

	<b>Course</b>	CS 3376.0W1, SE 3376.0W1
	<b>Professor</b>	Dr. Richard Min (Ph.D., MBA, MS, MDiv, STM)
	<b>Term</b>	Summer 2016
	<b>Meetings</b>	Online course except for 3 Tests (Friday 2 hours at Testing Center)

### Professor's Contact Information

<b>Office Phone</b>	972-883-4522
<b>Office Location</b>	ECSS 4.609
<b>Email Address</b>	rkm010300@utdallas.edu
<b>Office Hours</b>	Tuesday 6pm–9pm, Thursday 6–9pm, Or by appointment or via email

### CS/SE 3376.0W1 – C/C++ Programming in a UNIX Environment

100% online course delivered through <http://elearning.utdallas.edu>

(Login to access lecture notes, assignments, discussions, grades, etc) except Tests at Testing Center.

### Course Pre-requisites, Co-requisites, and/or Other Restrictions

*Computer Science I and II (CS 1337 and CS 2336 or equivalent courses)*

*Basic Object Oriented Programming Skills*

### Course Description

CS 3376 C/C++ Programming in a UNIX Environment (3 semester hours) Advanced programming techniques utilizing procedural and object oriented programming in a UNIX environment. Topics include file input and output, implementation of strings, stacks, queues, lists, and trees, and dynamic memory allocation/management. Design and implementation of a comprehensive programming project is required. Prerequisite: ECS 2336 or equivalent. (3-0) S

### Student Learning Objectives/Outcomes (New CLOs from 2016 Summer)

1. Ability to use the UNIX operating system interactively as a user (commands)
2. Ability to express algorithmic solutions using shell scripting (utilities)
3. Ability to understand and use regular expressions
4. Ability to use the UNIX programming environment (editor, compiler and linker)
5. Ability to understand UNIX processes (creation and control)
6. Ability to perform input/output of binary files
7. Ability to use interprocess communication (pipes, sockets and signals)
8. Ability to understand the UNIX file system
9. Ability to understand and use version control system

### Required Textbooks and Materials

1. *Advanced Programming in the UNIX® Environment*, 3e. W. Richard Stevens and Stephen A. Rago. Addison-Wesley. © 2013. ISBN-10: 0-321-63773-9. ISBN-13: 9780321637734  
(Available online & free via UTD Library => eBook => Safari)
2. *A Practical Guide to Linux® Commands, Editors, and Shell Programming*, Third Edition. Mark G. Sobell. Prentice Hall. © 2012. ISBN-10: 0-13-308504-X. ISBN-13: 9780133085044  
(Available online & free via UTD Library => eBook => Safari)

### Recommended books

3. Gaddis, Starting Out with C++ From Control Structures through Objects 8th edition.  
ISBN-10: 0133796337 • ISBN-13: 9780133796339. (7th edition is OK, 0132576252)  
(This is the textbook for your cs1336 and cs1337 courses. We will review chapters 12-19 mostly through ppts).

4. Unix® and Linux® System Administration Handbook, Fourth Edition, Video Enhanced Edition. by Evi Nemeth; Garth Snyder; Trent R. Hein; Ben Whaley. © 2010 Prentice Hall. ISBN-10: 0-13-148005-7. ISBN-13: 978-0-13-148005-6  
(Available online & free via UTD Library => eBook => Safari)
5. Unix and Linux: Visual Quickstart Guide, Fifth Edition. by Eric J. Ray; Deborah S. Ray © 2014 Peachpit Press  
ISBN-10: 0-321-99754-9. ISBN-13: 978-0-321-99754-8  
(Available online & free via UTD Library => eBook => Safari)

### **Suggested Course Materials, Tools, and Online resource**

6. C++ How to Program, 10/e. by Paul Deitel and Harvey Deitel. © 2016 Pearson. ISBN-13: 978-0-13-444823-7  
ISBN-10: 0-13-444823-5  
(Available online & free via UTD Library => eBook => Safari)
7. C for Programmers with an Introduction to C11. by Harvey Deitel and Paul Deitel. © 2013 Prentice Hall  
ISBN-10: 0-13-346206-4. ISBN-13: 978-0-13-346206-7  
(Available online & free via UTD Library => eBook => Safari)
8. *C++ Programming Language*. 4/e. Stroustrup ©2014 Addison-Wesley ISBN-10: 0321958322.  
ISBN-13: 9780321992789  
(Available online & free via UTD Library => eBook => Safari)
9. Beginning Linux Programming, 4th edition by *Neil Matthew, Richard Stones*  
ISBN-10: 0470147628 ISBN-13: 978-0470147627  
(Available online & free via UTD Library => eBook => Safari)
10. Online Resource and Web Sites  
C++ language tutorial <http://www.cplusplus.com/files/tutorial.pdf>  
C++ tutorial <http://www.learncpp.com/>  
C++ reference: <http://cppreference.com>  
Unix/Linux commands: <https://kb.iu.edu/d/afsk>  
Linux Shell and Commands: <http://vic.gedris.org/Manual-ShellIntro/1.2/ShellIntro.pdf>

**Academic Calendar:** See "Course Homepage" within elearning for the detailed schedule. It will be updated with lecture notes as the semester proceeds.

### **Grading Policy**

[Note: The following items and dates here are tentatively assigned and are subject to change as needed.]

Course credit is given only for the work assigned in the course schedule. There will be no opportunities for any extra credit in this course. The final grade will be computed as follows:

3 Tests	60%	<p>3 Tests. 20% for each 2-hour test. (1) Test1 6/17 F, (2) Test2 7/15 F, (3) Test3 8/05 F</p> <p>Each test will be taken at Testing Center (Student Assessment Center, McDermott Library 1st floor) for 2-hour examination. Time of Test will be announced later in elearning. Each student should make a seat reservation prior to each test.</p> <p>All exams are closed book and closed notes. Exams will focus more on concepts and less on details. Necessary documentation will be provided to avoid the need for memorization as much as possible. We will likely take all the tests in the testing center on Saturdays. You can expect to see a few coding/analysis questions, a few short answer</p>
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		<p>questions and a few multiple-choice questions in each test. Instructor is responsible for grading all the tests.</p> <p>All make-up tests will be scheduled during the week following the actual test date at the discretion of the instructor. There should be a valid reason for scheduling make-up tests &amp; they need to be coordinated with the instructor prior to the test date except for serious medical condition (Doctor certificate or hospital receipt will be required as proof.)</p> <p>It is unlikely that curving will be used to boost the final grades. If the instructor decides to do it, only the test scores will be boosted, but the tests' contribution will be clipped at 60%. In other words, curving will NOT make up for the points lost in all other assignments. So, it is extremely important to complete them in timely manner.</p>
Assignments (Projects)	20 %	<p>4 Assignments (projects) contributing 5% each. Due (Monday 12pm): (1) 6/06 Noon, (2) 6/27 Noon, (3) 7/25 Noon, (4) 8/08</p> <p>You can ask for clarifications and help in the weekly forum. If you need help with your code, it is ok to post 1 or 2 lines of code, but do not post your full program - email it to TA or professor instead. You are expected to start working on them as soon as they are posted. Do not expect us to rescue you on the day of submission.</p> <p>I encourage everyone to submit the projects 1 or 2 days early. You can upload it again but the last submission will be graded. Do not wait until the last minute to submit it. But I do understand things happen and occasionally you may not be able to submit projects on time. My policy is to assess 1% penalty for every 1 hours. For example, if you submit the projects exactly 1 day later, 24% penalty will be assessed. Late projects will be accepted up to 3 days and thereafter 0. You won't be able to submit it after 3 days and your project grade will be set to 0.</p> <p>All these projects should be done in Linux and you will hand-in your projects directly in Linux. We will NOT use elearning to submit the projects, but your grades and TA's comments will be recorded there - you can click on My Grades to access them. More details on project submission steps will be given with project #1.</p>
Weekly Post (Discussion)	5%	<p>2 meaningful posts are required every week in weekly discussion forums. This is extremely crucial component of a true online course. No non-sense and no trivial comment. One-liners saying "Thanks!" or "Weather is bad" etc. will not count towards participation. Your post can be a good question, meaningful response to another student's question, interesting observation, etc. In simple words, each post should value to the course. Instructor (TA or Grader) will grade the weekly forum and determine the value of each post - instructor's decision is final. First post should be submitted latest by Wednesday midnight and 2nd post should be completed latest by Saturday midnight, otherwise respective posts won't receive any grade. It is possible for someone to be a silent observer in on-ground course and still manage to get the final grade of A. It is impossible to do it in online course. Reasonable progress towards the expected answer or learning will get 1 point &amp; perfect or near-perfect submissions will get 2 points. Late submissions are NOT accepted for weekly posts.</p>
Weekly Activity (Activities & Quizzes)	15%	<p>Weekly Activity (including online quiz) will be posted by Monday &amp; will be due Saturday midnight (11:59pm) every week. It will be a small programming exercise or tryout (e.g., to write and run a simple "Hello world" program, to try Linux commands or sample programs provided, to install a tool to try it) in most weeks. It can also be a quiz (online and open-book) or some other meaningful activity as well. It will vary every week. Each weekly activity and its score may vary case by case. Late submissions are NOT accepted for weekly activities and quizzes. Note: weekly quiz will provide a</p>

		good snapshot, an excellent opportunity to review, and for a preparation for each test. Late submissions are NOT accepted for weekly activity or quiz.
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Letter grades will be assigned as follows:

97-100	A+	93-96	A	90-92	A-
87-89	B+	83-86	B	80-82	B-
77-79	C+	73-76	C	70-72	C-
67-69	D+	63-66	D	60-62	D-
Below 60	F				

Weighted total in your gradebook shows the current weighted grade based on your graded work. For example, if you have done only test 1, 2 programming projects, 3 weeks of online participation & 3 weekly assignments so far, current grade will be based on only those entries.

### **Course & Instructor Policies**

Instructor is responsible for grading all the tests & weekly participation. TA will be responsible for grading projects and weekly assignments. So, contact the TA directly for any grading related discrepancies for programs. It is not possible to give a detailed feedback for each project/weekly assignment/test question due to large # of students in our classes. If you need more details/clarification, you are encouraged to meet the TA/instructor during office hours & get personal attention. Do not rely on email alone to get the full response.

If you are stuck with your assignment, it is better to turn in what you have and send us email. We will revise your submission and give some guidance. Your next submission will override the previous submission - TA will always grade the latest submission for each project. You can use email to get help for weekly assignments. Include the detailed problem description & applicable error messages, zip all your source files and include it with your email too. Do not just say "my program does not work" and expect us to figure out everything - you need to help us to help you efficiently.

We expect to complete grading assignments (projects), weekly activities or quizzes, and tests in a week or so. However, when the schedule gets too busy, it can be as long as 2 weeks before the grades are assigned. It is the students' responsibility to review the grade details when they become available and follow up for clarifications if needed.

### **UT Dallas Syllabus Policies and Procedures**

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

*The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.*