CSE420: Compiler Design

Prerequisites:

1) CSE331: Automata and Computability
2) CSE321: Operating Systems

My review of this course:

Pretty straightforward and easy, just gotta be careful with the labs, that's where students mostly lose marks, as labs are in C code and the assignments get complex towards the end. You submit your lab assignment by the deadline, and in the next lab class you have a viva based on what you have done in your lab assignment. You do not get marks for submission, and your assignment marks are the marks you get in viva.

How did I study?

➔ Class lectures
➔ Textbook (very straightforward)
➔ Youtube

Here are my notes for finals: 📄 **CSE 420 - compiler design.pdf**

Lecture plan of Spring 24:
📄 **CSE420-Lecture-Schedule.pdf**

Videos from youtube you can follow according to the lecture plan above:

Midterm: Lecture 1-10
- Lecture 1 and 2, read the book/ follow class lectures
- Lecture 3,4:
  - ▶️ RE to DFA by direct method(Compiler Design) Example 1
  - ▶️ RE to DFA by direct method (Compile Design) Example 2
- Lecture 5: Read book
- Lecture 6: Read book and follow the video below
  - ▶️ 20. Shift reduce parsing in compiler design| Bottom up parsing | Shift reduc…
- Lecture 7: Read book and follow the video below
  - ▶️ LR Parsing | LR (0) item | LR (0) Parsing table solved example |Compiler …
- Lecture 8: Read book and follow the video below
  - ▶️ Compiler Design: SLR Parsing Table
- Lecture 9: Read the book
- Lecture 10: Read the book and watch the video below
  - ▶️ Lec-21: Gate Question on S-Attributed and L-Attributed SDT | Compiler De…

Finals: Lecture 11-19

- Lecture 11: Read the book, follow lecture 10 as well for this
  - ▶ Dependency Graph in Compiler Design
  - ▶ Types of SDD | S-Attributed and L-Attributed SDD |Synthesized, Inherited …
- Lecture 12: Read the book, note, and watch the video below
  - Note: Symbol Tables and Static Checks
  - ▶ Symbol Table Implementation
- Lecture 13: Read the book
- Lecture 14: Read the book and watch the video below
  - ▶ SDT for variable width and offset calculation
- Lecture 15: Read the book
  - ▶ Three address Code | Intermediate Code | Compiler Design | Lec-36 | Bha…
  - For section 6.1 of the book:
    ▶ DAG representation of a basic block||construction of dag from basic blocks
  - ▶ Compiler Design: Implementation of Three Address Statements
- Lecture 16: Read the book and follow the video below:
  - ▶ Compiler (SDT for addressing of Array elements)
  - SZD: https://www.youtube.com/watch?v=N1cvF9w16j8
- Lecture 17: Read the book and follow the video below
  - ▶ Intermediate Code for flow of control statements||flow of control statements…
  - ▶ Compiler Design: Flow of Control Statements
- Lecture 18: Read the book and follow the video below
  - ▶ Backpatching in compiler design
- Lecture 19: Read the handout of lecture 19 and follow the recorded lecture below
  - Handout: 📄 lecture 19.pdf
  - https://youtu.be/BMNiEtOgfO8