COLEMAN UNIVERSITY

San Diego CA

Course Syllabus

COM373: LUA Scripting

COURSE DESCRIPTION

This course introduces the LUA scripting language in the context of video game implementation and design. Students will discover the power and simplicity of scripting languages in a hands on approach that will cover every major video game requirement from standard game mechanics and simple artificial intelligence to graphical user interface implementation and graphics rendering.

GENERAL COURSE INFORMATION

Number of Units / Weeks	4/10
# Hours Lecture / # Hours Laboratory / # Hours Homework	30/20/60
Prerequisite(s)	COM293
Course Developer(s)	Scott Lindeneau, BA
Date Approved / Last Review	April 2011 / August 2014

LEARNING OUTCOMES

Upon successful completion of the course, students will be able to:

- Discuss the benefits and pitfalls of scripting languages in game development
- Develop stand alone LUA script's to automate basic tasks
- Integrate LUA and C++
- Develop C++/LUA programs
- Create LUA driven graphical games

INSTRUCTIONAL METHODS EMPLOYED IN THIS COURSE

A number of instructional/learning methods are employed in this course, including the following:

- Lecture and reading assignments
- Hands-on exercises and labs
- Practical application of the LUA scripting language in building games
- Build on prior knowledge and experience of students to enhance richness of class activities
- Group work designed to foster group development and group integration.

INFORMATION RESOURCES FOR THIS COURSE

Textbook

Schuytema, M & Manyen, M. Game Development with LUA. Boston, MA: Thomson Delmar Learning, ISBN-10: 1-58450-404-8

Other Materials

Microsoft Visual Studio
http://www.microsoft.com/visualstudio/en-us/
(Retrieved April 7, 2011)

Web Site Readings

LUA 5.1: Reference Manual
http://www.lua.org/manual/5.1/
(Retrieved April 07, 2011)

LUA 5.0: Reference Manual
http://www.lua.org/manual/5.0/
(Retrieved April 07, 2011)

Programming in Lua (First Edition)
http://www.lua.org/pil/
(Retrieved April 07, 2011)

COURSE OUTLINE

WEEK	***TOPIC***	***READING***	***PROJECT ASSIGNED***

1	Game Design & **Rapid Prototyping** Read pages 1 – 22 22 pages: 2.2 hours (Evaluated via Problem set)	Pgs. 1 - 22	**Program set:** Fizz Buzz, Basic Interpreter, 3 hours **Evaluation :** graded, 5 points
2	**Stand-Alone LUA Programming** Read pages 23 – 60 38 pages: 3.8 hours (Evaluated via Prj1)	Pgs. 23 - 60	**Program:** Project 1 Single User Dungeon, 8 hours **Evaluation :** graded, 10 points
3	**Integrating LUA into a C++ Program** Read pages 61 – 90 30 pages: 3 hours (Evaluated via Prj2)	Pgs. 61 - 90	**Program:** Project 2 C based Direct3D, 7 hours **Evaluation :** graded, 10 points
4	**Designing a LUA Implementation** Read pages 91 – 106 (Evaluated via Prj2) 14 pages: 1.4 hours	Pgs. 91 - 106	
5	**LUA as Game Data** Read pages 106 – 136 (Evaluated via Prj2 & Prj3) 31 pages: 3.1 hours	Pgs. 106 - 136	Midterm Exam
6	**LUA GUI** Read pages 137 – 168 (Evaluated via Prj3 & Prj4) 32 pages: 3.2 hours	Pgs. 137 - 168	**Program:** Project 3 Game States, 15 hours **Evaluation :** graded, 15 points
7	**Constructing a LUA Game** Read pages 169 – 202 (Evaluated via Prj3 & Prj4) 34 pages: 3.4 hours	Pgs. 169 - 202	
8	**Constructing a LUA Game** Read pages 216 – 254 (Evaluated via Prj4) 39 pages: 3.9 hours	Pgs. 216 - 254	**Program:** Project 4 LUA Game, 20 hours **Evaluation :** graded, 20 points
9	**LUA & Game AI** Read pages 203 – 254 (Evaluated via Prj4) 52 pages: 5.2 hours	Pgs. 203 - 254	

10	**LUA & Graphics** Read pages 255 – 286 (Evaluated via Prj4) 32 pages: 3.2 hours	Pgs. 255 - 286	Final Exam

Total hours of required reading: 32.4 hours
Total hours Program sets 53 hours – 20 hours lab = 33 hours
Total hours of out-of-class activities: 65.4 hours

Your Grades for this Course

Your final grade for this course will be based on an assessment by the Instructor of your performance on a number of course activities, which may include objective tests, classroom exercises, laboratory demonstrations, project papers, or other types of activities. The chart below indicates in what activities you will engage, how many possible points can be earned for each activity, and the percentage of your final grade that will be accounted for by each activity.
Students in this course should be graded following Coleman University assessment practices and policies. A point system is used in the University to indicate student performance on various required activities or projects. For this course, it is recommended that points be distributed as follows:

Coleman University Grade Assignment Policy:

Percent	Letter Grade	Grade Points
94-100	A	4
90-93	A-	3.67
87-89	B+	3.33
84-86	B	3
80-83	B-	2.67
77-79	C+	2.33
74-76	C	2
70-73	C-	1.67
67-69	D+	1.33
64-66	D	1
60-63	D-	0.67
N/A	INC	0
N/A	W	0
60 or above	CR	0
59 or below	NC	0

N/A	I	0
N/A	W	0
N/A	AU	0
N/A	TR	0
N/A	WV	0

Legend	
CR = Credit	NC = No Credit
I = Incomplete	W = Course Withdrawal
AU = Audit	TR = Transfer Credit
WV = Waiver	

Academic Accommodation / Adjustment Policy:

In accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA), Coleman University offers accommodations to students with documented physical, psychological, and/or cognitive disabilities. Coleman University will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to offer equal educational opportunities to qualified disabled individuals.

To qualify for an academic accommodation under ADA, the student must provide adequate documentation of a disability. Students seeking academic accommodations should contact the campus ADA Coordinator at 858-966-3953 or via email at ada@coleman.edu. The ADA Coordinator will review the documentation provided and verify ADA coverage. Students covered under ADA must meet with the ADA Coordinator at the beginning of every term to determine the appropriate academic accommodations. Failing to meet with the ADA Coordinator at the beginning of every term may impact the availability of accommodations.

After the academic accommodations have been determined, the students' instructors will be notified by the ADA Coordinator. If any problems or concerns regarding the provision of accommodations occur, the student must inform the ADA Coordinator. If the student feels accommodation is not being made appropriately, the student may follow the published Student Grievance Procedures.