Data Science & Statistics BA

12 Required Core Credits

18 Flexible Core Credits

12 College Option Credits

60 Major Credits

15 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.

QUEENS COLLEGE

CUNY

Data Science & Statistics BA

Freshman

FALL

English Composition I (EC1)	3 credits
World Cultures & Global Issues (WCGI)	3 credits
Creative Expression (CE)	3 credits
MATH 151¥ (or equivalent) (MQR)	4 credits
Calculus/ Differentiation & Integration	
SOC 101 (IS)	3 credits
Introduction to Sociology	

Fall total credits   **16 credits**

SPRING

English Composition II (EC2)	3 credits
MATH 152¥ (or equivalent)	4 credits
Calculus/ Integration &Infinite Series	
Life & Physical Science (LPS)	4 credits
DATA 205 (or BIOL 230 or MATH 242)	4 credits
Social Statistics I	

Spring total credits   **15 credits**

Sophomore

FALL

MATH 241	3 credits
Introduction to Probability and Mathematical Statistics	
MATH 201	4 credits
Multivariable Calculus	
CSCI 111 (SW)	3 credits
Introduction to Algorithmic Problem Solving	
Foreign Language (LANG)	3 credits
Additional Flexible Core	3 credits

Fall total credits   **16 credits**

SPRING

MATH 231 (or 237)	4 credits
Linear Algebra I ECON 382	3 credits
Introduction to Econometrics	
CSCI 212 (or 211)	3 credits
Object Oriented Programming in Java	
Additional College Core	3 credits
General Electives***	3 credits

Spring total credits   **16 credits**

¥ 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.

Three electives:
* MATH 172, DATA 235, CSCI 48, CSCI 211, CSCI 212, CSCI 220, CSCI 240, CSCI 313, BUS 386, BIOL 330, PSYCH 323, or one relevant course not on this list (upon prior approval by your advisor).

A course may not be counted as both a required and an elective course. At least twenty credits of these required and elective cour es must be taken at Queens College.

Data Science & Statistics BA

Junior

FALL

MATH 310 (or 320)	3 credits
Elementary Real Analysis	
US Experience in its Diversity (USED)	3 credits
MATH 340	3 credits
Probability Theory for Data Science	
General electives***	6 credits
Fall total credits	**15 credits**

SPRING

MATH 341	3 credits
Bayesian Modeling ECON 387	3 credits
Advanced Econometrics First Major Elective*	3 credits
General Electives***	6 credits
Spring total credits	**15 credits**

Senior

FALL

MATH 342W (W)	4 credits
Second Major Elective*	3 credits
College Option Science (SCI)	3 credits
College Option Literature (LIT) with Writing Unit (W)	3 credits
General Electives***	3 credits
Fall total credits	**16 credits**

SPRING

MATH 343	3 credits
Computation Stats for Data Science	
Third Major Elective*	3 credits
General Electives***	9 credits
Spring total credits	**15 credits**

The University has general education requirements. There are many general education courses that involve data science concepts; these can be beneficial for a student choosing the Data Science and Statistics option. The following courses are recommended: LCD 101 (SW/LANG/SCI); LCD 102 (LANG); PSCI 100 (USED); PSYCH 101 (SW/SCI); PSYCH 213W (LPS/SW/SCI); SOC 101 (IS) Note that the LCD 101 AND LCD 102 are highly recommended for the student who wishes to learn natural language processing, an important aspect of modern data science.

***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.

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