MELLON COLLEGE OF SCIENCE (MCS)

MCS undergraduates are advancing the boundaries of science.

PROGRAMS

**Biological Sciences**
- Biological Sciences (BA or BS)
- Biological Sciences and Psychology (BS)
- Biological Sciences/Neuroscience Track (BS)
- Neuroscience (BS)

**Chemistry**
- Chemistry (BA or BS)
- Chemistry/Biological Chemistry Track (BS)

**Mathematical Sciences**
- Computational Finance (BS)
- Mathematical Sciences (BS)
- Mathematical Sciences (Computational and Applied Mathematics) (BS)
- Mathematical Sciences (Discrete Mathematics and Logic) (BS)
- Mathematical Sciences (Operations Research and Statistics) (BS)
- Mathematical Sciences (Statistics) (BS)
- Mathematical Sciences and Economics (BS)

**Physics**
- Physics (BA or BS)
- Physics/Applied Physics Track (BS)
- Physics/Astrophysics Track (BS)
- Physics/Biological Physics Track (BS)
- Physics/Chemical Physics Track (BS)
- Physics/Computational Physics Track (BS)

**Intercollege**
- Bachelor of Science and Arts (BSA)

**INTERDISCIPLINARY PROGRAMS**

The Health Professions Program guides students interested in medicine, dentistry or other health professions in their course choices and as they apply for professional degree programs.

GRADUATED CLASS – SPRING 2020

- **58** Biological Sciences
- **33** Physics
- **192** Graduated Class
- **77** Mathematical Sciences
- **23** Chemistry

**MCS Admitted Student Averages**

<table>
<thead>
<tr>
<th>SAT-ERW</th>
<th>SAT-M</th>
<th>ACTE</th>
<th>ACTM</th>
<th>ACTC</th>
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<tr>
<td>740-770</td>
<td>800</td>
<td>35-36</td>
<td>35-36</td>
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Middle 50% ranges

Popular First-Year Courses

- Molecular Tools for Biologists and Chemists
- Putnam Seminar
- MCS Freshman Seminar: EUREKA
- Frontiers, Analysis and Discovery in Biological Sciences
- Matter & Interactions

More than 70% of undergraduates conduct cutting-edge research. Create new knowledge. Advance their fields. Publish results.

FACULTY

- **30** Biological Sciences
- **38** Mathematical Sciences
- **134** Faculty*
- **39** Physics
- **27** Chemistry

Notable Faculty

- **Alison Barth**, Maxwell H. and Gloria C. Connan Professor in the Life Sciences, is a recipient of the Society for Neuroscience’s Research Award for Innovation in Neuroscience. Barth is an inventor of technologies that are advancing the field of brain research.
- **Po-Shen Loh**, professor of mathematical sciences, is the academic director of the United States Mathematical Olympiad program and national lead coach of the U.S. team. He’s also founder of the crowd-sourced science and math education website Expii.com.

*Research, teaching and tenure track faculty.
PREPARING STUDENTS TO BE 21ST-CENTURY SCIENTISTS:

**Scholars:** deeply trained in their disciplines

**Professionals:** adept at communicating and accustomed to working in multidisciplinary teams

**Persons:** with a sense of wellness and balance

**Citizens:** actively involved and globally engaged

Alumni Accomplishments

While at Carnegie Mellon, 2019 mathematical sciences graduate Andrew Kwon co-created the Carnegie Mellon Informatics and Mathematics Competition for high school students. Kwon was a Goldwater Scholar and was awarded an NSF Graduate Research Fellowship to pursue his doctoral training in number theory and algebraic geometry at Penn.

Building on the undergraduate research she participated in at Carnegie Mellon, 2019 chemistry graduate Erin Kavanagh conducted research on artificial lung devices in Germany as a Fulbright Scholar. Having completed her Fulbright, she’s currently a doctoral student in biomedical sciences.

Biological sciences 1990 graduate Glen de Vries founded Medidata, a company that helps health care and drug industries do better science. Medidata brings data analytics and artificial intelligence into play and is now keeping track of more than 8 billion clinical records for more than 2 million patients, with 1,400 more patients being entered into its system daily.

Student Startup

Emerald Cloud Lab, founded by biological sciences 2005 grad D.J. Kleinbaum and computational biology 2005 grad Brian Frezza, is revolutionizing the biotechnology industry by using robotics to make laboratory experiments more efficient and precise.

Core Education

1. MCS’s revolutionary Core Education program educates students as scholars, professionals, people and citizens and creates well-rounded young scientists uniquely prepared to enter the workforce or pursue further education.

2. The EUREKA! Discovery and Its Impacts seminar equips first-year students with foundational knowledge, skills and perspectives that support their development as emerging scientists.

3. The PROPEL seminar prepares juniors for their impending transitions into professional life with lectures on science and society, entrepreneurship and innovation, and professional development.

4. The ENGAGE requirements help students to become well-rounded individuals by engaging in the arts, wellness and service throughout their time at Carnegie Mellon.

Research

**Astrophysics and Cosmology**

The universe holds many secrets, including what makes up dark matter and dark energy. Researchers at the McWilliams Center of Cosmology are leaders in astrophysical research, playing important roles in projects including the Large Synoptic Survey Telescope project and the Sloan Digital Sky Survey.

**Climate Science**

The air is full of tiny particles that form both naturally and from human actions. Researchers at Carnegie Mellon are at the forefront of identifying how these particles evolve as they travel through the atmosphere and the impact they have on cloud formation, rainfall, climate and human health.

**Nucleic Acids Science**

The Center for Nucleic Acids Science and Technology pairs biology and chemistry to study nucleic acids. The center is a leader in the development of synthetic nucleic acids and has created new technologies, including gene editing techniques, that are being developed for the treatment of disease.