

Modeling and Mathematics Applications

Bronx Early College Academy

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A course for students *interested* in mathematics

A modern approach to teaching and learning

1. Important topics in mathematics skipped in regular classes
2. “Modeling” is a method to solve practical problems
3. Also include important proofs in theoretical mathematics
(primes are infinite, $\sqrt{2}$ is irrational, there are different sizes of infinity)
4. Collaborative, small group, discourse oriented
5. Project-based assessments

Class schedule prepares you for college and career

Official course on your transcript, $\frac{1}{2}$ credit

In-person instruction

1. Monday & Tuesday: 1:24 - 2:20
2. Lunch will be brought up from the cafeteria

Online coursework

1. One hour on Saturdays at a time to be determined
2. Small groups working independently

Google Classroom

1. Official course materials and assignments
2. Also math.huson.com and GitHub

Take class notes in a composition book

Use this notebook format (required)

1. Outside cover: “Modeling” or “Applied Math”, your first and last name
2. First page: your name, my contact info
Dr. Huson / chuson@schools.nyc.gov / 917-648-5632
3. Your passwords and logins

Computers in mathematics

A new way of learning mathematics in school

1. Machines for calculation and formatting
People for understanding, communicating, questioning
2. Changing the types of problems we try to solve

Warning:

3. Programming is time consuming and frustrating
4. Real world tools require your attention to privacy and security

Artificial intelligence is a threat and an opportunity (for you)

1. Microsoft / OpenAI tools: ChatGPT-4, Bing/Edge, Copilot
2. Logical thinking and articulation are even more important

Change your view of what it means to be able to *do* mathematics

“In the middle of every difficulty lies opportunity.”

“Do not worry about your difficulties in mathematics, I assure you that mine are greater.”

Albert Einstein



Figure: Albert Einstein c1890s