

## COURSE SYLLABUS

### COM253 – GAME PROGRAMMING C#

#### COURSE DESCRIPTION

This course introduces the student to programming interactive computer games with an emphasis on C# programming, using Direct X. The student will explore the basics of C#, implementation of fundamental tasks in Direct3D, and combine a variety of techniques and special effects into a playable game.

#### GENERAL COURSE INFORMATION

Number of Units / Weeks	8 / 10
# Hours Lecture / # Hours Laboratory / # Hours Homework	60 / 40 / 120
Prerequisite(s)	COM103
Course Developer(s)	John Ramos, B.S.
Date Approved / Last Review	March 2010 / Nov 2012

#### LEARNING OUTCOMES

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

- Understand C# basic syntax and logic
- Develop a game project framework that can be used as a starting point for future game projects
- Develop a C# MDX project using various typical game output, such as 2D/3D graphics and audio
- Develop game code that solves various gaming problems and accomplishes needed game objectives

## 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 theory and skills in authentic DESIGN/PROGRAMMING Projects
- Build on prior knowledge and experience of students to enhance richness of class activities
- Team Environment

## INFORMATION RESOURCES FOR THIS COURSE



### Textbook

Farrell, J. (2008). Microsoft Visual C# 2005: An introduction to object-oriented programming (2nd ed.). Florence, KY: Thomson Course Technology.

Penton, R. (2008). *Beginning C# game programming*. Boston, Mass.: Course Technology PTR.



### Other Materials

Coleman College. The College Writer's Guide. San Diego: Coleman College, 2009.

Microsoft DirectX9.0c SDK

<http://www.microsoft.com/downloads/en/resultsForProduct.aspx?displaylang=en&productID=9C954C37-1ED1-4846-8A7D-85FC422D1388>

Retrieved April 7, 2010

Microsoft Visual Studio 2008

<http://www.microsoft.com/visualstudio/en-us/products/2008-editions>

Retrieved April 7, 2010



### Web Site Readings

MSDN Windows Development Center: "DirectX 9.0 for Managed Code." Microsoft. 2010. Internet: <<http://msdn.microsoft.com/en-us/library/bb318658%28VS.85%29.aspx>> April 7, 2010.

## COURSE OUTLINE

<b>WEEK</b>	<b>TOPIC</b>	<b>READING</b>	<b>PROJECT ASSIGNED</b>
1	Introduction to C# Data & Code Flow	Farrell: Pages 1-30; 39-69, 81-104, 115-131	<b>Design Project:</b> Game Balance, 19.4 Hrs <b>Evaluation:</b> Graded 5 Points. <b>Reading:</b> 101 pages, 10.1 Hrs <b>Review Questions:</b> 20 Question, 1.3 Hrs <b>Exercises:</b> Chapter 1 9 exercises, 3 Hrs <b>Debugs:</b> Chapter 1, 4 Debugs, 2 Hrs <b>Evaluation:</b> Graded cumulative 10 Points for Review Questions, Exercises, Debugs
2	Arrays Methods Classes and Objects	Farrell: Pages 139-163, 171-203, 213-258, 271-310	<b>Project:</b> Simple War Game, 3 Hrs <b>Evaluation:</b> Graded 5 Points. <b>Reading:</b> 140 pages, 14Hrs <b>Review Questions:</b> 20 Questions, 1.3Hrs <b>Exercises:</b> 10 exercises, 3 Hrs <b>Debugs:</b> 4 Debugs, 2 Hrs <b>Evaluation:</b> Graded cumulative 10 Points for Review Questions, Exercises, Debugs

<i>WEEK</i>	<i>TOPIC</i>	<i>READING</i>	<i>PROJECT ASSIGNED</i>
3	GUI Objects and Events Exception Handling Files and Streams	Farrell: Pages 107-114, 321-356, 365-405, 413-465, 473-507, 515- 548	<b>Project:</b> Windows Form Application <b>Evaluation:</b> Graded 10 Points. 8 Hrs <b>Reading:</b> 201 pages, 20.1 Hrs <b>Review Questions:</b> 20 Review Questions, 1.3Hrs <b>Exercises:</b> 9 exercises, 3 Hrs <b>Debugs:</b> 4 Debugs, 2 Hrs <b>Evaluation:</b> Graded cumulative 10 Points for Review Questions, Exercises, Debugs
4	Setting Up the Framework	Penton: Pages 114-116, 123-143	<b>Reading:</b> 22 pages, 2 Hrs <b>Review Questions:</b> 20 Review Questions, 1.3Hrs <b>Exercises:</b> 10 exercises, 3 Hrs <b>Debugs:</b> 4 Debugs, 2 Hrs <b>Evaluation:</b> Graded cumulative 10 Points for Review Questions, Exercises, Debugs

<i>WEEK</i>	<i>TOPIC</i>	<i>READING</i>	<i>PROJECT ASSIGNED</i>
5	DirectX3D	Penton: Pages. 145-176	<b>Midterm Exam:</b> 15 points <b>Project:</b> Sprites <b>Evaluation:</b> Graded 10 Points. 8 Hrs <b>Reading:</b> 31 pages, 3.1 Hrs <b>Review Questions:</b> 20 Review Questions, 1.3Hrs <b>Exercises:</b> 9 exercises, 3 Hrs <b>Debugs:</b> 4 Debugs, 2 Hrs <b>Evaluation:</b> Graded cumulative 10 Points for Review Questions, Exercises, Debugs
6	Sprites and Fonts	Penton: Pages 177-195	<b>Reading:</b> 18 pages, 1.8 Hrs <b>Review Questions:</b> 20 Review Questions, 1.3Hrs <b>Exercises:</b> 12 exercises, 3 Hrs <b>Debugs:</b> 4 Debugs, 2 Hrs

<i>WEEK</i>	<i>TOPIC</i>	<i>READING</i>	<i>PROJECT ASSIGNED</i>
7	DirectInput	Penton: Pages 197-217	<b>Project:</b> DirectInput & Direct Sound, Graded 5 Points. 4 Hrs <b>Reading:</b> 20 pages, 2 Hrs <b>Review Questions:</b> 20 Review Questions, 1.3Hrs <b>Exercises:</b> 11 exercises, 3 Hrs <b>Debugs:</b> 4 Debugs, 2 Hrs <b>Evaluation:</b> Graded cumulative 10 Points for Review Questions, Exercises, Debugs
8	DirectSound	Penton: Pages 219-225	<b>Project:</b> Generic Space Shooter 3000 <b>Evaluation:</b> Graded 20 Points. 30 Hrs <b>Reading:</b> 6 pages, .6 Hrs
9	Putting Together a Game	Penton: Pages 227-243	<b>Reading:</b> 16 pages, 1.6 Hrs
10	Generic Space Shooter 3000	Penton: Pages 244-281	<b>Final Exam:</b> 20 points <b>Reading:</b> 37 pages, 3.7 Hrs

	Design Doc	Reading	Review Questions	Exercises	Debug	P1	P2	P3	P4	P5
HW Time	19.4	59	7	21	14	3	8	8	4	30

Total Writing Assignments:

19.4 Hours

Total Reading, Questions, Exercise and Debugging:

101 Hours

Total Projects:

53 Hours – 30 Hours (lab) =

23 Hours

Total Out of Class Time:

143.4 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](mailto: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.