



**Course** CS 4386  
**Professor** Dr. Neeraj K Gupta  
**Term** Fall 2024  
**Meetings** Mon and Wed: 5:30pm-6:45pm

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### Professor's Contact Information

**Office Phone** 972 883 4656  
**Office Location** ECSS 3.207  
**Email Address** [neeraj.gupta@utdallas.edu](mailto:neeraj.gupta@utdallas.edu)  
**Office Hours** T/Th 10.00AM – 11.00: AM  
**Other Information** Course materials available on elearning

### TA's Contact Information –

**Name:**  
**Office Location:**  
**Email Address:**  
**Office Hours:**

### General Course Information

<b>Pre-requisites, Co-requisites, &amp; other restrictions</b>	<a href="#">CE 3345</a> or <a href="#">CS 3345</a> or <a href="#">SE 3345</a> or <a href="#">TE 3345</a> (or equivalent). Prerequisite will be strictly enforced
<b>Course Description</b>	Topics: Compiler Construction (3 semester credit hours). Chomsky Language Hierarchy, Regular Expression, Finite State Automata, Lexical analyzers, context-free grammars. Top-down and bottom-up parsing; shift reduce and LR parsing and LL parsing. LR(k), LL(k) and precedence grammars will be covered.
<b>Learning Outcomes</b>	Understand Chomsky Hierarchy Regular Expressions, Finite state automata and lexical analysis Context free grammar and LL and LR parsing Semantic analysis, type checking Code generation issues and techniques Construct compiler or language converter using compiler-compiler tools (a) An ability to understand concepts in theory of computer science. (e) An ability to use software tools for lexical analysis (f) An ability to use software tools for parser generation.
<b>Required Texts &amp; Materials</b>	Compilers: Principles, Techniques, and Tools, by Aho, Lam, Sethi, and Ullman, Addison Wesley.
<b>Suggested Texts, Readings, &amp; Materials</b>	Recommended papers may be provided during the semester.

### Assignments & Academic Calendar

*[Topics, Reading Assignments, Due Dates, Exam Dates]*

**Exams:** There will be two exams. The exams will be closed book and the exam 2 is comprehensive.

**Assignments:** Homework will be assigned during the semester.

**Project:** A compiler design project will be assigned.

### **Course Policies**

<b>Grading (credit) Criteria</b>	The grade each student earns from this class will be based on the following table.											
	<table><tr><td>Exam 1</td><td>15%</td></tr><tr><td>Exam 2</td><td>25%</td></tr><tr><td>Assignments/quizzes</td><td>7%</td></tr><tr><td>Project</td><td>50%</td></tr><tr><td>Attendance</td><td>3%</td></tr><tr><td>Total</td><td>100%</td></tr></table> <p>Class room exercises will be given. I will call a student at random from class roster to present the exercise. By end of semester each student will have an equal opportunity to answer.</p> <p>ALL WORK MUST BE INDIVIDUAL WORK. Cases of cheating will be forwarded to the Judicial Affairs office.</p>	Exam 1	15%	Exam 2	25%	Assignments/quizzes	7%	Project	50%	Attendance	3%	Total
Exam 1	15%											
Exam 2	25%											
Assignments/quizzes	7%											
Project	50%											
Attendance	3%											
Total	100%											
<b>Make-up Exams</b>	Only by consent of instructor under severe reasons.											
<b>Extra Credit</b>	None											
<b>Late Work</b>	Not allowed											
<b>Class Attendance</b>	Class attendance will be taken.											
<b>Classroom Citizenship</b>	Please participate and ask questions during class. It tends to slow down the pace and make the lectures more enjoyable.											
<b>Other Misc. Items</b>	<ul style="list-style-type: none"><li>• Please bring your photo ID to each exam</li></ul>											
<b>UT Dallas Syllabus Policies and Procedures</b>	<p><i>The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.</i></p> <p>Please go to <a href="http://go.utdallas.edu/syllabus-policies">http://go.utdallas.edu/syllabus-policies</a> for these policies.</p>											

***These descriptions and timelines are subject to change at the discretion of the Professor.***