COURSE SYLLABUS
COM280: Object Oriented Analysis and Design

Course Description

The primary objective of this course is to ensure that, by the end of the course, every student is able to perform object-oriented analysis and design by modeling a complex system utilizing the Unified Modeling Language (UML) and applying the Rational Unified Process (RUP) method.

General Course Information

Number of Units/Weeks	4/10
#Hours Lecture/#Hours Laboratory/#Hours ELPs*	30/20/60
Prerequisite(s)	None
Co-requisites (s)	None
Course Developer(s)	Charles Mason, M.S.
Date Approved / Last Review	August 2005 / October 2014

*Enhanced Learning Projects

Learning Outcomes

At the conclusion of this course, the student will be able to:
- Interpret Unified Modeling Language (UML) diagrams of various types
- Translate software requirements into a variety of UML diagrams
- Explain the purpose of several UML diagrams, particularly how each diagram serves to present a given view of the designed system

Instructional Methods Employed in this Course
- Lecture and reading assignments
- Hands-on exercises and labs
- Research
- Practical application of theory and skills in authentic projects
- Build on prior knowledge and experience of students to enhance richness of class activities

Information Resources for this Course

📖 Textbook

Roff, J. (2003). *UML: A beginner's guide*. New York: Osborne/McGraw-Hill.

📁 Other Materials

Booch, G., & Rumbaugh, J. (2004). The unified modeling language user guide. Reading, Mass.: Addison-Wesley.

Booch, G. (2003). Object-oriented analysis and design. Addison Wesley.

Krochten, P. (2000). *The Rational Unified Process (RUP): An Introduction* (2nd ed.).

Warszawa: Addison Wesley.

Web Site Readings
http://www.omg.org

http://pigseye.kennesaw.edu/~dbraun/csis4650/A&D/UML_tutorial

http://www.smartdraw.com/tutorials/software-uml/uml.htm

Table/Topics & Assignments

Types of Assignments:
Lecture -
Considered Lecture Hours
Classroom Discussion -
Considered Lecture Hours
In Class Critique -
Considered Lecture Hours
Delivering Oral Presentations -
Considered Lecture Hours
In Class (IC) Exercise -
Considered Lecture Hours
Reading -
Considered Homework (HW), work done outside of class
WebClass lesson (non-online courses) -
Considered HW, work done outside of class
Lab Work -
Considered Lab Hours
Quiz, Midterm or Final -
Considered Lecture Hours

Week 1						
Type	**Topic/Description**	**LEC Hours**	**LAB Hours**	**HW Hours**	**Point Value**	**Due**
LEC 1A	UML Fundamentals	2				
LEC 1B	Use Case Diagram	2				

Type	Topic/Description	LEC Hours	LAB Hours	HW Hours	Point Value	Due
LAB 1A	Project 1: Develop a Use Case Diagram from a List of Business Requirements		4		70	Week 1
HW 1A	Read Chapters 1&2 and Lesson 1 (53 pages) Evaluated by LAB 1A, HW 1B, HW 1C			5.3		
HW 1B	Chapters 1 & 2: 20 Questions, pp. 15, 48 (Graded)			1.25	20	Week 2
HW 1C	Chapter Summaries (Graded)			1.5	10	Week 2
Total Week 1		4	4	8.05	90	

Week 2

Type	Topic/Description	LEC Hours	LAB Hours	HW Hours	Point Value	Due
LEC 2A	Object-Oriented Design	4				
HW 2A	Read Chapter 3 and Lesson 2 (21 pages) Evaluated by HW 2B, HW 2C			2.1		
HW 2B	Chapter 3: 10 Questions, p. 64 (Graded)			.67	20	Week 3
HW 2C	Chapter Summary (Graded)			1.5	10	Week 3
Total Week 2		4	0	4.27	30	

Week 3

Type	Topic/Description	LEC Hours	LAB Hours	HW Hours	Point Value	Due
LEC 3A	Activity Diagrams	4				
LAB 3A	Project 2: Develop an Activity Diagram from a List of Business Requirements		4		70	Week 3
HW 3A	Read Chapter 4 and Lesson 3 (29 pages) Evaluated by LAB 3A, HW 3B, HW 3C			2.9		
HW 3B	Chapter 4: 10 Questions, p. 86 (Graded)			.67	20	Week 4
HW 3C	Chapter Summary (Graded)			1.5	10	Week 4

Total Week 3		4	4	5.07	90	

Week 4

Type	Topic/Description	LEC Hours	LAB Hours	HW Hours	Point Value	Due
LEC 4A	Sequence Diagrams	4				
HW 4A	Read Chapter 5 and Lesson 4 (36 pages) Evaluated by HW 4A, HW 4B, HW 4C & HW 4D			3.6		
HW 4B	Project 3: Develop a Sequence Diagram from a List of Business Requirements			4	70	Week 5
HW 4C	Chapter 4: 10 Questions, p. 115 (Graded)			.67	20	Week 5
HW 4D	Chapter Summary (Graded)			1.5	10	Week 5
Total Week 4		4	0	9.77	90	

Week 5

Type	Topic/Description	LEC Hours	LAB Hours	HW Hours	Point Value	Due
LEC 5A	Class Diagrams	3				
LAB 5A	Project 4: Develop a Class Diagram from a List of Business Requirements		4		70	Week 5
EXAM 5A	Midterm	1			100	Week 5
HW 5A	Read Chapter 6 and Lesson 5 (40 pages) Evaluated by Lab 5A			4		
Total Week 5		4	4	4	160	

Week 6

Type	Topic/Description	LEC Hours	LAB Hours	HW Hours	Point Value	Due
LEC 6A	Collaboration Diagrams	4				
HW 6A	Read Chapter 7 and Lesson 6 (33 pages) Evaluated by HW 6B, HW 6C, EXAM 5A and LAB 6A			3.3		
HW 6B	Chapter 7: 10			.67	20	Week 7

Type	Topic/Description	LEC Hours	LAB Hours	HW Hours	Point Value	Due
	Questions, p. 167 (Graded)					
HW 6C	Chapter Summary (Graded)			1.5	10	Week 7
Total Week 6		4	0	5.47	30	

Week 7

Type	Topic/Description	LEC Hours	LAB Hours	HW Hours	Point Value	Due
LEC 7A	Class Diagrams Revisited	4				
LAB 6A	Project 5: Develop a Collaboration Diagram from a List of Business Requirements		4		70	Week 7
HW 7A	Read Chapter 8 and Lesson 7 (33 pages) Evaluated by HW 7B, HW 7C			3.3		
HW 7B	Chapter 8: 10 Questions, p. 187 (Graded)			.67	20	Week 8
HW 7C	Chapter Summary (Graded)			1.5	10	Week 8
Total Week 7		4	4	5.47	90	

Week 8

Type	Topic/Description	LEC Hours	LAB Hours	HW Hours	Point Value	Due
LEC 8A	Sequence Diagram Revisited	4				
HW 8A	Read Chapter 9 and Lesson 8 (28 pages) Evaluated by Lab 8B, HW 8C, HW 8D			2.8		
HW 8B	Project 6: Develop a Sequence Diagram from a List of Business Requirements			4	70	Week 9
HW 8C	Chapter 9: 10 Questions, p. 210 (Graded)			.67	20	Week 10
HW 8D	Chapter Summary (Graded)			1.5	10	Week 10
Total Week 8		4	0	8.97	90	

Week 9

		LEC	LAB	HW	Point	

Type	Topic/Description	Hours	Hours	Hours	Value	Due
LEC 9A	Statechart Diagram	4				
LAB 9A	Project 7: Develop a Statechart Diagram from a List of Business Requirements.		4		70	Week 9
HW 9A	Read Chapters 10 & 11 and Lesson 9 (50 pages) Evaluated by HW 9B, HW 9C, EXAM 10A and LAB 9A			5		
HW 9B	Project 8: Develop an Implementation Diagram from a List of Business Requirements			4	70	
HW 9B	Chapters 10 & 11: 20 questions, pp. 232, 253 (Graded)			1.25	20	Week 10
HW 9C	Chapter Summaries (Graded)			1.5	10	Week 10
Total Week 9		4	4	10.25	150	

Week 10

Type	Topic/Description	LEC Hours	LAB Hours	HW Hours	Point Value	Due
LEC 10B	UML discussion	1				
EXAM 10A	Final Exam		1		100	Week 10
Total Week 10		1	3	0	100	

Course Hours Summary

Week	Topic	LEC Hours	LAB Hours	HW Hours
1	UML Fundamentals, Use Case Diagram	4	4	8.05
2	Object-Oriented Design	4	0	4.27
3	Activity Diagrams	4	4	5.07
4	Sequence Diagrams	4	0	9.77
5	Class Diagrams	4	4	4
6	Collaboration Diagrams	4	0	5.47
7	Class Diagrams Revisited	4	4	5.47
8	Sequence Diagram Revisited	4	0	8.97
9	Statechart Diagram	4	4	10.25
10	Implementation Diagram	1	3	0
Total		37	23	61.32

Table/Point Breakdown

Assignment	Possible Points	Percent of Grade
Projects	560	56%
Chapter questions	160	16%
Chapter Summaries	80	8%
Midterm Exam	100	10%
Final Exam	100	10%
	1000	100%

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.