DEPARTMENT OF MATHEMATICS & STATISTICS FACULTY OF ARTS AND SCIENCE QUEEN'S UNIVERSITY

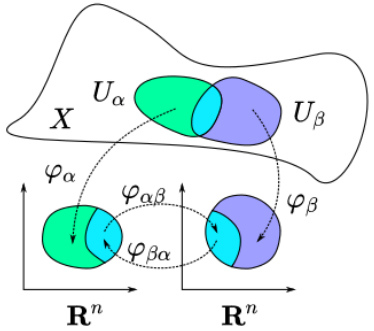
Advice for students entering second year during 2026–27

Complete information about program requirements, courses of study, and academic regulations can be found in the Faculty of Arts and Science Academic Calendar.

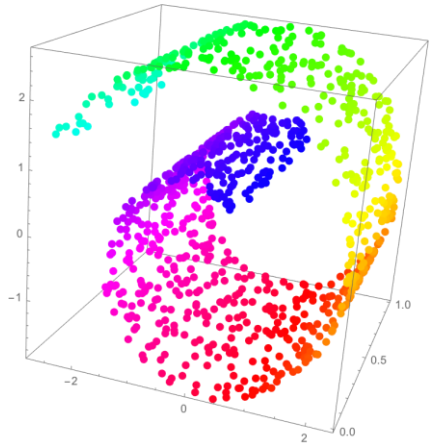
For advice about degree programs or courses, please email the Chair of Undergraduate Studies at mathstat.ugchair@queensu.ca

What is Mathematics and Statistics?

- **Mathematics:** The science of structure, order, and relation that has evolved from elemental practices of counting, measuring, and describing shapes of objects. [**Encyclopedia Britannica**]



- **Statistics:** The science of uncertainty and the technology of extracting information from data. [**International Encyclopedia of Statistical Science**]



Why study Mathematics?

- Mathematics provides a language that allows us to describe and understand the world surrounding us.
- A degree in **mathematics** reflects problem solving and analytical thinking skills, leading to careers in:
    - Mathematics research
    - Artificial intelligence
    - Computer science
    - Economics
    - Finance
    - Cybersecurity
    - Medicine, law, etc.
    - Actuarial science
    - Data science

Why study Statistics?

- Statistics deals with data and is about developing models and methods to infer meaningful information.
- A degree in **statistics** reflects skills in modelling, data analysis, and interpretation. It can lead to careers in:
    - Statistics research
    - Data science
    - Artificial intelligence
    - Finance, risk analysis / consulting
    - Marketing
    - Economics
    - Epidemiology, biostatistics
    - Medicine, law, scientific research, etc.
    - Sports analytics

Program Details

Mathematics and Statistics Plans

PLANS WITHIN HONOURS DEGREES

Specializations

- Biology and Mathematics (BSCH): 84.0 units
- Computing, Mathematics, and Analytics (BCMPH): 90.0 units
- Mathematical Physics (BSCH): 105.0 units
- Mathematics (BSCH): 60.0 units
  - Sub-plans: Pure Mathematics / Applied Mathematics
- Statistics (BSCH): 60.0 units

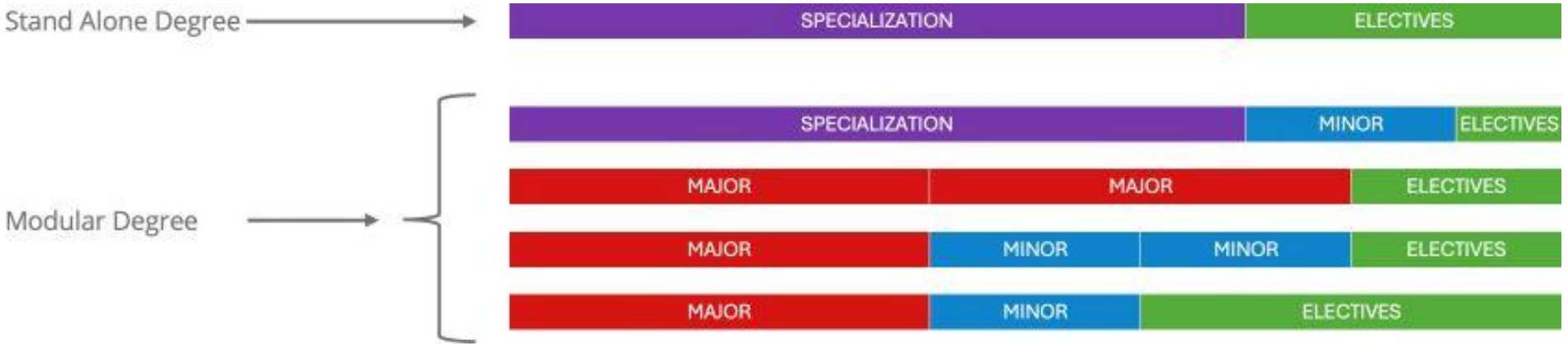
Majors

- Mathematics: 48.0 units
- Statistics: 48.0 units

Minors

- Mathematics: 30.0 units
- Statistics: 30.0 units

What is the Modular degree framework?



- “Double-counting” of up to 12.0 units.
- You will now be able to double major in MATH and STAT.

200-level courses

FALL 2026

Course Number	Title	Instructor (subject to change)
MATH 210	Rings and Fields	Smith
MATH 221	Vector Calculus	Barthelmé
MATH 225	Ordinary Differential Equations	Miyamoto, TBA
STAT 252	Probability	White
STAT 268	Probability and Statistics I	Rogers
STAT 263	Introduction to Statistics	TBA
MATH 280	Advanced Calculus	Chiri, TBA

WINTER 2027

Course Number	Title	Instructor (subject to change)
MATH 212	Linear Algebra II	White
MATH 225	Ordinary Differential Equations	TBA
STAT 263	Introduction to Statistics	TBA
STAT 269	Probability and Statistics II	Takahara
MATH 281	Introduction to Real Analysis	Lewis, TBA

300-level courses that can be taken along with 200-level courses

FALL 2026

Course Number	Title	Instructor (subject to change)
MATH 381	Mathematics with a Historical Perspective	Murty

WINTER 2027

Course Number	Title	Instructor (subject to change)
MATH 337	Introduction to Operations Research Models	TBA
STAT 362	R for Data Science	Ling
MATH 385	Life Contingencies	Empire Life

Mathematics and Statistics Plans

PLANS WITHIN HONOURS DEGREES

Specializations

- Biology and Mathematics (BSCH): 84.0 units
- Computing, Mathematics, and Analytics (BCMPH): 90.0 units
- Mathematical Physics (BSCH): 105.0 units
- Mathematics (BSCH): 60.0 units
  - Sub-plans: Pure Mathematics / Applied Mathematics
- Statistics (BSCH): 60.0 units

Majors

- Mathematics: 48.0 units
- Statistics: 48.0 units

Minors

- Mathematics: 30.0 units
- Statistics: 30.0 units

Majors and SSPs: MATH/STAT courses in the first two years

MATH Major, MATH SSP, Mathematical Physics SSP

	FALL	WINTER
1st Year	MATH 110 (Linear Algebra)	
	MATH 120 (Differential and Integral Calculus)	
2nd year	MATH 280 (Advanced Calculus)	MATH 281 (Intro. Real Analysis)
	STAT 268 (Statistics and Probability I)	STAT 269 (Statistics and Probability II)
	MATH 210 (Rings and Fields)	MATH 225 (ODEs)

STAT Major, STAT SSP

	FALL	WINTER
1st Year	MATH 110 (Linear Algebra)	
	MATH 120 (Differential and Integral Calculus)	
2nd year	MATH 280 (Advanced Calculus)	MATH 281 (Intro. Real Analysis)
	STAT 268 (Statistics and Probability I)	STAT 269 (Statistics and Probability II)
		Options: STAT 362 (R for Data Science)

Majors and SSPs: MATH/STAT courses in the first two years

Computing, Mathematics and Analytics SSP

	FALL	WINTER
1st Year	MATH 110 (Linear Algebra) or MATH 112 (Intro. Linear Algebra) + STAT 161 (Intro. Data Science) or MATH 112 (Intro. Linear Algebra) + MATH 212 (Linear Algebra II)	
	MATH 120 or MATH 121 (Differential and Integral Calculus)	
2nd year	STAT 268 (Statistics and Probability I) or STAT 252 (Intro. Applied Probability)	STAT 269 (Statistics and Probability II)
	MATH 221 (Vector Calculus) or MATH 280 (Advanced Calculus)	Options: MATH 210 (Rings and Fields) MATH 300 (Model. Techniques Biol.) MATH 339 (Evol. Game Theory) MATH 225 (ODEs)* MATH 281 (Intro. Real Analysis)*

Majors and SSPs: MATH/STAT courses in the first two years

Biology and Mathematics SSP

	FALL	WINTER
1st Year	MATH 110 (Linear Algebra) or MATH 112 (Intro. to Linear Algebra) + STAT 161 (Intro. to Data Science) or MATH 112 (Intro. to Linear Algebra) + MATH 212 (Linear Algebra II)	
	MATH 120 or MATH 121 (Differential and Integral Calculus)	
2nd year	STAT 268 (Statistics and Probability I) or STAT 252 (Intro. Applied Probability)	STAT 269 (Statistics and Probability II) or BIOL 243 (Intro. Statistics)
	MATH 221 (Vector Calculus) or MATH 280 (Advanced Calculus)	MATH 225 (ODEs)

Minors: MATH/STAT courses in the first two years

MATH

	FALL	WINTER
1st Year	MATH 110 (Linear Algebra) or MATH 112 (Intro. to Linear Algebra) +[STAT 161 (Intro. to Data Science) or STAT 263 (Intro. To Statistics)] or MATH 112 (Intro. to Linear Algebra) + MATH 212 (Linear Algebra II)	
	MATH 120 or MATH 121 or MATH 127+128 (Differential and Integral Calculus)	
2nd Year	STAT 268 (Statistics and Probability I) or STAT 252 (Probability)	Options: STAT 269 (Statistics and Probability II) MATH 225 (ODEs, also in the fall)

STAT

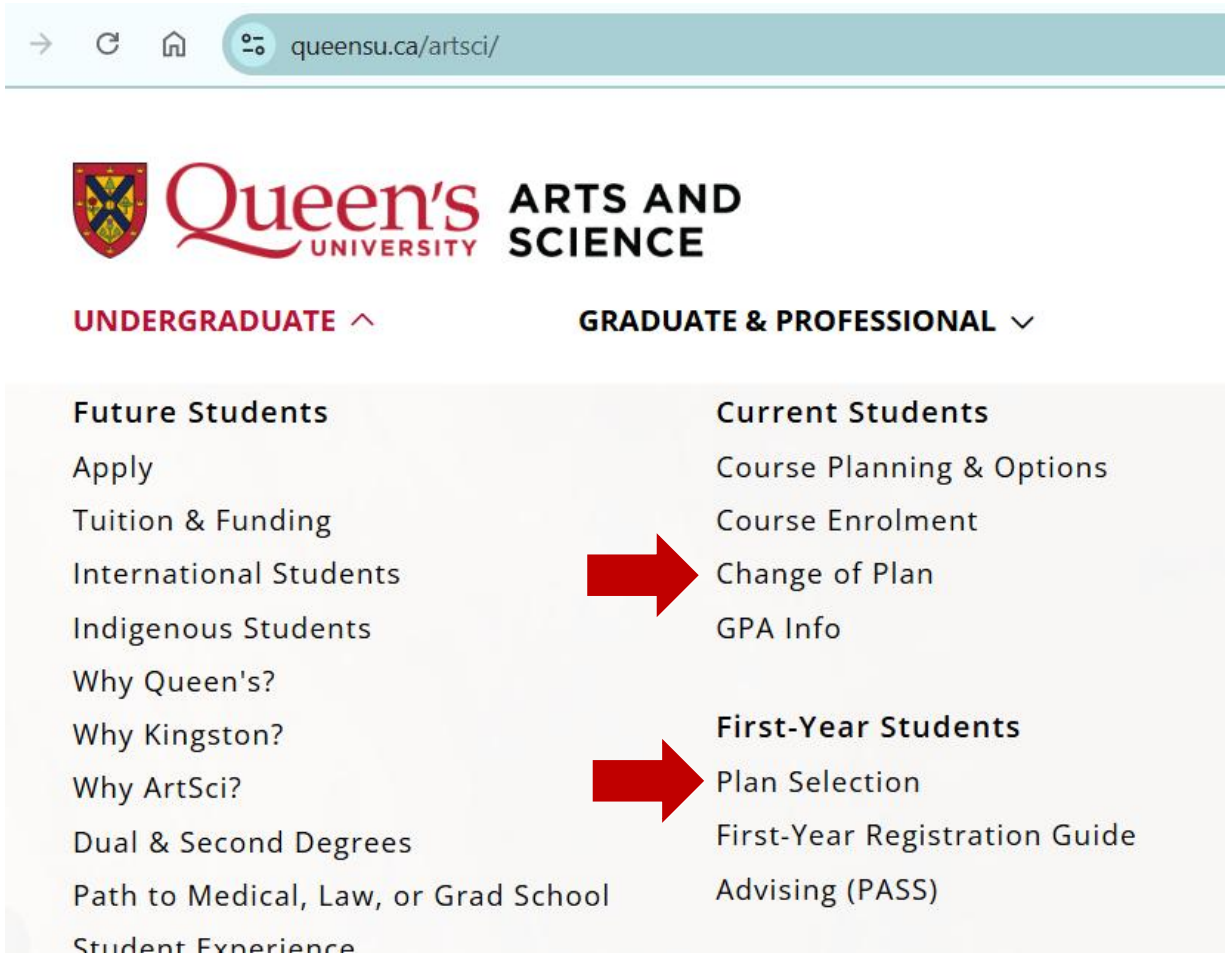
	FALL	WINTER
1st Year	MATH 110 (Linear Algebra) or MATH 112 (Intro. to Linear Algebra) + STAT 161 (Intro. to Data Science) or MATH 112 (Intro. to Linear Algebra) + MATH/STAT at 200-level or above	
	MATH 120 or MATH 121 or MATH 127+128 (Differential and Integral Calculus)	
2nd year	STAT 268 (Statistics and Probability I) or STAT 252 (Probability)	STAT 269 (Statistics and Probability II) or STAT 263 (Intro. to Statistics)
	MATH 280 (Advanced Calculus) or MATH 221 (Vector Calculus)	Options: MATH 225 (ODEs) STAT 362 (R for Data Science)

When can a Modular Plan be requested?

- First-year students will participate in Plan Selection from **May 19 to 30, 2026**
- Upper-year students can request a plan change in (or to move to) the Modular framework, during the Plan Change period, this year also from **May 19 to 30**
- Late Change of Plan period: **June 22 – July 3**

Where do we go for more guidance?

- **Review the information already on the Arts and Science website** (including detailed overviews of the course/unit requirements for all Modular Plans)
  - *Upper-year students* – Change of Plan webpage
  - *First-year students* – Plan Selection webpage
- **Watch for updates on Plan details/first-year placement thresholds as they get posted on those sites**
- **Reach out to our department (and others that you're interested in) for specific questions**
- **Connect with an Academic Advisor in the Student Services Office**



48.0-Unit MATH Major for the Modular Degree Framework

1. Core		
A. Complete the following:		
MATH 110	Linear Algebra	6.00
MATH 120	Differential and Integral Calculus	6.00
B. Complete the following:		
MATH 210	Rings and Fields	3.00
MATH 225	Ordinary Differential Equations	3.00
MATH 280	Advanced Calculus	3.00
MATH 281	Introduction to Real Analysis	3.00
C. Complete the following:		
STAT 268	Statistics and Probability I	3.00
STAT 269	Statistics and Probability II	3.00
D. Complete the following:		
MATH 326	Functions of a Complex Variable	3.00
2. Option		
A. Complete 3.00 units from the following:		3.00
MATH_List_A		
B. Complete 3.00 units from the following:		3.00
MATH 341	Differential Geometry	
MATH 347	Introduction to Topology	
MATH at the 400-level or above		
C. Complete 3.00 units from the following:		3.00
MATH 310	Group Theory	
MATH 314	Representations of the Symmetric Group	
MATH 328	Real Analysis	
MATH 331	Ordinary Differential Equations II	
STAT 353	Probability II	
MATH at the 400-level or above		
D. Complete 6.00 units from the following:		6.00
MATH at the 400-level or above		
Total Units		48.00

60.0-Unit MATH SSP

for the Modular Degree Framework

1. Core		
A. Complete the following:		
MATH 110	Linear Algebra	6.00
MATH 120	Differential and Integral Calculus	6.00
B. Complete the following:		
MATH 210	Rings and Fields	3.00
MATH 225	Ordinary Differential Equations	3.00
MATH 280	Advanced Calculus	3.00
MATH 281	Introduction to Real Analysis	3.00
C. Complete the following:		
STAT 268	Statistics and Probability I	3.00
STAT 269	Statistics and Probability II	3.00
D. Complete the following:		
MATH 326	Functions of a Complex Variable	3.00
MATH 328	Real Analysis	3.00
2. Sub-Plans		
A. Complete one of the following Sub-Plans		24.00
i. Pure Mathematics		
ii. Applied Mathematics		
Total Units		60.00

MATH SSP Sub-Plans for the Modular Degree Framework

PURE MATHEMATICS		
1. Core		
a. Complete the following:		
MATH 310	Group Theory	3.00
2. Option		
a. Complete 3.00 units from the following:		3.00
MATH List A		
b. Complete 9.00 units from the following:		9.00
MATH List B		
MATH at the 400-level or above		
c. Complete 3.00 units from the following:		3.00
MATH 341	Differential Geometry	
MATH 347	Introduction to Topology	
d. Complete 6.00 units from the following:		6.00
MATH at the 400-level or above		
Total Units		24.00

APPLIED MATHEMATICS		
1. Core		
a. Complete the following:		
MATH 331	Ordinary Differential Equations II	3.00
STAT 353	Probability II	3.00
2. Option		
a. Complete 3.00 units from the following:		3.00
MATH List A		
b. Complete 6.00 units from the following:		6.00
MATH List B		
MATH at the 400-level or above		
c. Complete 3.00 units from the following:		3.00
MATH 300	Modeling Techniques in Biology	
MATH 337	Stochastic Models in Operations Research	
MATH 339	Game Theory	
d. Complete 6.00 units from the following:		6.00
MATH at the 400-level or above		
Total Units		24.00

Special Lists of Courses for the Modular Degree Framework

MATH_List_A	
MATH 300	Modeling Techniques in Biology
MATH 311	Elementary Number Theory
MATH 381	Mathematics with a Historical Perspective
MATH 382	Mathematical Explorations
MATH 386	Our Number System - an Advanced Perspective
MATH 387	Elementary Geometry - an Advanced Perspective
MATH_List_B	
MATH 300	Modeling Techniques in Biology
MATH 310	Group Theory
MATH 314	Representations of the Symmetric Group
MATH 331	Ordinary Differential Equations II
MATH 335	Mathematics of Engineering Systems
MATH 337	Stochastic Models in Operations Research
MATH 339	Game Theory
MATH 341	Differential Geometry
MATH 347	Introduction to Topology
STAT 353	Probability II

48.0-Unit STAT Major for the Modular Degree Framework

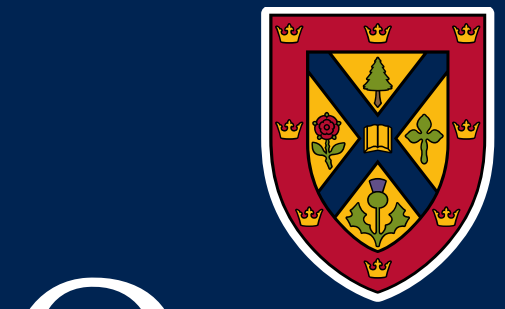
1. Core		
A. Complete the following:		
MATH 110	Linear Algebra	6.00
MATH 120	Differential and Integral Calculus	6.00
B. Complete the following:		
MATH 280	Advanced Calculus	3.00
MATH 281	Introduction to Real Analysis	3.00
C. Complete the following:		
STAT 268	Statistics and Probability I	3.00
STAT 269	Statistics and Probability II	3.00
D. Complete the following:		
STAT 353	Probability II	3.00
STAT 361	Applied Methods in Statistics I	3.00
STAT 362	R for Data Science	3.00
E. Complete the following:		
STAT 463	Fundamentals of Statistics Inference	3.00
2. Option		
A. Complete 9.00 units from the following:		9.00
STAT at the 300-level or above		
B. Complete 3.00 units from the following:		3.00
MATH 210	Rings and Fields	
MATH 225	Ordinary Differential Equations	
MATH at the 300-level or above		
STAT at the 300-level or above		
Total Units		48.00

60.0-Unit STAT SSP for the Modular Degree Framework

1. Core		
A. Complete the following:		
MATH 110	Linear Algebra	6.00
MATH 120	Differential and Integral Calculus	6.00
B. Complete the following:		
MATH 280	Advanced Calculus	3.00
MATH 281	Introduction to Real Analysis	3.00
C. Complete the following:		
STAT 268	Statistics and Probability I	3.00
STAT 269	Statistics and Probability II	3.00
D. Complete the following:		
STAT 353	Probability II	3.00
STAT 361	Applied Methods in Statistics I	3.00
STAT 362	R for Data Science	3.00
E. Complete the following:		
STAT 463	Fundamentals of Statistics Inference	3.00
2. Option		
A. Complete 15.00 units from the following:		15.00
STAT at the 300-level or above		
B. Complete 9.00 units from the following:		9.00
MATH 210	Rings and Fields	
MATH 225	Ordinary Differential Equations	
MATH at the 300-level or above		
STAT at the 300-level or above		
Total Units		60.00

Useful Websites:

- Arts and Science: Plan Selection
- Degree Plans in Mathematics and Statistics
- Advice – Undergraduate Study in Mathematics
- Advice – Undergraduate Study in Statistics
- Math Stat Degree Plan Combinations – Guidelines for Double Counting and Course Substitution



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