

Open House
Department of Mathematics
Clarkson University

Spring 2021

Why Study Mathematics?

Math solves problems:

- Engineering: design, modeling, optimization, control, . . .
- Physics: fluids, heat transfer, climate, cosmology, . . .
- Biology: genome sequencing, population dynamics, modeling, . . .
- Computers: security, graphics, image processing, animation, . . .
- Business: econometrics, modeling, actuarial work, . . .

Math teaches you to think:

- Critical thinking and communication skills sought by employers

Math prepares you for the future:

- Essential foundation for careers in a changing world
- Great preparation for graduate school (not just for math!)

Math is fascinating

What Can I Do with a Degree in Mathematics?

Who hires mathematicians?

- Government labs
- Engineering research firms
- Computer and software firms
- Energy systems companies
- Financial services firms
- Communications services
- Pharmaceutical companies
- Academic/research institutions
- many more ...

Which fields are growing?

- Systems biology
- Data analytics and mining
- Materials science
- Animation/digital imaging
- Finance and economics
- Ecology/environment
- Epidemiology
- Climatology

What about teaching?

- College/University, Community College, High School, ...

Check the career information at websites of SIAM, MAA, and AMS

Majors

Mathematics (Math or Stat):

- Theory and application—concentrate on either math or statistics
- Good preparation for a variety of careers or for graduate school

Applied Math and Statistics (AMS):

- Includes application courses from other fields (and less proof)
- Prepares you for work in business, industry, or government

Data Science (*new!*):

- Combines mathematics, statistics, and computational science
- Prepares you for work in business, industry, or government

Joint majors with other departments:

- [Mathematical Economics \(*new!*\)](#)
- [Digital Arts and Sciences](#)

Also at Clarkson: Sciences, Engineering, Business, Liberal Arts

Our Graduates

	Alicia	19	Math	Manufacturing Analyst	SRCTec
	Toop	19	AMS	Graduate	Northeastern U.
	Chris	19	AMS	Data Sci	Harris Corp., Rochester
	Sam	19	Math&CS	Software Developer	Epic, WI
	Gary	18	Math&CS	Electrician	Old Forge Elec, NY
	Jacob	18	Math&CS	Google	LA
	Jheilyno	18	AMS	Country Living Loans	Northeast US
	Lauren	18	AMS	Graduate	Iowa State U.
	Warren	18	AMS	MAT	Clarkson U.
	Evan	17	Math	Market Research, IRI	Chicago
	Ahmed	16	Math	Language Data Analyst	NY
	Carrie	16	Math	Data Scientist	NY
	Ahmed	16	Math	Language Data Analyst	NY
	Nick	14	Math	Lecturer	The Ohio State
	Peter	14	AMS&Phy	Comput. Scientist	Cornell U.
	Ruby	10	Math	Miller Institute for Basic Research in Sci	UC Berkeley

Typical Program: Mathematics Major

● First Year–Fall

- ▶ MA131 Calculus I
- ▶ CS141 Comp Sci I
- ▶ PH131 Physics I
- ▶ UNIV190 Clarkson Seminar
- ▶ FY100 First Year Seminar

● First Year–Spring

- ▶ MA132 Calculus II
- ▶ CS142 Comp Sci II*
- ▶ PH132 Physics II
- ▶ MA200 Math Modeling
- ▶ Knowledge Area elective

● Sophomore Year

- ▶ 5 required MA courses
- ▶ 1 Science elective
- ▶ 2 Knowledge Area electives
- ▶ 2 Free electives

● Junior Year

- ▶ 2 required MA courses
- ▶ 3 MA/STAT electives
- ▶ 2 Knowledge Area electives
- ▶ 3 Free electives

● Senior Year

- ▶ 2 MA/STAT electives
- ▶ 8 Free electives
- ▶ Professional experience

Typical Program: Applied Math and Statistics Major

● First Year–Fall

- ▶ MA131 Calculus I
- ▶ CS141 Comp Sci I
- ▶ PH131 Physics I
- ▶ UNIV190 Clarkson Seminar
- ▶ FY100 First Year Seminar

● First Year–Spring

- ▶ MA132 Calculus II
- ▶ CS142 Comp Sci II*
- ▶ PH132 Physics II
- ▶ MA200 Math Modeling
- ▶ Knowledge Area elective

● Sophomore Year

- ▶ 5 required MA courses
- ▶ 1 Science elective
- ▶ 2 Knowledge Area electives
- ▶ 2 Application electives

● Junior Year

- ▶ 3 required MA courses
- ▶ 2 MA/STAT electives
- ▶ 2 Knowledge Area electives
- ▶ 3 Application electives

● Senior Year

- ▶ 2 MA/STAT electives
- ▶ 8 Free electives
- ▶ Professional experience

Typical Program: Data Science Major

● First Year–Fall

- ▶ MA131 Calculus I
- ▶ CS141 Comp Sci I
- ▶ Science elective
- ▶ UNIV190 Clarkson Seminar
- ▶ FY100 First Year Seminar

● First Year–Spring

- ▶ MA132 Calculus II
- ▶ CS142 Comp Sci II
- ▶ Science elective
- ▶ MA200 Math Modeling
- ▶ Knowledge Area elective

● Sophomore Year

- ▶ 4 required MA courses
- ▶ 4 CS, DS, IS courses
- ▶ 2 Knowledge Area electives

● Junior Year

- ▶ 2 required STAT courses
- ▶ 3 CS, DS, IS courses
- ▶ 2 Knowledge Area electives
- ▶ 3 Free electives

● Senior Year

- ▶ 3 required STAT courses
- ▶ 2 Application electives
- ▶ 5 Free electives
- ▶ Professional experience

Typical Program: Mathematical Economics Major

● First Year–Fall

- ▶ MA131 Calculus I
- ▶ EC150 Microeconomics
- ▶ Science elective
- ▶ Knowledge Area elective
- ▶ UNIV190 Clarkson Seminar
- ▶ FY100 First Year Seminar

● First Year–Spring

- ▶ MA132 Calculus II
- ▶ EC151 Macroeconomics
- ▶ MA200 Math Modeling
- ▶ Science elective
- ▶ Knowledge Area elective

● Sophomore Year

- ▶ 3 required MA courses
- ▶ 3 EC courses
- ▶ 4 Free electives

● Junior Year

- ▶ 2 required MA courses
- ▶ 2 EC courses
- ▶ 2 Knowledge Area electives
- ▶ 4 Free electives

● Senior Year

- ▶ 1 MA/STAT elective
- ▶ 1 EC elective
- ▶ 8 Free electives

Typical Program: Computer Science Major

● First Year–Fall

- ▶ MA131 Calculus I
- ▶ CS141 Comp Sci I
- ▶ **Science Sequence**
- ▶ UNIV190 Clarkson Seminar
- ▶ FY100 First Year Seminar

● First Year–Spring

- ▶ MA132 Calculus II
- ▶ CS142 Comp Sci II
- ▶ **Science Sequence**
- ▶ **Free elective**
- ▶ Knowledge Area elective

● Sophomore Year

- ▶ **5 required CS/MA courses**
- ▶ 1 Science elective
- ▶ 2 Knowledge Area electives
- ▶ 2 Free electives

● Junior Year

- ▶ **5 CS courses**
- ▶ 1 STAT course
- ▶ 2 Knowledge Area electives
- ▶ 2 Free electives

● Senior Year

- ▶ **4 CS electives**
- ▶ 6 Free electives
- ▶ Professional experience

Double Majors: Math and CS

● First Year–Fall

- ▶ MA131 Calculus I
- ▶ CS141 Comp Sci I
- ▶ PH131
- ▶ UNIV190 Clarkson Seminar
- ▶ FY100 First Year Seminar

● First Year–Spring

- ▶ MA132 Calculus II
- ▶ CS142 Comp Sci II
- ▶ PH132
- ▶ MA200
- ▶ Knowledge Area elective

● Sophomore Year

- ▶ 7 required CS/MA courses
- ▶ 1 Science elective
- ▶ 2 Knowledge Area electives

● Junior Year

- ▶ 7 CS courses
- ▶ 1 STAT course
- ▶ 2 Knowledge Area electives

● Senior Year

- ▶ 2 required MA courses
- ▶ 4 CS electives
- ▶ 2 MA/STAT electives
- ▶ 2 free electives
- ▶ Professional experience

Academic Opportunities

Advanced Placement Tests:

- Calculus credit(s) for AP Test (score at least 4)
- In-house advanced placement test for Calculus

Combined Undergraduate Degrees:

- Double majors with Math: CS, Physics, Biology, Engineering*, ...
- Minors: CS, Biology, Business, Engineering Science, ...

Combined (4+1) Programs at Clarkson:

- B.S + MBA (Master of Business Administration)
- B.S + MAT (Master of Arts in Teaching): Capital Region Campus

Other Graduate Programs at Clarkson:

- M.S. in Data Analytics
- M.S. and Ph.D. in Math, Computer Science, ...

More Opportunities

Associated Colleges—up to two courses per year at:

- SUNY/Potsdam: music, education, liberal arts, languages, . . .
- Saint Lawrence University: liberal arts, languages, music, . . .
- SUNY/Canton: criminal justice, health care, veterinary tech, . . .

Co-op Programs and Internships:

- Actuarial trainee
- Work in industry or at a research laboratory

Undergraduate Research

- Work with a professor at Clarkson
- Summer research: NSF/REU, national labs, . . .
- Honors program thesis work

Study Abroad Exchange: 23 countries, 44 universities

Math Club: AWM, SIAM, Pi Mu Epsilon

Clarkson Distinctives

Small College plus Graduate Program:

- Courses taught by faculty
- Personal advising
- Professors available for help
- Graduate courses available to well-prepared undergrads

Active Faculty:

- Faculty committed to both teaching and research
- Brings relevant applications and interest into classes
- Supported by NSF, DOD, DOE, and other agencies
- Collaborations with many groups at Clarkson and beyond
- You may get involved (for credit—or possibly paid)

And Now ...

See what else Clarkson has to offer:

- Computer Science, Physics, Chemistry, Biology, ...
- Engineering, Business, and Liberal Arts
- Honors Program

Questions?

Contact Information

Chairman:

- Prof. Joseph Skufca
- 315-268-2399
- jskufca@clarkson.edu

Executive Officer:

- Prof. Guangming Yao
- 315-268-6496
- gyao@clarkson.edu

Administrative Assistant:

- Tyler Hayes
- 315-268-2395
- math@clarkson.edu