Computer Science

Learning Goals

1. To have critical thinking skills to solve problems by developing and implementing algorithms.
2. To be able to analyze the inherent complexity of computational problems as well as the complexities of their solutions.
3. To be able to design, implement, and test computer programs that solve substantial computational problems.
4. To be able to communicate clearly in written and oral form.
5. To be able to work effectively on a team.

About the major

The Computer Science Department at Middlebury offers a wide variety of courses that integrate computer science into the liberal arts curriculum. Our goal is to help our students develop strong algorithmic problem-solving skills as well as a deep understanding of the conceptual organization of computers and the fundamental principles of computer science. Students from other disciplines who venture into the department for a course or two will also emerge with a deeper understanding not only of computer science, but of their own disciplines and how they have been impacted by computation and computational thinking. A student graduating with a Middlebury College computer science major will be well equipped to create that impact, as we weave through the 21st century.

The Computer Science Department offers a flexible major in computer science as well as a minor. Many of our students opt to pursue a double or joint major with another discipline, including physics, economics, mathematics, and others.

The department currently has nine full-time faculty members and an assistant in instruction.

> "The computer science major taught me how to understand abstract concepts and approach problems in a systematic manner and gave me a powerful understanding of fundamental paradigms that has proved useful in both database administration and software engineering."
>
> —Trevor Truog '14
> *Software Engineer, Wayfair*

Reasons you might choose this major

- Science and math are definitely your calling.
- You are interested in technology and the increasingly digital world.
- You are looking to expand your skills in programming languages, software design, operating systems, graphics, or a number of other areas.
- You are fascinated by artificial intelligence.
- You have watched how major industries have been transformed by computer science and are interested in continuing to explore this.
- You are invested in major societal and global issues and are interested in applying computing techniques to these issues.

Middlebury College
Center for Careers and Internships

Translating Learning into Professional Competencies

Throughout your time at Middlebury, you will develop and enhance the following core professional competencies, skills, and dispositions highly valued by employers that will prepare you for leadership and success in any given field:

Critical Thinking: Exercise sound reasoning to analyze issues, make decisions, and overcome problems.

Oral/Written Communications: Articulate thoughts and ideas clearly and effectively in written and oral forms.

Teamwork/Collaboration: Build collaborative relationships with colleagues and customers from diverse backgrounds.

Leadership: Leverage the strengths of others to achieve common goals, and use interpersonal skills to coach and develop others.

Professionalism/Work Ethic: Demonstrate personal accountability and effective work habits.

Global/Intercultural Fluency: Value, respect, and learn from diverse cultures, races, ages, genders, sexual orientations, and religions.

Digital Technology: Leverage existing digital technologies ethically and efficiently to solve problems, complete tasks, and accomplish goals.

Career Management: Identify and articulate one's skills, strengths, knowledge, and experiences relevant to career goals, and identify areas necessary for professional development.

Where computer science majors go

Applying your learning through internships . . .

Students pursue internships and research in a variety of fields, enabling them to apply their liberal arts learning in real-world settings. Internships, research, and self-directed projects enrich your academic experience and help prepare you for life after Middlebury. Students have interned or done research at the following:

Electronic Arts

Pragmatic Technologies

IBM

Independent Project-SheCodes

National Institutes of Health

Core Media Group

Beijing Normal University Children Sex Health and Education Center

Compass Group

The Data Mining Group, Institute of Computer Science, Johannes Gutenberg Universitat

Comtrade

Wyss Institute for Biologically Inspired Engineering

Human-Computer Interaction Institute at Carnegie Mellon University

Moody's

Twitter

Bank of America Merrill Lynch

Human Rights Campaign

Makerworks

Gap Inc.

Infosys

The Hershey Company

Hewlett-Packard Inc.

Artfact

. . . leading to meaningful, dynamic, and engaging career paths.

See just some of the many interesting ways our graduates have applied their liberal arts learning to engage the world. If you want to see what other Middlebury alumni are doing now, log into Midd2Midd and search by major. **go/midd2midd**

RMG Consulting, *President*

Nikon Inc., *General Manager of IT*

Intuit, *Quality Assurance Manager*

Stroz Friedberg, *Cyber Associate*

Wayfair, *Business Intelligence Analyst*

Calibrater Health, *Cofounder and CEO*

Pixar Animation Studios, *Software Engineer*

Kobo Inc., *Senior Research Scientist*

AppNexus, Inc., *Senior Director of Technical Operations*

Brown University School of Medicine, *Assistant Professor of Surgery*

Aetna Inc., *Treasury Services Manager*

Bandwidth.com, *Director, Solutions Planning*

New Haven Land Trust, *Executive Director*

Independent Purchasing Cooperative, Inc., *Director of Strategic Sourcing*

Federal Reserve Bank of NY, *Data and Integration Architect*

Google Japan, *Engineering Director, Google Maps for Mobile*

Novartis Institutes for BioMedical Research, *Senior Principal Engineer*

General Insulation Co., *Chief Profit & Analytics Officer*

CharityMania LLC, *Vice President, Operations*

The Carlyle Group, *Managing Director, Head of Asian Buyouts*

Alcentra, *Cohead of U.S. Direct Lending*

Morgan Stanley, *Executive Director*

Akamai Technologies Inc., *Senior System Software Engineer*