

# Independent Study

CSCI 8510 - Summer 2024

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## Presentation

This is a course where a student (or a group of students) will work independently with the faculty advisor to design an individualized course of study, set course objectives and requirements, and designate student learning outcomes. It is designed to provide students with in-depth knowledge related to their area of research that falls outside the current graduate course offerings.

This particular offering is concerned with compilers, and the main student learning outcomes are that students who successfully complete this course should be able to:

- Explain concisely the different tasks of compilers, and their importance in Computer Sciences, both practically and theoretically,
- Understand and reformulate some state-of-the-art problems and their solution in compiler design,
- Communicate in writing and orally the outcomes of their independent studies, using standard tools in the discipline (i.e., LaTeX manuscript and slides / poster presentations),
- Master the technologies used in their field (LaTeX, git, BiBTeX, markdown, etc.) and in the design of compilers (scanner and parser generator, intermediate representation, etc.).

The first goal of each enrolled student (or group of students) will be to design and develop their own personalized set of learning outcomes and timeline.

## Timeline

The program starts on May 20 and finishes on July 29th, 2024. Weekly meetings will be scheduled with students and as needed.

A rough timeline of student involvement:

Week	Event	Due
1 (May 20)	-	Personal schedule (template)
2 (May 27)	Memorial Day	-
3 (June 3)	-	Reading assignment #1: An Incremental Approach to Compiler Construction
4 (June 10)	-	-
5 (June 17)	Juneteenth Independence Day	Reading assignment #2: Finding and Understanding Bugs in C Compilers

Week	Event	Due
6 (June 24)	-	-
7 (July 1)	Independence Day Observance	-
8 (July 8)	-	-
9 (July 15)	-	Reading assignment #3: Deniable Backdoors Using Compiler Bugs
10 (July 22)	Class ends	-
11 (July 29)	-	-

## Tools

Will be used during this program, among other resources:

- teams will be our main method of “live” communication,
- email will be our main method of asynchronous communication,
- each student will decide on a tool to host their material (git repository, box folder, blog post, etc.).

## Miscellaneous

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