

# CS 440/540 Language Processors - Spring 2022

[Dr. Elizabeth White](#)

Office: Engineering, Rm. 5315

Phone: 993-1586

email: white at gm.u.edu - put CS440 or CS540 in subject line

Office Hours: TBD or by appt

## Course Content

This course will cover the theoretical and implementation aspects of language processing. Emphasis will be on the design and construction of compilers. There are several **substantial** programming assignments associated with this course. These assignments will be implemented in C or Java (student choice).

- Compiler Design
- Lexical Analysis
- Syntax Analysis - grammars, LL(1) parsers, LR(1) parsers
- Semantic Processing
- Code generation and optimization

## Pre-requisites

- **Strong** programming and data structure experience (CS 310).
- Study of formal languages, including regular and context free (CS 330)
- Experience with assembly language programming and basics of runtime systems (CS 367).

## Textbooks

- *Compilers: Principles, Techniques and Tools*, Aho, Lam, Sethi & Ullman, 2006 (2nd edition)
- *lex & yacc*, Levine et. al. (recommended)
- Other course materials, including slides, will be available on Blackboard

## Grading

While the material taught will be the same for both CS 440 and CS 540, the grading is different.

	CS440	CS540
Homework	15%	na

Programming assignments	3 projects (10%+10%+15%)	4 projects (10%+10%+15%+15%)
Midterm Exam	25%	25%
Final Exam	25%	25%

- There is a forgiven late day policy (3 days over the entire semester). No late work accepted otherwise.
- You must have a written excuse (doctor's note, for example) to miss an exam. I reserve the right to give oral makeup exams in lieu of written.
- It has been my experience that time is the biggest determiner of your final grade in this class. I suggest that you start assignments when I hand them out. They often take more time than you think.

## Honor Code

You are expected to abide by the honor code. Programming assignments and exams are individual efforts. Information on the university honor code can be found at:

<http://jiju.gmu.edu/catalog/apolicies/honor.html> I typically use similarity detection software to assist me in finding honor code violations, should they occur.

## Inclusion

Every student in this class, regardless of background, sex, gender, race, ethnicity, class, political affiliation, physical or mental ability, veteran status, nationality, or any other identity category, is an equal member of our class. If you encounter any barriers to your inclusion, please contact Prof. White.

## Disability

Students with a learning disability or other condition (documented with GMU's Office of Disability Services) that may impact academic performance should speak with the professor ASAP to discuss appropriate accommodations. We are quite happy to assist as is appropriate, but it must be documented ahead of time by ODS.

## Privacy and FERPA

Students must use their Masonlive email account to receive important University information, including communications related to this class. The professor and GTA can not respond to messages sent from or send messages to a non-Mason email address. We will not list your Masonlive email address on any public forum or provide it to any other students. Your Masonlive email address will be provided to grading staff (GTA and graders). If this is an issue, please contact the professor so that we can figure out another option. Video recordings of class meetings that are shared only with the instructors and students officially enrolled in a class do not violate FERPA or any other

privacy expectation. All course materials posted to Blackboard or other course site are private; by federal law, any materials that identify specific students (via their name, voice, or image) must not be shared with anyone not enrolled in this class.