

# BA CURRICULUM

CC and GS students declaring in Spring 2024 or later and BC students entering Barnard in Fall 2023 or later must follow this curriculum. Please refer to the main CS website for more details.

## PREREQUISITES

- Calculus 1

## MATH REQUIREMENT

- Calculus 3/ Multivariable Calculus
  - MATH UN1201, MATH UN1205, or APMA E2000
- Linear Algebra
  - COMS W3251, APMA E3101, APMA E2101, MATH UN2010, or MATH UN2015
- Probability (new)
  - STAT UN1201, STAT GU4001, STAT GU4203, IEOR E3658, or MATH UN2015
    - MATH UN2015 can double count for Linear Algebra and Probability requirements. This is the ONLY instance a course can double-count

## CS CORE

- The following 6 courses must be taken:
  - COMS W1004 Intro to CS
  - COMS W3134 Data Structures
  - COMS W3157 Advanced Programming
  - COMS W3203 Discrete Math
  - COMS W3261 CS Theory
  - CSEE W3827 Fundamentals of Computer Systems

## AREA FOUNDATION COURSES (AFC)

- Select 3 courses from the following list:
  - COMS W4111 Introduction to Databases
  - COMS W4113 Distributed Systems Fundamentals
  - COMS W4115 Programming Languages and Translators
  - COMS W4118 Operating Systems
  - CSEE W4119 Computer Networks
  - COMS W4152 Engineering Software-as-a-Service
  - COMS W4156 Software Engineering
  - COMS W4160 Computer Graphics
  - COMS W4167 Computer Animation
  - COMS W4170 User Interface Design
  - COMS W4181 Security 1
  - CSOR W4231 Analysis of Algorithms
  - COMS W4236 Introduction to Computational Complexity
  - COMS W4701 Artificial Intelligence
  - COMS W4705 Natural Language Processing
  - COMS W4731 Computer Vision
  - COMS W4733 Computational Aspects of Robotics
  - CBMF W4761 Computational Genomics
  - COMS W4771 Machine Learning
  - CSEE W4824 Computer Architecture
  - CSEE W4868 System-on-Chip Platforms

## CS ELECTIVES

- 3 COMS courses or jointly listed CS courses such as CSXX/ XXCS that are at the 3000- level or higher, and are at least 3-points

### IMPORTANT NOTES

#### PREREQUISITES

- Calculus 1

#### AREA FOUNDATION COURSES

#### PROBABILITY REQUIREMENT

#### NO MORE TRACKS

#### IMPORTANT EXCEPTIONS

- No more than 6 points of project/thesis courses (COMS W3902, W3998, W4901) can count toward the major.
- COMS W3999 Fieldwork cannot be used as a CS Elective.
- No more than one course from each set below may be applied to the major
  - IEOR E3658, STAT UN1201, STAT GU4001, MATH UN2015
  - MATH UN2015, MATH UN2010, APMA E3101, COMS W3251
  - COMS W4771, COMS W4721, STAT GU4241