| | | |
|---|---|---|
| UTD | **Course** | CS 4337.501 CE 4337.501 |
| | **Professor** | Dr. Richard Min (Ph.D., MBA, MS, MDiv, STM) |
| | **Term** | Fall 2016 |
| | **Meetings** | Tuesday & Thursday 5:30pm-6:45pm ECSS2.311<br>(3 Tests on Friday 3pm-9pm at Testing Center) |

## Professor's Contact Information

| | |
|---|---|
| **Office Phone** | 972-883-4522 |
| **Office Location** | ECSS 4.609 |
| **Email Address** | Richard.Min@utdallas.edu |
| **Office Hours** | Tuesday & Thursday 2pm–5pm<br>Monday & Wednesday 7pm–9pm<br>or by appointment or via email (or by appointment) |

## General Course Information

| | |
|---|---|
| **Pre-requisites** | (CE 2336 or CS 2336 or TE 2336) with a grade of C or better or CS 3333) and (CE 2305 or CS 2305 or TE 2305) with a grade of C or better and (CS 3340 or SE 3340 or TE 3340 or CE 4304 or EE 4304). |
| **Course Description** | **CS 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. (Same as CE 4337) (3-0) S |
| **Learning Outcomes** | After successful completion of this course, the student should be able to:<br>1. Ability to identify the characteristics of programming paradigms and phases of translation<br>2. Ability to understand the importance of formal syntax and semantics<br>3. Ability to understand the different forms of binding, visibility, scoping, and lifetime<br>4. Ability to understand the semantics of expressions and data types<br>5. Ability to understand the concepts of data abstraction, control abstraction and various parameter passing mechanisms<br>6. Understanding of the concepts of encapsulation, information hiding, inheritance, and polymorphism<br>7. Ability to understand the concepts of first class values, lists and recursion<br>8. Ability to understand the concepts of the functional programming paradigm and logic programming paradigm<br>9. Ability to design programs using the functional programming paradigm<br>10. Ability to design programs using the logic programming paradigm |
| **Required Text** | 1. Concepts of Programming Languages, 11th Edition, Robert Sebesta.<br>Addison Wesley, © 2013. ISBN-13: 978-0133943023 ISBN-10: 013394302X<br>2. Learning PHP, MySQL & JavaScript, 4th Edition, Robin Nixon<br>O'Reilly Media, Inc., 2014. ISBN 978-1-4919-1866-1<br>(Also available online free via UTD ebook => Safari) |

| | |
|---|---|
| **Online Resources & Supplemental Text** | • UTD Library ebook => Safari - to find many online books there and free of charge for this course related materials.<br>• LISP. Common Lisp. http://www.clisp.org/<br>• Lisp book and tutorial online<br>http://www.cs.cmu.edu/~dst/LispBook/<br>http://cs.gmu.edu/~sean/lisp/LispTutorial.html<br>• SCHEME: http://www.drscheme.org/ Tutorial http://www.scheme.com/tspl2d/<br>• SML of New Jersey: http://www.smlnj.org/ Tutorials: http://www.smlnj.org/doc/literature.html#tutorials<br>• Elements of ML Programming, ML97 Edition, 2/E Jeffrey D. Ullman, Stanford University © 1998<br>• PROLOG: http://www.swi-prolog.org/ Tutorials: http://www.swi-prolog.org/<br>• Logic, Programming and Prolog (2ed) by Ulf Nilsson and Jan Maluszynski http://www.ida.liu.se/~ulfni53/lpp/ and Prolog tutorial by Dr. Fisher. http://homepage.cs.uri.edu/~thenry/resources/prolog_tutorial/pt_framer.html<br>• Python - https://www.python.org/<br>• Javascript - http://www.w3schools.com/js/<br>• Lamp/Wamp – Apache, MySQL, PHP. wamp - http://www.wampserver.com/en/<br>• UTD eLibrary Safari - http://www.utdallas.edu/library/resources/ebooks/ebooks.php |

## Important Dates* (Tentatively)

| | |
|---|---|
| **01/11 Monday** | First Day of Class |
| **01/18 Monday** | Martin Luther King Day Holiday – NO CLASSES |
| Tuesdays *<br>**(1) 2/02 (2) 3/01 (3) 3/29 (4) 4/26** | 4Assignments Due – check eLearning for details |
| **(1) 2/11 Thursday ***<br>**(2) 3/24 Thursday ***<br>**(3) 4/21 Thursday *** | Exam 1,2,3 (In TESTING CENTER and not in classroom) |
| **3/14 Monday - 3/19 Saturday** | NO CLASSES (Fall Break & Thanksgiving Week) |
| **4/30 Saturday** | Last Day of class |
| **5/03– 5/09** | Final Examination (To be announced) |

* Note: The dates here are tentatively assigned and are subject to change as needed.

## Course Policies

| | | | |
|---|---|---|---|
| **Grading Criteria** | Weekly Activity and Quizzes<br>4 Assignments (5% x 4)<br>3 Tests (20 % x 3) | 20%<br>20%<br>60% | A+ = 97 & above<br>A = 93-96<br>A– = 90-92<br>B+ = 87-89<br>B = 83-86<br>B– = 80-82<br>C+ = 77-79<br>C = 73-76<br>C– = 70-72<br>F = below 70 |
| **Make-up Exams** | Not allowed (or 20% penalty) | | |
| **Late Work** | Late submission or makeup is not allowed.<br>(If imposed, there will be 20% reduction in grade per day [prorated] for any late submission of Assignment, and for maximum 3 days.) | | |
| **Class Attendance** | Required; Attendance will be taken | | |
| **Classroom Citizenship** | Respect for your classmates is necessary at all times | | |
| **All other policies** | Please visit http://go.utdallas.edu/syllabus-policies for other policies | | |

## Fall 2016 Schedule/Plan*

* Note: The dates and the topics are subject to change as needed.

| Week | Sebesta Chapter | Other Topic | Examination | Assignment |
|---|---|---|---|---|
| 01 – 8/23 T | Sebesta ch1 | Syllabus, Introduction | | |
| 02 – 8/30 T | Sebesta ch2 | Lisp | | |
| 03 – 9/06 T | | | | |
| 04 – 9/13 T | Sebesta ch3 | | | |
| 05 – 9/20 T | | | | (1) 9/19 M |
| 06 – 9/27 T | Sebesta ch4 | | Test1 9/30 F | |
| 07 – 10/4 T | | Prolog | | |
| 08 –10/11 T | Sebesta ch5 | | | |
| 09 –10/18 T | Sebesta ch6 | | | (2) 10/17M |
| 10 –10/25 T | Sebesta ch7 | | | |
| 11 –11/01 T | Sebesta ch9 | Advanced Topics (as time permits) | Test2 11/04 F | |
| 12 –11/08 T | Sebesta ch11 | PHP, Javascript, Python, ASP | | |
| 13 –11/15 T | Sebesta ch12 | | | (3) 11/14M |
| **14 –11/22 T** | Fall Break | | | |
| 15 –11/29 T | Advanced Topics | | Test3 12/02 | |
| 16 –12/06 T | Last Week | | | (4) 12/05M |
| 12/12-12/15 | Final Exam Week | | TBA | |