COURSE SYLLABUS
COM202: Object-Oriented Programming Concepts

Course Description
Best practices in object-oriented include implementing software designs with high-cohesion, low-coupled architectures. This course will provide opportunities for the student to develop proficiency in high-quality code within the object-oriented programming approach. Attention to creating quality code reaps benefits for the programmer as an application matures in that it supports updating, patching errors, and extending the functionality of it. No published software may ignore best practices in the implementation phase; consumer expectations of functionality and reliability require robust programming practices to meet expected turnaround times for software system extensions and bug fixes.

General Course Information

Number of Units/Weeks	8.0/10
#Hours Lecture/#Hours Laboratory/#Hours HW*	60/40/120
Prerequisite(s)	COM152 or COM285
Co-requisites (s)	N/A
Course Developer(s)	Jason Abel, M.S. B.T.M.
Date Approved / Last Review	June 2014 / New

* Homework

Learning Outcomes
Derive an inheritance hierarchy of classes appropriate for a given software requirements specification. (ILOA, ILOM, PLO1)

Document application programming interface details for classes and class behaviors. (ILOM, PLO3)

Use OOP principles to create highly-cohesive, low-coupled classes and class libraries. (ILOA, ILOM, PLO1, PLO2)

Select an appropriate design pattern for a given software requirements specification. (ILOA, ILOM, PLO1, PLO2)

Instructional Methods Employed in this Course
Lecture and reading assignments
Hands-on exercises and labs
Research
Student presentations
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

Skrien, D. (2009). Object-Oriented Design Using Java. New York, NY: McGraw-Hill Higher Education

Other Materials

N/A

Web Site Readings

Java Platform, Standard Edition 7 API Specification (n.d.). *Oracle* . Retrieved from http://docs.oracle.com/javase/7/docs/api/

"Inheritance (IS-A) vs. Composition (HAS-A) Relationship," (n.d.). *W3Resource* . Retrieved from http://www.w3resource.com/java-tutorial/inheritance-composition-relationship.php

Friesen, J. (2001). Java 101: Object-oriented language basics, Part 3: Composition. *Java World* . Retrieved from Java 101: Object-oriented language basics, Part 3: Composition

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	Object-oriented programming (OOP) context	3	1			
HW 1A	Read chapters 1 & 2 (44 pages, web links). Appendix A, pages 303-310 (7 pages). Evaluated by HW 1B			6.375		
HW 1B	Chapter 1 exercises (1, 2, 5 - 1 pt. each), chapter 2 exercises (2, 3, 4, 7, 13, 17, 20 - 1 pt. each)			4	7	Monday, week 2
LEC 1B	Object-Oriented Programming Inheritance	3	1			
HW1C	Read chapter 3 (36 pages). Evaluated by HW 1D			4.5		

HW1D	Chapter 3 exercises (1, 3, 4, 5, 9, 12, 21, 23)			6	8	Monday, week 2
Total Week 1		6	2	20.875	15	

Week 2

Type	Topic/Description	LEC Hours	LAB Hours	HW Hours	Point Value	Due
LEC 2A	Elegant methods	3	1			
HW 2A	Read chapter 4, pages 82-98 (16 pages). Evaluated in HW 2B			2		
HW 2B	Chapter 4 exercises (2, 3, 4, 6, 7, 8, 9 - 1pt. each)			5	7	Monday, week 3
LEC 2B	Overriding Java core methods	3	1			
HW 2C	Read chapters 98-120 (22 pages). Evaluated in HW 2D			2.75		
HW 2D	Chapter 4 exercises (10, 11, 13, 16, 17, 18, 25, 29 - 1 pt. each)		4	8	8	Monday, week 3
Total Week 2		6	6	17.75	15	

Week 3

Type	Topic/Description	LEC Hours	LAB Hours	HW Hours	Point Value	Due
LEC 3A	Designing classes, Use Case diagrams	3	1			
HW 3A	Read chapter 5, pages 128-139 (11 pages). Appendix A, pages 313-316 (4 pages). Evaluated in HW 3B			1.875		
HW 3B	Chapter 5 exercises (1 through 6 - 1 pt. each)			6	6	Monday, week 4
LEC 3B	Design best practices	3	1			
HW 3C	Read chapter 5, pages 139-165 (26 pages). Evaluated in HW 3D			3.25		
HW 3D	Chapter 5 exercises (7, 8, 9, 11, 13, 15, 17, 19, 26 - 1 pt. each)			10	9	Monday, week 4
Total Week 3		6	2	21.125	15	

Week 4

Type	Topic/Description	LEC Hours	LAB Hours	HW Hours	Point Value	Due
LEC 4A	Inheritance versus composition	3	1			
HW 4A	Read W3CResources, "Is-A versus Has-A". Java World, "Java 101: Object-oriented language basics, Part 3: Composition". Evaluated in HW 4B			1		
HW 4B	Essay, Composition versus Inheritance			3	10	Monday, week 5
LEC 4B	Linear data structures overview	3	1			
HW 4C	Read Java Tutorials - Collections. Evaluated in HW 4D			4		
HW 4D	Collections instantiation and manipulation program		4	4	15	Monday, week 5

Total Week 4		6	6	12	25	
Week 5						
Type	**Topic/Description**	**LEC Hours**	**LAB Hours**	**HW Hours**	**Point Value**	**Due**
LEC 5A	Object-oriented case study	3	1			
HW 5A	Read chapter 6 (19 pages). Appendix B (13 pages). Evaluated in HW 5B, HW 5C			4		
HW 5B	Chapter 6 exercises (1 through 2 - 3 pts. each)			3	6	Monday, week 6
LEC 5B	Case study analysis, continued	3	1			
HW 5C	Chapter 6 exercises (3 through 9 - 2 pts. each)			8	14	Monday, week 6
Total Week 5		6	2	15	20	
Week 6						
Type	**Topic/Description**	**LEC Hours**	**LAB Hours**	**HW Hours**	**Point Value**	**Due**
HW 6A	Review chapters 1-6 (193) for exams. Evaluated in Exam 6A, Exam 6B		4	9.65		
Exam 6A	Midterm exam	3	1		20	Same Day
Exam 6B	Midterm practical exam	3	1		30	Same Day
Total Week 6		6	6	9.65	50	
Week 7						
Type	**Topic/Description**	**LEC Hours**	**LAB Hours**	**HW Hours**	**Point Value**	**Due**
LEC 7A	Design Patterns	3	1			
HW 7A	Read chapter 7, pages 196-210 (14 pages). Evaluated in HW 7B			1.75		
HW 7B	Chapter 7 exercises (1, 2, 3, 4, 6, 7, 8, 9 - 1 pt. each)			8	8	Monday, week 8
LEC 7B	Design Patterns continued	3	1			
HW 7C	Read chapter 7, pages 210-217 (7 pages). Evaluated in HW 7D			0.875		
HW 7D	Chapter 7 exercises (10 through 12 - 1pt. 13 through 14 - 2 pts. each)			8	7	Monday, week 8
Total Week 7		6	2	18.625	15	
Week 8						
Type	**Topic/Description**	**LEC Hours**	**LAB Hours**	**HW Hours**	**Point Value**	**Due**
LEC 8A	Design Pattern case study	3	1			
HW 8A	Read chapter 8, pages 220-234 (14 pages). Evaluated in HW 8B			1.75		
HW 8B	Chapter 8 exercises (1 through 6 - 1 pt. each)		4	6	12	Monday, week 9
LEC 8B	Case study analysis, continued	3	1			
HW 8C	Read chapter 8, pages 234-254 (20 pages). Evaluated in HW 8D			2.5		

HW 8D	Chapter 8 exercises (8, 9, 12, 13, 15, 18, 25, 26, 32 - 2 pts. each)			10	18	Monday, week 9
Total Week 8		6	6	20.25	30	
Week 9						
Type	**Topic/Description**	**LEC Hours**	**LAB Hours**	**HW Hours**	**Point Value**	**Due**
LEC 9A	Parsing case study	3	1			
HW 9A	Read chapter 9, pages 258-273 (15 pages). Evaluated in HW 9B			1.875		
HW 9B	Chapter 9 exercises (1, 2, 4 - 2 pts. each)			6	6	Monday, week 10
LEC 9B	Case study analysis, continued	3	1			
HW 9C	Read chapter 9, pages 274-299 (25 pages). Evaluated in HW 9D			2.5		
HW 9D	Chapter 9 exercises (5, 6 - 2 pts. Each. 8, 9, 10, 11, 12 - 1 pt. each)			10	9	Monday, week 10
Total Week 9		6	2	20.375	15	
Week 10						
Type	**Topic/Description**	**LEC Hours**	**LAB Hours**	**HW Hours**	**Point Value**	**Due**
HW 10A	Review chapters 7-9 (103 pages). Evaluated in Exam 10A, Exam 10B		4	5.15		
Exam 10A	Final Exam	3	1		20	Same Day
Exam 10B	Final Practical Exam	3	1		30	Same Day
Total Week 10		6	6	5.15	50	

Course Hours Summary

Week	Topic	LEC Hours	LAB Hours	HW Hours
1	Object-Oriented Programming foundation	6	2	20.875
2	Methods	6	6	17.75
3	Designing classes	6	2	21.125
4	Composition versus Inheritance, data structures	6	6	12
5	Case study 1	6	2	15
6	Midterm	6	6	9.65
7	Design Patterns	6	2	18.625
8	Design Pattern Case study	6	6	20.25
9	Text parsing	6	2	20.375
10	Final	6	6	5.15
Total		60	40	160.8

Table/Point Breakdown

Graded Activity	Possible Points	Percentage of
Homework exercises	125	50%
Paper	10	4%
Collections instantiation and manipulation program	15	6%
Exams	40	16%
Practical Exams	60	24%
Total	250	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
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	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.