

# Applied Mathematics BA Biology/Chemistry Track

**12** Required Core Credits

**18** Flexible Core Credits

**12** College Option Credits

**72** Major Credits

**6** Elective Credits

This 4-year academic plan is designed to help freshmen entering Queens College in Fall 2023. Our 4-year academic plans are illustrative examples of integrated degree requirements and course sequencing for each of the College's programs of study which are designed to ensure degree completion in a timely manner. Students are advised to meet with professional and faculty advisors to tailor their degree maps to their individual interests (academic and career goals), as well as other considerations including course offerings and the incorporation of winter and summer sessions. Course pre-requisite/s and co-requisite/s are strictly enforced, as are entrance and maintenance criteria (if applicable) for the successful completion of the degree.

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## Freshman

### FALL

English Composition I (EC1)	3 credits
MATH 122 (MQR)	4 credits
Pre-calculus	
CHEM 1134&1131 (LPS)	5 credits
General Chemistry I	
World Cultures & Global Issues (WCGI)	3 credits

**Fall total credits 15 credits**

### SPRING

English Composition II (EC2)	3 credits
MATH 151¥€ (or equivalent)	4 credits
Calculus I	
CHEM 1144&1141 (SW)	5 credits
General Chemistry II	
US Experience in its diversity (USED)	3 credits

**Spring total credits 15 credits**

## Sophomore

### FALL

MATH 152¥€ (or equivalent)	4 credits
Calculus II	
BIOL 105 (SW)	4 credits
General Biology I	
MATH 241	3 credits
Probability & Statistics	
Creative expression (CE)	3 credits
General electives I credit	

**Fall total credits 15 credits**

### SPRING

MATH 201€	4 credits
Multi-Variable Calculus	
BIOL 106 (SCI)	4 credits
General Biology II	
CSCI 111(or MATH 250)	3 credits
Intro to Algorithmic Problem Solving	
Individual and Society (IS)	3 credits
General electives I credit	

**Spring total credits 15 credits**

General Education requirements may be taken in any order if the pre-requisite requirement(s) is/are satisfied.

¥ The following sequences of classes are considered the equivalents of MATH 151 and MATH 152: MATH 141, 142, and 143; MATH 131, 132, and 143; MATH 151, 142, and 143, MATH 157 and 158.

€ Students who are majoring in mathematics may not enroll in MATH 115, 122, 131, 132, 141, 142, 143, 151, 152, 201, or 231 if they have withdrawn from or received a failing grade (F, FIN, W, WD, WN, WU) in that same course three times. Students may not declare a major in mathematics if they have withdrawn from or received a failing grade three times in any one of MATH 115, 122, 131, 132, 141, 142, 143, 151, 152, 201, or 231.

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## Junior

### FALL

MATH 202 (or 207) Advanced Calculus	4 credits
MATH 231 Linear Algebra	4 credits
College Option Literature (LIT+W) With Writing Intensive Unit*	3 credits
Foreign Language (LANG)	4 credits

**Fall total credits 15 credits**

### SPRING

Math Elective® (in consultation with Math Dept. advisor)	3 credits
Math Elective® (in consultation with Math Dept. advisor)	3 credits
One Writing Intensive Unit (W)	3 credits
An Additional College Core	3 credits
Second major, minor, or general electives	3 credits

**Spring total credits 15 credits**

## Senior

### FALL

Math Elective® (in consultation with Math Dept. advisor)	3 credits
Math Elective® (in consultation with Math Dept. advisor)	3 credits
Second major, minor, or general electives	9 credits

**Fall total credits 15 credits**

### SPRING

Math Elective® (in consultation with Math Dept. advisor)	3 credits
Math Elective® (in consultation with Math Dept. advisor)	3 credits
Second major, minor, or general electives	9 credits

**Spring total credits 15 credits**

\* If a Literature course is taken with a W, it will count towards Literature and one Writing Intensive Unit.

• At least eighteen credits of the MATH required and elective courses must be taken at Queens College.

\*\*General Electives: Students may complete general electives by taking courses in (most) department/s or programs they choose; however, depending on the course/program, students may need department permission and/or prerequisite course/s. Electives may be used to supplement the chosen major (an English major may want to take a course in French or Italian literature) or to fulfill interest in a different area (a Music major may be interested in the physics of sound). Students are encouraged to use available electives to complete a dual major, minor, pre-requisites for graduate or professional school, or complete and internship, experiential learning and/or study abroad. Students are encouraged to use their available general electives wisely and focus on coursework that will assist them personally, academically and professionally.

® Six elective MATH courses at the 200-, 300-, 600-, or 700-level (not including MATH 205, 218, 271, 272, or 385W€).

fNot open to students who are taking or who have received credit for MATH 585.