Graduate Course Syllabus

IT 620: Object-Oriented Systems Design

Center: Online

Course Prerequisites

IT 511 and IT 510 or permission of instructor

Course Description

This course focuses on the principles required for developing object-oriented information systems. Topics include the principles of object orientation, including objects and classes, encapsulation, inheritance, polymorphism, and communication with messages. Also covered are class hierarchies, abstract and concrete classes, model and view separation, design patterns, and visual development. This course provides hands-on experience with object-oriented development environments.

Course Outcomes

- Evaluate software design patterns for promoting object reusability and sustainability based on best practices in object-oriented software design
- Assess the relevance and context-appropriateness of architecture and design patterns used in the object-oriented design of game programs
- Evaluate game design techniques for their use in designing object-oriented games that are easy to maintain, support persistence over time, extend new features and functionality, and allow for updated user interfaces
- Design and assemble successful game modifications using relevant object-oriented design principles and programming best practices

Required Materials

Using your learning resources is critical to your success in this course. Please purchase directly through SNHU's online bookstore, MBS Direct, rather than any other vendor. Purchasing directly from the bookstore ensures that you will obtain the correct materials and that the Help Desk, your advisor, and the instructor can provide you with support if you have problems.

This course requires the use of Skillsoft for access to the e-book, videos, and other assets that you can use throughout the course. You will access Skillport through the following link: https://snhu.skillport.com.

You will be enrolled in Skillsoft to utilize the following book, in addition to assigned videos:

Beginning C++ Through Game Programming
Michael Dawson
Cengage
Fourth Edition
2014
Print ISBN: 978-1-305-10991-9
https://snhu.skillport.com/skillportfe/main.action#summary/BOOKS/RW$3557:_ss_book:66333

Instructor Availability and Response Time

Your class interaction with the instructor and your classmates will take place on a regular, ongoing basis. Your instructor will be actively engaged within the course throughout the week. You will normally communicate with your instructor in the weekly discussions or the General Questions discussion topic so that your questions and the instructor's answers benefit the entire class. You should feel free, however, to communicate with your instructor via SNHU email at any time, particularly when you want to discuss something of a personal or sensitive nature. Your instructor will generally provide a response within 24 hours.

Grade Distribution

Assignment Category	Number of Graded Items	Point Value per Item	Total Points
Discussions	7	25	175
Discussions: Programming Assignments	3	25	75
Programming Activities	2	25	50
Final Projects			
Final Project Planning Activity	1	100	100
Final Project I Submission	1	200	200
Final Project II Milestone One	1	100	100
Final Project II Milestone Two	1	100	100
Final Project II Submission	1	200	200
		Total Course Points:	1,000

This course may also contain practice activities. The purpose of these non-graded activities is to assist you in mastering the learning outcomes in the graded activity items listed above.

University Grading System: Graduate

		Total Points:	*1000*	
Grade	**Numerical Equivalent**	**Points**	**Points Equivalent**	
			Lower	*Upper*
A	93-100	4.00	930	1000
A-	90-92	3.67	900	929
B+	87-89	3.33	870	899
B	83-86	3.00	830	869
B-	80-82	2.67	800	829
C+	77-79	2.33	770	799
C	73-76	2.00	730	769
F	0-72	0.00	0	729
I	Incomplete			
IF	Incomplete/Failure*			
W	Withdrawn			

* Please refer to the policy page for information on the incomplete grade process.

Grading Guides

Specific activity directions, grading guides, posting requirements, and additional deadlines can be found in the Assignment Guidelines and Rubrics section of the course.

Weekly Assignment Schedule

All reading and assignment information can be found within each module of the course. Assignments and discussion posts during the first week of each term are due by 11:59 p.m. Eastern Time. Assignments and discussion posts for the remainder of the term are due by 11:59 p.m. of the student's local time zone.

In addition to the textbook readings that are listed, there may be additional required resources within each module.

Module	Topics and Assignments
1	Introduction to Object-Oriented Programming and to the Fundamentals of C++ *Beginning C++ Through Game Programming*, Chapter 1 and Appendix A (pp. 355–361) 1-1 Discussion: Introduction 1-2 Course Preparation: Install Visual Studio 2013 from Microsoft Imagine and Review Final Project Documents (Non-graded) 1-3 Programming Activity One: Game Over 1-4 Programming Activity Two: Lost Fortune
2	Loop Statements *Beginning C++ Through Game Programming*, Chapter 2 2-1 Discussion: Module Two Programming Assignment

3	Loops, Strings, and Arrays *Beginning C++ Through Game Programming*, Chapter 3 3-1 Discussion: C++ and Java – What Is the Difference? 3-2 Discussion: Module Three Programming Assignment
4	Using the Standard Template Library *Beginning C++ Through Game Programming*, Chapter 4 4-1 Discussion: Writing Pseudocode 4-2 Final Project I Submission: Game Design Comparison
5	Functions *Beginning C++ Through Game Programming*, Chapter 5 5-1 Discussion: Software Reuse Technique 5-2 Final Project Planning Activity
6	References *Beginning C++ Through Game Programming*, Chapters 6 and 7 6-1 Discussion: References 6-2 Final Project II: Milestone One
7	Object-Oriented Programming: Defining Different Types of Objects and Creating Objects *Beginning C++ Through Game Programming*, Chapter 8 7-1 Discussion: Popularity of C++ for Game Development 7-2 Final Project II: Milestone Two
8	Advanced Classes and Dynamic Memory *Beginning C++ Through Game Programming*, Chapter 9 8-1 Discussion: Module Eight Programming Assignment
9	Inheritance and Polymorphism, Part I *Beginning C++ Through Game Programming*, Chapter 10 (pp. 307–330) 9-1 Final Project II: Submission
10	Inheritance and Polymorphism, Part II *Beginning C++ Through Game Programming*, Chapter 10 (pp. 330–354) 10-1 Discussion: Game Development

Attendance Policy

Online students are required to submit a graded assignment/discussion during the first week of class. If a student does not submit a posting to the graded assignment/discussion during the first week of class, the student is automatically withdrawn from the course for non-participation. Review the full attendance policy.

Late Assignments Policy

Meeting assigned due dates is critical for demonstrating progress and ensuring appropriate time for instructor feedback on assignments. Students are expected to submit their assignments on or before the due date. Review the full late assignment policy.

SNHU College of Online and Continuing Education Student Handbook

Review the student handbook.

ADA/504 Compliance Statement

Southern New Hampshire University is dedicated to providing equal access to individuals with disabilities, including intellectual disabilities, in accordance with Section 504 of the Rehabilitation Act of 1973, Title III of the Americans with Disabilities Act (ADA) of 1990, and the ADA Amendments Act of 2008. The university prohibits unlawful discrimination on the basis of disability and takes action to prevent such discrimination by providing reasonable accommodations to eligible individuals with disabilities.

As soon as you become aware of a disability, we encourage you to contact the Online Accessibility Center (OAC) to discuss accommodations for which you may be qualified. Reasonable accommodations are established through an interactive process between the student and the OAC. Note that accommodations are not retroactive and that disability accommodations are not provided until an accommodation letter has been processed.

Contact Information:
Online Accessibility Center
Phone: 866-305-9430
Email: oac@snhu.edu

For questions concerning support services, documentation guidelines, or general disability issues, visit the Online Accessibility Center website.

If you feel you have been denied appropriate disability-related accommodations, including appropriate auxiliary aids and services, you may file a grievance as described in the ADA/504 Grievance Policy found on the Disability Services webpage.

Academic Honesty Policy

Southern New Hampshire University requires all students to adhere to high standards of integrity in their academic work. Activities such as plagiarism and cheating are not condoned by the university. Review the full academic honesty policy.

Copyright Policy

Southern New Hampshire University abides by the provisions of United States Copyright Act (Title 17 of the United States Code). Any person who infringes the copyright law is liable. Review the full copyright policy.

SNHU College of Online and Continuing Education Withdrawal Policy

Review the full withdrawal policy.

Southern New Hampshire University Policies

More information about SNHU policies can be found on the policy page.

Student Work Samples

For the purpose of continuous improvement of our educational training, Southern New Hampshire University's College of Online and Continuing Education may, on occasion, utilize anonymous student work samples for internal professional development and staff training. If you have any questions or concerns, contact your advisor. If you would like to withdraw permission for use of your work, please email assessmentcalibration@snhu.edu.