CSCE 4650 INTRODUCTION TO COMPILATION TECHNIQUES
SYLLABUS
Spring 2021
http://www.cse.unt.edu/~bryant/csce4650

Instructor: Barrett Bryant (Barrett.Bryant@unt.edu)
Classroom: NTDP D201, https://unt.zoom.us/j/89448716063
Time: 2:30-3:50 P.M. Monday and Wednesday
Office: NTDP F297B (940-565-4278)
Office Hours: 4:00-5:00 P.M. Monday and Wednesday, https://unt.zoom.us/j/89035491642
Teaching Assistant: Shraddha Piparia (ShraddhaPiparia@my.unt.edu)
Office Hours: 12:00-1:00 P.M. Tuesday and Wednesday, https://unt.zoom.us/j/5738917755?pwd=bXpyL2pRNHQxaGlVa25HSmx3QzVUT09

Course Outcomes:
1. Given a context-free grammar, build SLR(1), LR(1) and LALR(1) parse tables.
2. Given a context-free grammar, an LR parse table and an input string, show the steps of the parse.
3. Given a language specification for an imperative language, build a parser for the language using tools such as lex and yacc.
4. Integrate semantic actions into the above parser to construct a symbol table, perform type checking, and generate intermediate code.
5. Given a control-flow graph with intermediate 3-address code within each basic block, show the “improved” control-flow graph after hand-optimizing for common subexpression elimination, copy propagation, and dead code removal.

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Grading:
- Exam #1: 25%
- Exam #2: 25%
- Exam #3: 25%
- Exercises: 25%
Grading Policy: There will be three (3) 80-minute examinations, the first exam on Monday, February 15, the second exam on Wednesday, March 31, and the third exam on Monday, April 26, at 1:30 P.M. The schedule of these exams is fixed and cannot be changed to accommodate individual circumstances except for a major illness or family emergency. In such cases, arrangements must be made before the time of the exam to take the exam at a different time. Makeup exams will not be given without such prior approval and only for the emergency cases indicated. There will be several written and programming exercises, which will emphasize the theory covered by the lectures. Many of these exercises will build on each other in the form of a complete implementation of the front-end of a compiler. Therefore, it is imperative that all assignments be done promptly. Unless stated otherwise, assignments will be accepted at most one class meeting late, at a cost of 25% of the assignment credit. Otherwise, all assignments are due on the date indicated by 11:59 P.M.

Prerequisites: CSCE 2100 Foundations of Computing, CSCE 2110 Foundations of Data Structures, and CSCE 3600 Principles of Systems Programming, each with a C or better

Academic Integrity: According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University. Additionally, the following specific requirements will be expected in this class: The exercises are to be done independently. Any single incident of copying or duplication of work will result in the division of credit among the collaborators. A subsequent occurrence of academic dishonesty will result in the grade of F for the course. If you are in doubt regarding the requirements, please consult with me before you complete any requirements of the course.

Attendance Policy: While attendance is not required except during scheduled exams, it is highly recommended that you attend every lecture in order to be successful.

COVID-19: While attendance is expected as outlined above, it is important for all of us to be mindful of the health and safety of everyone in our community, especially given concerns about COVID-19. Please contact me if you are unable to attend class because you are ill, or unable to attend class due to a related issue regarding COVID-19. If you are experiencing any symptoms of COVID-19 please seek medical attention from the Student Health and Wellness Center (940-565-2333 or askSHWC@unt.edu) or your health care provider PRIOR to coming to campus. UNT also requires you to contact the UNT COVID Hotline at 844-366-5892 or COVID@unt.edu for guidance on actions to take due to symptoms, pending or positive test results, or potential exposure. While attendance is an important part of succeeding in this class, your own health, and those of others in the community, is more important.

Remote Instruction: Remote instruction may be necessary if community health conditions change or you need to self-isolate or quarantine due to COVID-19. Students will need access to a webcam and microphone to participate in fully remote portions of the class. Information on how to be successful in a remote learning environment can be found at https://online.unt.edu/learn.

ADA Statement: UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide a student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one’s specific course needs. Students may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the ODA website.
Emergency Notification & Procedures: UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please refer to Canvas for contingency plans for covering course materials.

Face Coverings: Face coverings are required in all UNT facilities. Students are expected to wear face coverings during this class. If you are unable to wear a face covering due to a disability, please contact the Office of Disability Access to request an accommodation. UNT face covering requirements are subject to change due to community health guidelines. Any changes will be communicated via the instructor.