

Northeastern State University
College of Science and Health Professions
Department of Mathematics and Computer Science
Tahlequah, OK

INSTRUCTOR:

Mr. William G. King

Office: NET 327

Office Hours: MTWThF 9:00 am and MWF 1:00 pm

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COURSE TITLE AND NUMBER: CLASS DAYS & TIME:

Math 4223 - Computer Graphics 2:00 p.m. MWF

CS 4223 - Game Programming

PREREQUISITES Math 4223

MATH 2614 and programming experience.

PREREQUISITES CS 4223:

CS 2163 and MATH 3023

CATALOG DESCRIPTION OF Math 4223

The study of hardware and software principles of interactive computer graphics. Topics Include an Introduction to basic concepts, 2-D and 3-D modeling and transformations, projections, rendering techniques, graphical software packages and graphics systems. An API will be used to reinforce concepts and study the fundamental algorithms

COURSE DESCRIPTION OF CS 4223

An introduction to game programming using a high level programming language and one of the current graphics application programming interfaces.

COURSE PURPOSE:

The purpose of this course is to give the student an introduction to 3D computer graphics using a high level programming and a computer graphics API.

STUDENT LEARNING OUTCOMES:

The student will be expected to achieve the following objectives:

1. Obtain a basic foundation in C# programming.
2. Learn the basics of games programming using XNA API.
3. Learn the basics of effects using HLSL.
4. Obtain a basic understanding of 3D modeling software.
5. Learn the foundational elements of 3D graphics.
6. Learn the foundational elements of game programming.

INSTRUCTIONAL MATERIALS:

No Required Textbook.

If you are going to work on your own PC, you will need to install Visual Studio 2010 with C#. You will also need to install XNA Game Studio 4.0.

If you do not have a PC and you wish to work on a campus computer, please inform Mr. King which campus labs you would like to have the software installed.

INSTRUCTIONAL PROCEDURES

1. Introduction to XNA Game Studio
2. Introduction to C#
3. Drawing in 3D
4. 3D Mathematics
5. Creating a 3D camera class
6. Basic Effects and HLSL
7. Texturing
8. Terrain
9. Models and Animation
10. Collision Detection
11. Particle Effects
12. Sound Effects

STUDENT PERFORMANCE ACTIVITIES: (*Attendance/Punctuality*)

Regular class attendance is expected. The instructor reserves the right to reduce a student's grade for excessive absences. The policy is a letter grade reduction for each four absences. Students with valid excuses such as sickness or death in the immediate family will be excused. Students are expected to arrive to class on time and be ready to take notes. Students are expected to participate in classroom discussion when appropriate. **All cell phones must be turned off during class time.**

STUDENT EVALUATION:

The schedule of points is as follows:

Midterm Exam	100 points
Homework/Program Assignments	300 points
Final Game Project	200 points
Total Points	600 points

Each student's final grade will be determined by their total points acquired based upon the following scale:

GRADING SCALE

A	90%
B	80%
C	65%
D	55%

Withdrawal Policy: April 8th is the Last Day to Drop with automatic W. Last Day to drop a single class or withdraw from NSU is May 2nd.

Final Project: Final Game Project will be a group project that will be demonstrated to the class and evaluated by the class during Final Exam Week on Monday May 7th at 1:00 p.m.

ADDITIONAL INFORMATION:

Please go to <http://offices.nsuok.edu/academicaffairs/SyllabiInformation.aspx> for required information pertaining to:

1. Academic Misconduct
2. American Disabilities Act Compliance
3. Inclement Weather/Disaster Policy
4. Teach Act
5. Accessibility
6. Release of Confidential Information