

CS 4999 Syllabus

Undergraduate Research – I2P (Idea 2 Prototype), 3 Credits
Summer 2026

Instructor Information

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General Course Information

Description

CS 4999 is a 3-credit undergraduate research course offered through the College of Computing as part of the CREATE-X Idea to Prototype (I2P) program. I2P provides support for student teams to advance their ideas for a potential value-creating product by performing basic research, analysis, building, and testing—leading to a proof-of-concept prototype.

This course is analogous to undergraduate research: students dive deep into a problem for the semester with an assigned faculty mentor, performing hands-on work to turn an idea into a functioning prototype. Teams accepted into I2P receive mentorship from a Georgia Tech faculty member and a reimbursement for physical prototyping expenses.

I2P is student-driven. There is no set lecture schedule. Instead, progress is tracked through informal weekly reporting with your mentor and a series of milestone presentations throughout the semester, culminating in the I2P Showcase—a competitive expo where teams present their accomplishments.

Delivery Method: In-person (mentor meetings and team work); I2P Showcase at end of semester.

Pre- and/or Co-Requisites

Acceptance into the CREATE-X Idea to Prototype (I2P) program. Open to all current Georgia Tech undergraduate students.

Course Learning Outcomes

Upon successful completion of this course, you should be able to:

- Identify and articulate a problem suitable for a prototype-based solution.
- Conduct basic research and analysis to inform the design and development of a prototype.
- Build and iteratively test a proof-of-concept prototype.
- Communicate progress effectively through weekly reporting and milestone presentations.
- Present a completed prototype and its value proposition at the I2P Showcase.

Required Course Materials

No required textbook. All materials and resources will be provided through the CREATE-X I2P program and your assigned mentor.

Grading Policy

This is a letter-graded course. Final grades are awarded on a scale of A–F with no +/- grades permitted, as per Georgia Tech policy.

Students receiving a final average of 90 or above will receive an A; 80 to 89 a B; 70 to 79 a C; 60 to 69 a D; and below 60 an F.

Assignments

- Mentor Assessment: 100%

Description of Graded Components

Mentor Assessment: Your grade in this course is determined entirely by your assigned CREATE-X mentor based on their assessment of your engagement, progress, quality of work, and overall contribution throughout the semester. This includes your weekly interactions, milestone deliverables, and your performance at the I2P Showcase.

Course Policies

Attendance and/or Participation

There are no scheduled lectures for this course. However, students are expected to maintain regular contact with their assigned mentor, attend scheduled mentor meetings, and participate actively in all I2P milestone events and the end-of-semester Showcase.

Failure to maintain regular engagement with your mentor or to participate in required I2P program activities will negatively impact your grade.

Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards.

Review [Georgia Tech's Honor Code](#) and the student [Code of Conduct](#).

Any student suspected of cheating or plagiarism on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

All work submitted must be your own (or your team's own). Any materials, code, or designs borrowed from external sources must be properly attributed.

The prototype and all associated deliverables must represent original work by the student team.

Core IMPACTS

Not applicable.

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services (404-894-2563) as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Student-Faculty Expectations Agreement

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. [The Student-Faculty Expectations](#) articulate some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

Collaboration, Group Work, and Use of Generative AI

You are permitted to use generative AI tools (such as ChatGPT and other LLMs) to support your research, writing, and prototyping work. However, if you use such tools, you must disclose their use and properly cite any generated content in your deliverables.

Extensions, Late Assignments, and Re-Scheduled/Missed Exams

Milestone deliverables and presentations must be completed by the dates specified by the I2P program. Late submissions should be discussed with your mentor in advance.

For emergencies, please contact both your mentor and the Dean of Students' office:
https://gatech-advocate.symplicity.com/care_report/

Official Course Communication

Course communication is conducted primarily through your assigned mentor and the CREATE-X I2P program.

Georgia Tech generally recommends students check their Georgia Tech email once every 24 hours.

Office Hours

By arrangement with your assigned mentor.

CREATE-X I2P Program Requirements

In addition to the academic requirements of this course, students must comply with all CREATE-X I2P program policies, including participation in the I2P Showcase and any required program check-ins. Details are provided by the I2P program at the start of each semester.

Campus Resources for Students

A list of resources for undergraduate students' academic success and information about advising can be found at [Success at Tech](#).

Student Well-Being

At Georgia Tech, we are concerned about your overall physical, social, and mental well-being. A comprehensive list of wellness-related resources has been compiled and maintained by the [Office of the Vice President for Student Engagement and Well-being](#).