option	
3	Free Elective		3	Free Elective	
2	Free Elective		3	Free Elective	
15			**15**		

Credits	**Fall 4th Year**	**Prerequisite**	Credits	**Spring 4th Year**	**Prerequisite**
3	MA 45000 or MA 45300	MA 35100 (grade requirement depends on course)	3	Math Selective	Varies by Class
3	MA Selective	Varies by Class	3	Math Selective	Varies by Class
3	Multidisciplinary Experience		3	Great Issues Option	Jr/Sr Standing; may require COM or ENGL
3	General Education III Option		3	Free Elective	
3-6	Free Elective (Science, Technology & Society Selective Course)		3	Free Elective	
15-18			**15**		

[cc] Identified as a critical course. Student should earn minimum of a B- see advisor for further details.
Courses in ( ) are recommended.

Students must earn a 2.0 average in MATH/STAT/CS courses required for major (excluding Calculus I, II, III)
120 semester credits required for Bachelor of Science degree.
2.0 Graduation GPA required for Bachelor of Science degree.

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Supplemental Information

MA Selective Options (no more than two courses from any one category except PHYS dual majors)

Algebra

MA 42100 Linear Programming And Optimization Techniques
MA 45400 Galois Theory

Analysis

MA 42500 Elem Complex Anly Typically Offered Fall
MA 42800 Intro To Fourier Analysis Typically Offered Spring
MA 44200 Multiv Anly I Honors Typically Offered Spring
MA 44000 Real Analysis Honors Typically Offered Fall

Computer Science

CS 24000 Programming In C
CS 25100 Data Structures And Algorithms

Differential Equations

MA 52300 Int To Part Diff Equa
MA 54300 Ord Diff Eqs & Dyn Sys

Discrete Mathematics, Foundations

CS 38100 Intro Analysis Algor
CS 48300 Theory Of Computation
MA 37500 Intro Discrete Math
MA 38500 Introduction To Logic Typically Offered Spring

FOR MATH/MAED DUAL MAJORS ONLY

MA 48400 Sem Tch Coll Alg&Trig Typically Offered Fall

FOR PHYS DUAL MAJORS ONLY

PHYS 60000 Methods Theoret Phys I
PHYS 60100 Methods Theoret II

Geometry

MA 57100 Elementary Topology

Numerical Analysis

CS 31400 Numerical Methods
CS 51400 Numerical Analysis
CS 51501 Parallelism Numer Linear Alg
CS 52000 Comput Meth In Optimization
MA 51400 Numerical Analysis

Statistics, Probability

MA 41600 Probability
MA 49000 Elem Stochastic Processes
MA 51900 Intro To Probability
STAT 41600 Probability
STAT 41700 Statistical Theory
STAT 49000 Elem Stochastic Processes
STAT 51600 Basic Probability Appl
STAT 51700 Statistical Inference
STAT 51900 Intro To Probability