MSCS Program

MSCS CSC 570
Creative Technology
Summer, 2014

COURSE TYPE:

This is a traditional on-ground course, while CLU's online Blackboard platform will be used to enhance learning.

INSTRUCTOR INFORMATION:

Name:	Dr. Chang-Shyh Peng
Phone Numbers:	x3819 (CLU Email is preferable)
Office Location:	D15
Office Hours:	before/after class, other times by appointment
Email:	peng@callutheran.edu

TIME / PLACE:

- Term Dates: please reference http://www.callutheran.edu/registrar/schedules/
- Class Meeting: 0730-1100 Sat and 1800-2130 Sat every other week; see *Topics and Schedule* for details
- Classroom: D8(0730-1100), D14(1800-2130)
- Drop Date: please reference http://www.callutheran.edu/registrar/schedules/

TEXTBOOK:

The is no required textbook for this course.

COURSE DESCRIPTION:

What is creative technology? Simply put, creative application of technology that delivers information. Creative technology has revolutionized how people perceive technology. Technology is no longer a cold buzz word for computer specialists, database engineers, system administrators, or application developers. It is now truly consumer centered. How far can creative technology affect our lives nowadays? It's only limited by our imagination, or creativity.

PREREQUISITES:

Instructor's permission.

TECHNOLOGY REQUIREMENTS:

CLU utilizes Blackboard to enhance course learning and achieve the designated student learning outcomes. Technology requirements for the Blackboard system can be found at the following website:
http://www.callutheran.edu/ctl/Blackboard.php

OUTLINE OF STUDENT LEARNING OBJECTIVES:

1. Information Literacy and Computer Skills
2. Field-specific Knowledge and Experience

DIDACTIC APPROACH:

This course rests on several components –group projects, interaction, as well as practice and application:

- Group Projects
  - Online research.
  - Evaluation of relevant utilities.
  - Performance and feature comparisons.
  - Topic-related focal points.
  - In-class presentation.
- Student-Instructor Interaction
  - Discussion of project-specific components.
  - Direct interaction between student and instructor.
- Practice and Application
  - Participation of in-class activities.
  - Participation of discussion boards.
  - Deepening of concepts in discussion.

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:
Attendance is critical to successful learning. Absences related to jobs, health, and/or civil/military duties need to be made known to the instructor as early as possible.

Projects:
Projects will be given to assess your preparation and understanding of the subject material. Project are to be completed in groups of around 4 students. Peer discussion is encourages. Unless other specified, self hands-on work is expected. "Dry" study does not earn any credits. Each project submission(MS ppt) needs to clearly identify the names of students involved. All projects are due in Blackboard before class on due dates. Project presentation takes place during class time. While Powerpoints should contain the entirety of your study, presentation is limited to 15 minutes (followed by 5 minutes of Q/A from fellow classmates) per group.

Discussion Boards:
There will be discussion boards on the online platform for this course. All discussion boards close at 9pm noon on the Friday before class. Each project has its forum, which is closed at the corresponding due day/time as the project. Within each forum, each group will start a thread. This thread will include, via "reply", all further postings from members of the group as well as all correspondences from/with other classmates. Any deviation from this practice will incur deductions to Discussion grades.

Students are expected to actively and substantively contribute to the discussion which should highlight the tools, references, literatures, websites, demos(your own), and so on, that you have studied for the corresponding topic. Please make sure that you are not only restating the obvious, but that your comments provide depth and go beyond mere agreement to other students' opinions. The more depth you provide, the more effective the entire discussion will be. Students will expect to spend in average 100 minutes a week in each discussion board forums. As an example, these 100 minutes can be roughly distributed in initial research for 40 minutes, contribution I for 10 minutes, reading of other's contributions for 15 minutes, intermediate research for 25 minutes, and contribution II for 10 minutes. Please note that it is mandatory that each student makes at least two contributions.

DEADLINES AND DUE DATES:

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

Assessment	Due Date	Remarks
Project #1	6/7	please see class website for details
Project #2	6/21	please see class website for details
Project #3	6/21	please see class website for details
Project #4	7/5	please see class website for details
Project #5	7/5	please see class website for details
Project #6	7/19	please see class website for details
Project #7	8/2	please see class website for details
Project #8	8/9	please see class website for details
Discussion Board #1	6/7	please see class website for details
Discussion Board #2	6/21	please see class website for details
Discussion Board #3	6/21	please see class website for details
Discussion Board #4	7/5	please see class website for details
Discussion Board #5	7/5	please see class website for details
Discussion Board #6	7/19	please see class website for details
Discussion Board #7	8/2	please see class website for details
Discussion Board #8	8/9	please see class website for details

- Projects: All projects and corresponding discussions are due at 9pm on the Friday before class. Presentations will take place at the beginning of class. Therefore, late submissions will NOT be accepted.

GRADING:

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

Percentage	Grade
>97%	A
94% to 97%	A-
91% to 93%	B+
88% to 90%	B
85% to 87%	B-
82% to 84%	C+
79% to 81%	C
76% to 78%	C-
73% to 75%	D+
70% to 72%	D
67% to 69%	D-
<67%	F

Assessment	Percentage
Project and presentation	75
Discussion board and in-class participation	25
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**
Projects (10 points per project)	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.
Discussion Boards and in-class participation (4 pts per project)	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 0-1 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 2 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 3 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 4 points per discussion board.

ASSESSMENTS AND LEARNING OUTCOMES:

CLU Student Learning Outcomes:

1. Information Literacy and Computer Skills
2. Field-specific Knowledge and Experience

Form of Assessment	Student Learning Outcomes	
	1	2
Project	x	x
Discussion Board	x	x

MSCS Program Outcomes:

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

Form of Assessment	Student Learning Outcomes		
	1	2	3
Project	x	x	x
Discussion Board	x	x	x

OVERVIEW OF TOPICS AND SCHEDULE OF TOPICS AND ACTIVITIES

Class meeting	Date	Topics	Discussion Boards
1	6/7	Introduction	Will be available in Blackboard
2	6/7	Project 1	Will be available in Blackboard
3	6/21	Project 2	Will be available in Blackboard
4	6/21	Project 3	Will be available in Blackboard
5	7/5	Project 4	Will be available in Blackboard
6	7/5	Project 5	Will be available in Blackboard
7	7/19	Project 6	Will be available in Blackboard
8	7/19	Project 7 (field tests)	Will be available in Blackboard
9	8/2	Project 7	Will be available in Blackboard
10	8/2	Project 8(R&D)	Will be available in Blackboard
11	8/9	Project 8	Will be available in Blackboard

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	
Lecture	4	44			4 hour * 11 weeks = 44 hours
Discussion boards (in average)	1	11	1.5	16.5	1 hour * 11 weeks = 11 hours 1.5 hours * 11 weeks = 16.5 hours
Homework assignments			3	30	3 hours * 10 weeks = 30 hours
Reading (PowerPoint slides, textbooks)			4	44	4 hours * 11 weeks = 44 hours
Consultations with instructor by email or phone	0.5	5			
Exams preparation				36	
SUM		60		126.5	

PROJECT DESCRIPTION

Project 1:
A/V formats/codecs

- common audio format/codec: aac, ac3, aiff, ape, au, avi, flac, mp1, mp2, mp3, m4a, pcm, riff, shn, tta, vorbis, wav, wavpack, wma, and any others of your interest
- common video format/codec: 3ivx, asf, divx, ffmpeg, mpeg-1, mpeg-2, mpeg-4, ntsc, pal, quicktime, rm, rmvb, secam, wax, xvid
- report the findings of your top 3 picks of audio and top 3 picks of video format/codec
- evaluation criteria: completeness of the study, depth of study, references

Project 2:
Keylog

- what is keylogging?
- what keyloggers are there for laptops, tablets, smartphones (Android and iOS)?
- how to anti keylog?
- what are your top choices for keylogger and anti keylogger?
- evaluation criteria: completeness of the study, depth of study, references, sensible recommendation

Project 3:
XBMC

- what is it?
- what are the add-on's?
- what is your first hand user experience?
- any competitors? which one(s) would you adopt?
- evaluation criteria: completeness of the study, depth of study, references

Project 4:
A/V editing tool

- in reference to your previously selected A/V formats/codecs, demo your choice of tool(s) to rip/convert/edit audio and video files
- evaluation criteria: depth of study, functionality and usability of selected tool(s), references,

Project 5:
Win8/RT: one for all?

- Compare Win8 vs your current laptop/desktop/mobile OS
- why or why not Win8, with supporting data
- evaluation criteria: completeness of the study, depth of study, references, sensible recommendation

Project 6:
Still/motion picture album

- use the tool(s) you selected in the "A/V formats and editing tool" assignment to create a still and motion picture album with audio of your choice
- evaluation criteria: creativity, technicality, references(if applicable)

Project 7:
Wardrive, tools and field test report

- popular wardrive tool(s)
- your choice of tool
- field test and results
- evaluation criteria: completeness of the study, depth of study, selection of tool(s), references

Project 8:
Individual group project

- each group is asked to propose a creative-technology related project
- ***proposal is due by 7/18***
- ***proposal revision (if necessary) and instructor's approval by 7/19***
- submission and presentation in the last class meeting
- evaluation criteria: creativity, technicality, referecnes

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 chat 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. Peng received his B.S. degree from National Taiwan University, and M.S. and Ph.D. degree from University of Texas at Dallas. He is currently the Professor and Chair of Computer Science Department at California Lutheran University. Dr. Peng develops and teaches a wide spectrum of undergraduate and graduate level computer science courses. He also has considerable experience in working with business to develop curricular offerings that are responsive to the needs of the corporate community. Dr. Peng's interests include Local Area Network/Wide Area Network, data communication and networking, parallel processing, client/server development and graphical user interface. He has published numerous articles on network simulations and modeling, fuzzy network applications and design and analysis of algorithms.

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.