

Name:	Bryson R. Payne, Ph.D.	Term:	Fall 2012
School:	North Georgia College & State University	Email Address:	bpayne@northgeorgia.edu
Department Name:	Math/CS	Office Location:	Barnes Hall 129
Course #:	CSCI 3600 A	Office Phone #:	706-864-1694
Course Title:	Computer Graphics	Office Hours:	MW 9:30-11:30 TR 11-12
Semester Hours:	3	Web Site:	www.BrysonPayne.com
Class Hours:	M/W 1:00-1:50 pm + online	Class Location:	NOC 208

Prerequisites: Grade of C or better in CSCI 2700 (note: prerequisite is incorrect in Banner – see me for override)

Course Description: The main focus of this course is to provide an introduction to interactive computer graphics. A large component of the class will consist of writing a large-scale graphics program using a high-level language. Topics include machine-independent graphics, graphics standards, a survey of applications, use of graphics libraries, output devices, appropriate data structures, and mathematical manipulation of graphical objects.

Course Objectives: Students shall demonstrate the ability to:

- Program interactive graphics applications in a high-level language and API
- Program a simple interactive 3D game
- Model a 3D scene and/or character in a 3D modeling package
- Describe the workflow in working with a 3D graphics Game Engine
- Develop and apply 3D programming for both mobile and traditional applications
- Produce an HTML-based portfolio of the projects completed in this course

Methods of Instruction: Hands-on instruction and lab assignments, assigned readings, and lectures will be used to convey the course material.

Evaluation Methods:

This course will be primarily project-based, with a mid-term research paper and final exam/presentation.

Projects: 50%

Labs/Written Exercises/Quizzes: 20%

Research paper/Portfolio: 30%

General Expectations:

All projects are to be completed by the start of class on the due date given. Late work will be accepted no later than three class periods after it is assigned, with a 10 point per day penalty. Daily attendance is mandatory. NGCSU's attendance policy, found in the Undergraduate and Graduate Bulletins, will be enforced.

Course Content:

- Introduction to 3D programming in C/C++ with OpenGL
- Graphics history, concepts, and architectures
- OpenGL API
- Color & texturing

- Interactive graphics
- Geometric transformations
- 3D Modeling
- Mobile 3D game programming fundamentals
- Game modification & Portfolio Development
- Computer Graphics Research
- Advanced Topics: By interest, as time permits

Knowledge Base:

Optional Text: Fundamentals of Computer Graphics – Third Edition, Schirley & Marschner, CRC Press, 2009.

Bibliography: Interactive Computer Graphics: A Top-Down Approach Using OpenGL – Fourth Edition, Edward Angel, Addison Wesley, 2006.

ACM Digital Library Online (via NGCSU Library Web Site – see course web site for details)

Online Tutorials and Sample Programs (see course web site)

Academic Integrity Policy:

- Honor Code: “On my honor, I will not lie, cheat, steal, plagiarize, evade the truth, or tolerate those who do.”
- Suspected violations of the Academic Integrity policy should be referred by students to the instructor. If the instructor concludes that a violation of the Academic Integrity policy has occurred, the instructor will either (1) penalize the student and file an incident report with the Academic Integrity Council or (2) refer the matter directly to the Academic Integrity Council. If an incident report is filed by the instructor, the instructor will review the completed report with the student and will request that the student sign the report as an indication that the student is aware of the contents of the report

Accommodation for Students with Disabilities:

North Georgia College & State University (NGCSU) is committed to the full inclusion of individuals with disabilities and to the principle of individual rights and responsibilities. To that end, the policies and procedures of NGCSU reasonably ensure that a person with a disability is not, on the basis of that disability, denied full and equal access to and the enjoyment of academic programs and co-curricular activities or otherwise is subjected to discrimination in such programs and activities.

The policies for access by individuals with disabilities at NGCSU are designed to ensure full compliance with all pertinent federal and state legislation, specifically to include Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990.

To receive disability accommodations, the student should contact the Coordinator of Disability Resources, Office of Academic Support Programs, Room 121 Barnes Hall. Approval of reasonable accommodations will be made on a case-by-case basis.