California Lutheran University

Online MSCS

CSC-582-01
Open Source Software Development
Spring, 2012 (Online)

Important! This is an **online course** that is delivered in an 11-week format. It compresses the workload of a full semester course into only 11 weeks. You should therefore expect a higher than usual workload during the weeks of the course. Also, it is important that you actively participate throughout the course, starting with the first day of the term. This includes that you ensure access to the necessary technology prior to the start of the course, that you have studied all relevant material prior to attending the mandatory, weekly live-discussion, and that you deliver all assignments by the deadlines indicated. If you have technical questions, please contact the CLU Help Desk by telephone at 805-493-3698, by email to helpdesk@callutheran.edu, or contact the provider of the MSCS platform, The Learning House at help@tlhsupport.com or by telephone at (800) 985-9781. For all non-technical questions, send an email to the instructor at taehyung@callutheran.edu.

COURSE TYPE:

This is a fully online course, delivered on CLU's online learning platform at http://clu.learninghouse.com.

INSTRUCTOR INFORMATION:

Name: Taehyung ("George") Wang
Phone Numbers: Email is preferable
Office Location:
Office Hours: 24X7 via email
Email: taehyung@callutheran.edu

TIME / PLACE:

- Term Dates: Feb. 27 – May 10
- Weekly Live Discussion: 8 – 9 pm Wednesday, in Pacific Time (Via Adobe Connect)
- Classroom: http://clu.learninghouse.com
- Drop Date: March 5

READINGS:

The required textbooks for this course are:

Editors:	Joseph Feller, Brian Fitzgerald, Scott A. Hissam and Karim R. Lakhani
Text Title:	Perspectives on Free and Open Source Software
Year of publication:	2007

Edition:	1st
Publisher:	The MIT Press
ISBN Number:	ISBN-10: 0-262-56227-8 ISBN-13: 978-0-262-56227-0
URL for free/open source electronic copies	http://mitpress.mit.edu/catalog/item/default.asp?ttype=2&tid=11216&mode=toc

Author:	Andrew M. St. Laurent
Text Title:	Understanding Open Source and Free Software Licensing
Year of publication:	2004
Edition:	1st
Publisher:	O'Reilly Media
ISBN Number:	ISBN-10: 0-596-00581-4 ISBN-13: 978-0-596-00581-8
URL for free/open source electronic copies	http://oreilly.com/catalog/osfreesoft/book/

The reference book for this course is:

Author:	Eric Steven Raymond
Text Title:	The Cathedral & the Bazaar
Year of publication:	2001
Edition:	Revised
Publisher:	O'Reilly Media
ISBN Number:	ISBN-10: 0-596-00108-8 ISBN-13: 978-0-596-00108-7
URL for free/open source electronic copies	http://www.catb.org/~esr/writings/cathedral-bazaar/cathedral-bazaar/

COURSE DESCRIPTION:

This course will introduce concepts, principles and applications of open source software. It will cover the history of open source software, motivation of open source software development, economy and business of open source software, intellectual property rights, open source software development models, and successful case studies.

TECHNOLOGY REQUIREMENTS:

Weekly live discussions are an important part of CLU's online experience. These live-discussions are delivered through a platform / software called Adobe Connect. In order for Adobe Connect to work properly, your computer needs to meet – at a minimum – the following requirements:

- Windows
  - 1.4GHz Intel® Pentium® 4 or faster processor (or equivalent) for Microsoft® Windows® XP or Windows 7; 2GHz Pentium 4 or faster processor (or equivalent) for Windows Vista®
  - Windows XP, Windows Vista, or Windows 7 (32-bit/64-bit editions with 32-bit browser)
  - 512MB of RAM (1GB recommended) for Windows XP or Windows 7; 1GB of RAM (2GB recommended) for Windows Vista
  - Microsoft Internet Explorer 6, 7, 8, or 9 (32 bit only); Mozilla Firefox 3, 4, 5, or 6; Google Chrome
  - Adobe® Flash® Player 10.1 for all users (hosts, presenters, participants, and administrators)
- Mac OS
  - 500MHz PowerPC® G3 or faster or 1.83GHz Intel Core™ Duo or faster processor
  - Mac OS X v10.4, 10.5, 10.6 (Intel); Mac OS X v10.4 (PowerPC)

- 512MB of RAM (1GB recommended)
- Mozilla Firefox 3, 4, 5, or 6; Apple Safari 4 or 5; Google Chrome
- Adobe Flash Player 10.1 for all users (hosts, presenters, participants, and administrators)

For more details on the software specs, please visit: http://www.adobe.com/products/adobeconnect/tech-specs.html.

OUTLINE OF STUDENT LEARNING OBJECTIVES:

At the end of this course, students will be able to:

- Describe the concepts and principles of open source software.
- Explain process models and methodologies to develop open source software.
- Illustrate business of software, software business models, open source software business strategies and models.
- Describe intellectual properties rights.
- Identify open source software licenses.

DIDACTIC APPROACH:

This course rests on several components – self-study, narrated lectures, interaction, as well as practice and application:

- Self-Study
  - Preparation in self-study by students before lecture to become familiar with new material and to stimulate thinking, generate ideas and questions.
- Lecture
  - Presentation of topics in class by instructor using narrated PowerPoint slides.
  - Focused presentations of course material in weekly live-discussion
- Student-Instructor Interaction
  - Discussion of selected questions, finding of examples, answering of questions etc. in the weekly live-discussion.
  - Asynchronous, instructor-facilitated discussion of relevant topics on discussion boards (which are forums).
  - Direct interaction between student and instructor.
- Practice and Application
  - Preparation of short assignments by students before class.
  - Participation in discussion boards.
  - Deepening of concepts in discussion.
  - Final project / presentation on a selected topic.

ASSESSMENT:

Assessment in this course is based on multiple elements. Each form of assessment addresses different (sometimes multiple) learning outcomes and each form of assessment requires a different set of knowledge, skills and abilities:

Attendance and Participation: The mandatory attendance policy for all courses offered through the Online MSCS at California Lutheran University serves to improve student learning and comply with federal regulations and financial aid policies. CLU Online MSCS courses consist of synchronous and asynchronous activities. All activities are mandatory and in some way count towards the final grade. While the degree of participation in asynchronous activities (e.g. weekly assignments, threaded discussions, quizzes, etc. as outlined in the syllabus of an online course) is documented by the degree of completion and the quality of the outcomes, the degree of participation in synchronous activities (e.g. a weekly live discussion session in a virtual classroom) is documented by the actual

presence of a student during such activities. Based on this general policy, the following rules apply:

- Attendance of synchronous activities (e.g. weekly live discussion session in a virtual classroom) is mandatory for all students and in all Online MSCS courses.
- Students may be dropped from the course if they do not attend the first synchronous activity of the course (unless discussed with the instructor prior to the activity) and/or if they have not logged into the learning management system (online course) during the first week of the term.
- Students may miss a maximum of two synchronous activities. Attendance of less than 75% of a synchronous activity will be considered as insufficient (i.e. missed). Failure to meet the individual course attendance requirements may result in a grade of F.
- Students can make up for a maximum of two missed synchronous activities. In the case of a live discussion session, students must listen to the archived discussion session for that week and complete an assignment at the instructor's discretion.
- In addition to these attendance requirements, each instructor will have separate grading policies concerning participation in synchronous activities.

Assignments: Homework assignments will be given to assess your preparation and understanding of the course objectives. The assignments will be given every week.

DEADLINES AND DUE DATES:

Following is an overview of various due dates for the different forms of assessment:

Assessment	Start Date	End Date	Due Date	Remarks
Homework assignment #1	3/5	3/9	3/9	
Homework assignment #2	3/12	3/16	3/16	
Homework assignment #3	3/19	3/23	3/23	
Homework assignment #4	3/26	3/30	3/30	
Homework assignment #5	4/2	4/6	4/6	
Homework assignment #6	4/9	4/13	4/13	
Homework assignment #7	4/16	4/20	4/20	
Homework assignment #8	4/23	4/27	4/27	
Homework assignment #9	4/30	5/4	5/4	
Quiz #1	3/9	3/9	3/9	
Quiz #2	3/16	3/16	3/16	
Quiz #3	3/23	3/23	3/23	
Quiz #4	3/30	3/30	3/30	
Quiz #5	4/6	4/6	4/6	
Quiz #6	4/13	4/13	4/13	
Quiz #7	4/20	4/20	4/20	
Quiz #8	4/27	4/27	4/27	
Quiz #9	5/4	5/4	5/4	
EXAM #1	3/30	3/30	3/30	
EXAM #2	5/10	5/10	5/10	

Class Policy:

- Assignments/Forums. With a *valid* reason, late submission will be accepted without penalty. Otherwise the penalty for late submission costs 10% of its total point value for each calendar day.
- Quizzes/Exams: You should take quizzes and exams during the specified time on the dates scheduled. Exceptions to this policy will be allowed only if *you* have documented medical excuses *and* only if *you* make arrangements with me before the scheduled exam period.

GRADING:

Grading in this class will be based on the following elements and the grading scale provided below:

Percentage	Grade
>=94%	A
90% to 93%	A-
87% to 89%	B+
84% to 86%	B
80% to 83%	B-
77% to 79%	C+
74% to 76%	C
70% to 73%	C-
67% to 69%	D+
64% to 66%	D
60% to 63%	D-
<60%	F

Assessment	Percentage
Homework assignments	20%
Quizzes	20%
Exam I	20%
Exam II	20%
Class participation	20%
TOTAL	100%

GRADING STANDARDS:

Details on grading standards for each form of assessment can be obtained from the following grading rubric.	**Student Achievement**			
	Below Average	**Average**	**Above Average**	**Outstanding**
Participation (10 pts per week)	Students don't participate actively in the live-discussion and even when directed do not contribute to class substantively. The numerical value of this level of participation is 0-3 points.	Students are largely passive during the live-discussion, but do provide informed responses to questions when asked. Or, students are pro-active, but do not provide contributions of essential value. The numerical value of this level of participation is 4-6 point.	Students speak frequently during the live-discussion without the need for the facilitator to stimulate their participation. Their contributions are of acceptable value, but largely generic. The numerical value of this level is 7-8 points per class.	Students are very active during the live-discussion. They ask questions or make comments that help clarify and synthesize discussion, relate their ideas or experiences to discussion topics, contribute examples that are relevant, acknowledge and extend the ideas of others and relate content from class materials, readings and experiences to the discussions. The numerical value of this level is 9-10 points.
Homework Assignments (10 pts per assignment)	Students do not follow the instructions for the assignment and/or are not or not sufficiently capable of presenting their ideas in a concise, coherent, relevant and insightful manner. The numerical value of this level is 0-3 points.	Students largely follow the instructions for the assignment. Their comprehension of the assignment is not complete. Their work shows considerable room for improvement concerning coherence, conciseness, relevance, and insightfulness. The numerical value of this level is 4-6 points.	Students closely follow the instructions for this assignment. They demonstrate comprehension of the assignment. Their work shows some room for improvement concerning coherence, conciseness, relevance and insightfulness. The numerical value of this level is 7-8 points.	Students closely follow the instructions for this assignment. They not only clearly demonstrate comprehension of the assignment, but they also display flawless coherence, conciseness, relevance and insightfulness. The numerical value of this level is 9-10 points.
Quizzes (100 pts per quiz)	10 points per question (10 questions) in multiple-choice and short answer exam			
Exam I (250 pts)	10 points per question (25 questions) in multiple-choice and short answer exam.			
Discussion Boards (10 pts per discussion board)	Students largely restate the obvious, concur with other students' opinions or simply repeat text from other sources used in the course. They do not foster further dialogue. Contributions lack substance and coherence. The numerical value of this level is 0-3 points per discussion board.	Students' contributions lack substance, but they are coherent and well structured. They are not challenging, and do not foster further dialogue. The numerical value of this level is 4-6 point per discussion board.	Students' contributions are substantive and coherent, but they are isolated, not challenging and do not foster further dialogue. The numerical value of this level is 7-8 points per discussion board.	Students show initiative by initiating or stimulating a discussion with statements or further questions that are challenging and/or foster further dialogue. Contributions / reactions to other students' contributions are substantive and coherent. The numerical value of this level is 9-10 points per discussion board.
Exam II (250 pts)	10 points per question (25 questions) in multiple-choice exam.			

ASSESSMENTS AND LEARNING OUTCOMES:

CLU Student Learning Outcomes:

1. Communication (Written and Oral) Skills
2. Information Literacy
3. Quantitative Literacy
4. Creative and Critical Thinking
5. Identity and Values
6. Principled leadership
7. Interpersonal and Teamwork Skills
8. Cross Cultural Competency

Form of Assessment	Student Learning Outcomes							
	1	2	3	4	5	6	7	8
Homework Assignment	x	x	x	x				
Quizzes		x	x	x				
Exams	x	x	x	x				
Class participants	x	x	x	x				

MSCS Program Outcomes:

1. Acquire advanced concepts and practical components of computing and information processing by:
2. Learn to apply knowledge and technology in complex application areas by:
3. Understand and appreciate the contexts in which information technology activities take place at a society by:

Form of Assessment	Student Learning Outcomes		
	1	2	3
Homework Assignment	x	x	x
Quizzes	x	x	x
Exams	x	x	x
Class participants	x	x	x

OVERVIEW OF TOPICS AND SCHEDULE OF TOPICS AND ACTIVITIES:

Week	Date	Textbook Readings (Chapters)	Narrated PowerPoint Slides	Topics	Additional Readings	Case Studies	Weekly Live-Discussion	Discussion Boards	Weekly Assignments
1	2/27-3/2	Ch. 24	will be posted at the Learning House (TLH) Class Web Site	Introduction and history of open source software (OSS)			will be held on 2/29 via Adobe Connect	will be available at TLH Class Web Site	HW#1 will be given
2	3/5-3/9	Ch.1, Ch. 2	will be posted at TLH Class Web Site	Motivation in OSS projects and the OSS developer survey			will be held on 3/7 via Adobe Connect	will be available at TLH Class Web Site	HW#2 will be given
3	3/12-3/16		will be posted at TLH Class Web Site	The business of software	will be provided	will be given	will be held on 3/14 via Adobe Connect	will be available at TLH Class Web Site	HW#3 will be given
4	3/19-3/23		will be posted at TLH Class Web Site	Open source software and Web 2.0 strategy	will be provided	will be given	will be held on 3/21 via Adobe Connect	will be available at TLH Class Web Site	HW#4 will be given
5	3/26-3/30	Ch. 10, Ch. 12	will be posted at TLH Class Web Site	OSS development – process and methods			will be held on 3/28 via Adobe Connect	will be available at TLH Class Web Site	HW#5 will be given
6	4/2-4/6		will be posted at TLH Class Web Site	OSS evaluating, assessing, and selecting	will be provided	will be given	will be held on 4/4 via Adobe Connect	will be available at TLH Class Web Site	HW#6 will be given
7	4/9-4/13	Ch1 of textbook 2	will be posted at TLH Class Web Site	Open source licensing, contract, and copyright law			will be held on 4/11 via Adobe Connect	will be available at TLH Class Web Site	HW#7 will be given
8	4/16-4/20	Ch2 of textbook 2	will be posted at TLH Class Web Site	The MIT, BSD, Apache, and academic free licenses			will be held on 4/18 via Adobe Connect	will be available at TLH Class Web Site	HW#8 will be given
9	4/23-4/27	Ch3 of textbook 2	will be posted at TLH Class Web Site	The GPL License			will be held on 4/25 via Adobe Connect	will be available at TLH Class Web Site	HW#9 will be given
10	4/30-5/4	Ch. 23	will be posted at TLH Class Web Site	Open source software in US, Europe and Asia	will be provided	will be given	will be held on 5/2 via Adobe Connect	will be available at TLH Class Web Site	HW#10 will be given
11	5/7-5/10						will be held on 5/9 via Adobe Connect	will be available at TLH Class Web Site	

STUDENT WORKLOAD FOR THIS COURSE:

This is an 11-week, four credit unit course that consists of a minimum of 60 hours of instructor-led components and a minimum of 120 hours of non-instructor led, independent activities. A detailed breakdown of times (1 hour = 50 minutes) and activities can be found from the following table:

Activity	Instructor-Led		Independent		Remarks
	Weekly	Course	Weekly	Course	
Live discussion	1	11			1 hour * 11 weeks = 11 hours
Discussion boards I	1.5	16.5			1.5 hours * 11 weeks = 16.5 hours
Discussion boards II or live group discussion			1	11	Students' own discussion
Homework assignments			3	30	3 hours * 10 weeks = 30 hours
Reading (PowerPoint slides, textbooks, a reference book, additional reading)	2.5	28	4	44	2.5 hours * 11 weeks = 27.5 hours 4 hours * 11 weeks = 44 hours
Consultations with instructor by email or phone	0.5	5			
Exams preparation				36	
SUM		60.5		121	

COURSE EVALUATIONS:

All course evaluations are conducted online. Your feedback is important to us. You will receive an email message reminding you when the website is open for your feedback. The link is: http://courseval.callutheran.edu

ACADEMIC HONESTY:

The educational programs of California Lutheran University are designed and dedicated to achieve academic excellence, honesty and integrity at every level of student life. Part of CLU's dedication to academic excellence is our commitment to academic honesty. Students, faculty, staff and administration share the responsibility for maintaining high levels of scholarship on campus. Any behavior or act which might be defined as "deceitful" or "dishonest" will meet with appropriate disciplinary sanctions, including dismissal from the University, suspension, grade F in a course or various forms of academic probation. Policies and procedures regarding academic honesty are contained in the faculty and student handbooks. Plagiarism, cheating, unethical computer use and facilitation of academic dishonest are examples of behavior that will result in disciplinary sanctions. Plagiarism includes, but is not limited to:

- Word for word copying without using quotation marks or presenting the work as yours
- Using the ideas or work of others without acknowledgement
- Not citing quoted material. Students must cite sources for any information that is not either the result of original research or common knowledge.

PEARSON LIBRARY:

At CLU we won't tell you what to think — we'll teach you how to think. You'll learn how to gather information, analyze and synthesize. Don't worry about the "gathering"... that's the easy part. We have technicians, information specialists, and trainers to help you find the information you need. Pearson Library provides access to scholarly books, journals, ebooks, and databases of full text articles from scholarly journals. To begin using these materials, visit the library web page http://www.callutheran.edu/iss/research/. Librarians are available to assist you at the Thousand Oaks campus or via Meebo discussion on the Library's home page or emailing

CLULibrary@callutheran.edu. You may contact the library at (805) 493-3250. If you attend classes at one of CLU's satellite locations, see http://www.callutheran.edu/iss/research/satellite.php for the full range of services provided.

CLU WRITING CENTER:

Experienced Writing Center tutors help CLU's undergraduate and graduate students with their writing projects: reading free writes to find the best ideas; refining thesis statements; showing students how to structure paragraphs; and using specific exercises to improve sentence syntax. They work with whole classes as well as with individual students on the style guidelines required for papers in the various disciplines. All enrolled CLU students are invited to make use of the Writing Center's services. For additional information, please visit http://www.callutheran.edu/writing_center/, call 805-493-3257, or email writingcenter@callutheran.edu in order to schedule an appointment or contact.

DISABILITY STATEMENT:

California Lutheran University is committed to providing reasonable accommodations in compliance with ADA of 1990 and Section 504 of the Rehabilitation Act of 1973 to students with documented disabilities. If you are a student requesting accommodations for this course, please contact your professor at the beginning of the semester and register with the Accessibility Resource Coordinator for the facilitation and verification of need. The Accessibility Resource Coordinator is located in the Center for Academic and Accessibility Resources (CAAR) Office, and can be contacted by calling 805.493.3878 or by completing the online form at http://www.callutheran.edu/car/contact/.

MASTER OF SCIENCE IN COMPUTING SCIENCE (MSCS) PROGRAM:

The CLU MSCS program integrates advanced conceptual tools with a strong practical component for a broad range of technologies and skills. In the MSCS program, you will receive training in a broad scope of current computer science subjects, including database, computer network and security, informatics, embedded systems and computer vision. Courses are designed to provide you with a wealth of "hands-on" opportunities. They combine the study of fundamental theory and its practice with the application of new technologies to real-world problems.

INSTRUCTOR BIO:

Dr. Wang obtained his Ph.D. degree in Computer Science and Electrical Engineering from the University of California, Irvine in 1998. He is currently an associate professor of the Department of Computer Science at California State University Northridge (CSUN), an adjunct professor of the Department of Computer Science at California Lutheran University (CLU), and a visiting professor of the Department of Electrical Engineering and Computer Science at the University of California, Irvine (UCI). Prior to joining CSUN, he was a researcher with the Department of Electrical Engineering and Computer Science and the Center of Biomedical Engineering at UCI. Dr. Wang is active in research related to semantic computing, Web engineering, mobile computing, data mining, software engineering, and their applications, including medical data/information management, mobile device software, and software learning and education. He has published more than 40 papers in semantic computing, mobile computing, data and knowledge engineering, and biomedical informatics. He is actively involved in various IEEE international conferences and symposia including the IEEE International Conference on Semantic Computing, the IEEE International Symposium on Multimedia, and the IEEE International Workshop on Ubiquitous Mobile Computing. He is a member of IEEE and ASEE.

DISCLAIMER:

This syllabus may change from time to time to accommodate changing circumstances. Every effort will be made to alert students to changes that occur in a timely manner.