Course Syllabus

Course Information
Course: CS/CE 4337.004 Organization of Programming Languages- Spring 2019
Lecture Info: Mon & Wed: 2:30pm - 3:45pm ; Class Room location: ECSS 2.410

Professor's Contact Information
Professor: Dr. Gity Karami
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Office location:ECSS 3.202
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Office hours: Monday & Wednesday: 5:30 pm – 6:30 pm
                    Available by appointment for other times

Course 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)

Course Description
CS/CE 4337- Organization of Programming Languages (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 imperative languages, object-oriented languages, functional languages and logic languages. 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 understand the different forms of binding, visibility, scoping, and lifetime
- Ability to understand the semantics of expressions and data types
- Ability to understand the concepts of data abstraction, control abstraction and various parameter passing mechanisms
- Understanding of the concepts of encapsulation, information hiding, inheritance, and polymorphism
- 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

Text Book

- Concepts of Programming Languages, 12th Edition, Robert W. Sebesta. Pearson, 2019, ISBN-10: 0-13-499718-2, ISBN-13: 978-0-13-499718-6
- Learning PHP, MySQL & JavaScript, 4th Edition, Robin Nixon O'Reilly Media, Inc., 2014. ISBN 978-1-4919-1866-1. (Also available online free via UTD ebook => Safari)

supplementary materials will be posted in the e-learning

Material Covered (tentative)
- Preliminaries (chapter 1)
- Describing Syntax and Semantics (chapter 3)
- Lexical and Syntax Analysis (chapter 4)
- Name, Bindings, and Scopes (chapter 5)
- Data Types (chapter 6)
- Expressions and Assignment Statements (chapter 7)
- Statement Level Control Structures (chapter 8)
- Subprograms (chapter 9)
- Implementing Subprograms (chapter 10)
- Abstract datatypes and encapsulation (chapter 11)
- Support for Object Oriented Programming (chapter 12)
- Functional programming languages (chapter 15)
- Logical programming languages (chapter 16)

Cours Works and Grading:
Midterm exam : 20%   Final exam (comprehensive): 30%
Assignments: 42% (Six assignments, each 7%)
Attendance and class activities: 8% (each 4%)

Grading:
A+   97 and above
A   93 - 96 (93 or more and less than 97)
A-   90 - 92 (90 or more and less than 93)
B+   87 - 89 (87 or more and less than 90)
B   83 - 86 (83 or more and less than 87)
B-   80 - 82 (80 or more and less than 83)
C+   77 - 79 (77 or more and less than 80)
C   73 - 76 (73 or more and less than 77)
C-   70 - 72 (70 or more and less than 73)
D   60 - 69 (60 or more and less than 70)
F   Below 60

* You are allowed to use the text book and lecture slides in the exams. All electronic devices (including cell phones) are prohibited in the exams.
* We will have reading assignment every week.

Course Policies

Classroom Citizenship: Class participation in terms of asking questions and answering the instructor's questions is highly encouraged. Please do not hesitate to ask questions no matter how simple you might think the answer could be. This type of interaction helps improve the effectiveness of the class and breaks the monotony.

Attendance Policy: The CS Department has adopted an attendance policy where if you miss 3 consecutive lectures, you final grade will be automatically dropped by one letter. Missing four consecutive lectures will result in an automatic F in the course.

Assignments: There will be six assignments in this course. These assignments will typically be due about 1 week from the date given. You must work on the assignments individually.

Class Activities: There will be several class activities in this course. You will work on review questions and problem sets in teams of two students or individually as the class activities. You are allowed to use the text book and lecture slides for the class activities . Class activities will not be announced and may not be made up.

Late Submission Policy: I expect you to submit all assignments by their due dates. If you submit your assignments late, 15% penalty will be deducted per day. Late assignments will be accepted up to 2 days after the due date and thereafter 0. If you believe that you have a valid excuse for your work being late, then you must make arrangements with the instructor BEFORE the due date. Late submissions are not permitted once the graded assignment has been returned to students. Medical excuses will require a note from your Doctor.

One Time Extension Pass: I understand you may not be able to always submit your work on time due to a circumstance beyond your control. I will grant all students one extension pass. The extension pass extends the due date of one assignment 24 hours and avoids 15% late penalty. Please note that the extension pass can be used ONLY one time during the semester. If you use the extension pass for an assignment more than 24 hours after its due date, you will lose the extension pass and late policy will be applied.

Missed Exams: You are responsible for being available during the exam times. If you cannot make an exam time due to a valid excuse, you must let me know BEFORE the exam date and time. Medical emergencies will require a note from your Doctor. Missed exams will result in a grade of 0 for that exam.

Grading Disputes: All grade disputes must be reported to the instructor within one week of the grade being posted in e-Learning.

Academic Dishonesty: You should do your own work on exams and assignments. Copying another student's work is not acceptable. Any indication of cheating and/or plagiarism on an exam/assignment will be an automatic 0 (zero) for the exam/assignment for all students involved. Solutions copied from the internet, instructor's manual, etc. will be also given zero credit.

Communications: I will be communicating with you via eLearning and e-mail. If you need to send me an e-mail make sure it is using your UTD e-mail address. Please choose appropriate subjects for your emails. Always include your course and section number in the subject of your emails (for example, CS 4337.004- Midterm exam). I can't answer your emails, if you don't put the course number and section number in the subject of your emails.. Make sure you are checking eLearning announcements and checking your UTD e-mail frequently. I can't respond to you via gmail or any other non-UTD e-mail system. I need to verify that you are my student and I can only do that with the UTD e-mail system.

Comet Creed: *"As a Comet, I pledge honesty, integrity, and service in all that I do."*

Additional Policies: Please visit http://go.utdallas.edu/syllabus-policies for all other University policies

Descriptions and timelines are subject to change at the discretion of the Professor.