



**SUMMER
SPRINGBOARD**
Look Inward. Go Upward.

Advanced Topics in Computer Science Infosheet

**New student admissions for
Summer 2025 are open.**



Program Highlights

- Dive into cutting-edge areas like artificial intelligence through hands-on projects, including encryption algorithms and basic AI models.
- Gain insight into the ethical challenges surrounding data, AI, and cryptography, learning how these technologies are responsibly used in society.
- Learn how to optimize complex problem-solving using parallelism, with real-world applications on multi-core processors for efficient computation.
- Understand the theoretical limits of computation, exploring what can and cannot be solved by computers and how these concepts influence modern technology like search engines and AI.



2025 Dates

[University of Michigan](https://www.umich.edu)

- Session 1: July 13 - July 25



Academic Program Overview

The Advanced Topics in Computer Science program offers an immersive exploration of computer science that goes beyond introductory programming. Designed for students with a solid programming foundation, this course engages participants with complex concepts and methodologies in areas such as artificial intelligence, cryptography, data science, and ethical considerations in technology.

Utilizing Python as the primary programming language, students will strengthen their coding competencies while examining the multifaceted applications of computer science across diverse sectors. Participants will develop algorithms, implement encryption techniques, and analyze data-driven solutions, gaining insights into the pivotal role of computer science in shaping modern technological landscapes.



Excursions

Last summer, students had the opportunity to visit Atomic Object, a software company that develops innovative applications for web, mobile, desktop, and various devices! They participated in a dynamic morning meeting, gaining invaluable insights into the company's inner workings. Additionally, they toured the impressive Ford Robotics Building, where they discovered how computer science and engineering collaborate to create solutions that make the world a better place.

Instructors

Dr. Steven Bogaerts

Dr. Steven Bogaerts is a dedicated computer science instructor at the esteemed University of Michigan in Ann Arbor. He graduated summa cum laude with a double major in computer science and math from Rose-Hulman Institute of Technology.

Tuition Information:

Residential Students:

- **Includes:** all meals, lodging, excursions, academic course, weekend excursions
- **Excludes:** optional airport pickup and drop off service (available for an additional fee)
- **Price:** \$5,698

Commuter Students:

- **Includes:** lunch, academic course, excursions, programming from 9am to 5pm, Monday-Friday
- **Excludes:** lodging, breakfast, dinner, weekend excursions
 - Weekend excursions can be added on for \$125 per day
- **Price:** \$2,998

Supplements:

- **Application fee:** Starting at \$99 (mandatory, non-refundable)
- **Tuition Protection Plan:** Allows for cancellation for any reason up until the day of the program. Click [here](#) for more info



Course Structure

There are nine 3-hour class sessions over the two-week course. During week one, students have class from 9am-12pm, Monday - Friday. During week two students have class from 9am-12pm Monday through Thursday. Wednesday afternoons are dedicated to additional academic time (excursions, speakers).



Typical Schedule



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[More info on Unaccompanied Minor Service](#)

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