



CS-4337 Syllabus

Course: CS-4337.HON Programming Language Paradigms

Term: Spring 2024

Lecture Times: 4:00PM - 5:15PM Mon & Wed

Lecture Location: ECSN 2.126

Professor Information

Name: Chris Irwin Davis

Email Address: Use Microsoft Teams for communication

Office Phone: (972) 883-3574

Office Location: ECSS 4.603

Office Hours: By appointment, and Microsoft Teams

Other Information: All course content on eLearning

Prerequisites

- (CE 2336 or CS 2336 or TE 2336 or CS 3333), and
- (CE 2305 or CS 2305 or TE 2305), and
- (CS 3340 or SE 3340 or TE 3340 or CE 4304 or EE 4304)

Description

CS 4337 - Programming Language Paradigms (3 semester credit hours) Principles of design and implementation of contemporary programming languages. Formal description including specification of syntax and semantics of programming languages. Language definition structures including binding, scoping, data types, control structures, parameter passing, abstraction mechanism, and run-time considerations. Design issues of different programming languages. Language-based security. Design, implement, and debug programs in various programming language paradigms.

Learning Objectives

- Ability to identify the characteristics of programming paradigms and phases of translation
- Ability to understand the importance of formal syntax and semantics
- Ability to design the lexical analyzer and syntax analyzer
- Ability to understand Common Weakness Enumeration (CWE)
- Ability to understand the concept of language-based security
- Ability to understand the concept of Web Scripting Security
- Ability to understand the concepts of first-class values, lists, and recursion
- Ability to understand the concepts of the functional programming paradigm and logic programming paradigm
- Ability to design programs using the functional programming paradigm
- Ability to design programs using the logic programming paradigm

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Textbook

Concepts of Programming Languages, 12th edition, Robert Sebesta, Addison Wesley Pub., 2018.
ISBN-13: 978-0134997186

Grading

The grade distribution for the course is:

Item	Weight
Midterm Exam	25%
Final Exam	25%
Programming Project #1 (Functional)	10%
Programming Project #2 (Parser)	10%
Programming Project #3 (Logic)	10%
Programming Project #4 (TBD)	10%
All Homework combined	5%
Quizzes, Surveys, Participation	5%
Total	100%

The letter grade thresholds for the overall course grade is:

Grading Scale

%	Letter Grade	GPA Credit
≥ 97	A+	4.00
[94 – 97)	A	4.00
[90 – 94)	A-	3.67
[87 – 90)	B+	3.33
[84 – 87)	B	3.00
[80 – 84)	B-	2.67
[77 – 80)	C+	2.33
[74 – 77)	C	2.00
[70 – 74)	C-	1.67
[67 – 70)	D+	1.33
[64 – 67)	D	1.00
[60 – 64)	D-	0.67
[0 – 60)	F	0.00
—	NF*	0.00

* Failure for non-attendance

<https://catalog.utdallas.edu/2022/undergraduate/policies/academic>

Instructional Mode	Traditional in person
Expectations	You are expected to stay current with all course assignments and tasks. Respect all deadlines and assignment due dates. Complete all textbook reading assignments. Attend lectures at the scheduled times. You are ultimately responsible for your own education.
Lectures	Slides presented during lecture will be made available in eLearning under the "Lecture Notes" menu item. Lectures will not be recorded.
Attendance	Attendance will be documented each lecture. 1. Unexcused absences in three consecutive lectures will result in the course grade being lowered by one letter. 2. Unexcused absences in four consecutive lectures will automatically result in a failing grade (F) in the course. 3. Absences will be excused for university activities, documented medical emergencies, and bereavement. Departmental Attendance Policy: https://cs.utdallas.edu/education/undergraduate/attendance-policy/
Communication	Microsoft Teams is the official communication platform to contact the instructor. Online classroom-wide discussions are conducted on the eLearning course discussion board.
Homework	All homework must be submitted online through eLearning. Late homework submissions will <i>not be accepted</i> and will be summarily assessed a grade of zero. Please, do not wait until the last minute to submit. The unpredictability of your personal internet connection is not a valid excuse for a late submission. Only a verified eLearning network outage will be considered a valid reason to waive the late submission policy. Homework is due before the deadline time. e.g. an assignment due at 11:59PM is LATE if the time stamp is 11:59PM.
Programming Projects	Programming projects may be accepted after the due date with the following penalties: • Up to 24 hours late – 10 point deduction • Up to 48 hours late – 25 point deduction • Up to 72 hours late – 50 point deduction

Exams	All exams will be administered in the UTD Testing Center. All exams will closed book and closed notes. During an exam you will not be allowed to change browser window focus to any other window(s). This excludes any pop-ups that are part of the exam. Make up exams or alternative exam times for either Midterm or Final will be given only for: 1. Verifiable emergencies. A student must make every attempt possible, via telephone or email, to notify the instructor that they will miss the exam prior to the examination date and time. Note that planned events, such as the wedding of a family member, are NOT considered to be an emergency. 2. University events. This includes, but not limited to, hack-a-thons, coding competitions, athletic events, and student government events. 3. Schedule conflict with another exam. A conflict is defined by only two conditions: (a) a scheduled physical overlap in time, or (b) three exams on the same calendar day. Note that two exams on the same day (including two back-to-back exams) is NOT considered to be a schedule conflict.
General Grade Information	All grades will be available in eLearning. The Weighted Total column will give you the most accurate information concerning your grade. The weighted total is a best approximation of your grade in the class based on the grades currently in eLearning.
Grade Disputes	All grade disputes must be reported within 1 week of a grade release and resolved within 2 weeks of the grade in question being posted in eLearning. Uncontested grades will become final after 1 week and cannot be disputed later. Announcements are made after each grade is posted so please check your grades promptly and reach out to the proper person.
Extra Credit	No extra credit work will be assigned However, exams may include bonus question(s).
UTD Syllabus Policies	http://coursebook.utdallas.edu/syllabus-policies/
Course Materials Policy	The Instructor may provide course materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may be downloaded for personal use during the semester. These materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class, or uploaded to other online environments except to implement an approved Office of Student Accessibility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

UTD Comet Creed	This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same: <i>“As a Comet, I pledge honesty, integrity, and service in all that I do.”</i>
Caveat	The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.