COSC 5590 SPECIAL TOPICS: GAME PROGRAMMING

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Course Description and Purpose

This course will introduce the student to techniques and tools used for all aspects of programming games. Topics will include game graphics, game physics, game AI, and sound. The course will contain lectures and hands-on labs. Students will work independently and in teams.

This course can count towards an elective in the MS program.

This course is taught in conjunction with COSC3325 and the curriculum will be the same. However, graduate students will have different reporting responsibilities for their final report. If they work with an undergraduate team they will also have different expectations. They will also have extra exam questions.

Prerequisites

Graduate Standing in MS program (or at least Data Structures), and good programming skills.

Course Outcomes

- Students will gain experience with XNA.
- Students will become proficient in C#.
- Students will gain knowledge of methods necessary for game programming.
- Students will experience working on teams on a significant software project.
- Students will complete a game.

Format

This course will be a mixture of lectures, discussions, and demonstrations. The student is expected to actively participate in all class activities. The student is also expected to do outside work on assignments and to complete two major pieces of software, one individually and one as part of a team. Students are expected to be productive team members.

Text and References

recommended texts

- *XNA Game Studio 4.0 Programming: Developing for Windows Phone and Xbox Live (Developer's Library)*, Tom Miller and Dean Johnson, Addison-Wesley Professional, 1 edition, 2011. ISBN 978-0672333453

suggested texts

Course Outline

The following is a rough outline and is subject to change. See the course website (http://sci.tamuuc.edu/~sking/web/GameProgramming/) for the most up to date information.

- Introduction: Game design
- C#
- XNA
- Game graphics
- Core Mechanics
- Game physics
- Sound
- AI
- Advanced Topics.

Important Dates

- 18 Apr Midterm Exam
- 28 Feb Individual Game Due (+ demo)
- 23 Mar Team Game Prototype
- 13 Apr Team Game Prototype
- 27 Apr Team Game Prototype
- 11 May Final Game Demo

Grading Plan

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
<th>Grade</th>
</tr>
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<tbody>
<tr>
<td>Midterm</td>
<td>25%</td>
<td>90% A</td>
</tr>
<tr>
<td>Final Project</td>
<td>45%</td>
<td>80% B</td>
</tr>
<tr>
<td>Assignments and Quizzes</td>
<td>25%</td>
<td>70% C</td>
</tr>
<tr>
<td>Class Participation</td>
<td>5%</td>
<td>60% D</td>
</tr>
<tr>
<td></td>
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<td>50% F</td>
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</tbody>
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Course Policies

- No makeup exam without adequate doctor's excuse explaining your absence. Makeup exams will not be the same exam. If for any reason you have a conflict you must see me as soon as you know about the conflict!
- Incompletes only with documented reasons in accordance with the university policy.
- No late assignments
- Turn off cell phones and pagers before class.

Classroom/professional behavior: Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor's ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

Disabilities Accommodations: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call or visit Disability Services at (361) 825-5816 in Driftwood 101.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

Academic Advising: The College of Science and Technology requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. The College's Academic Advising Center is located in Faculty Center 178, and can be reached at 825-6094.

Grade Appeals. As stated in University Rule 13.02.99.C2, Student Grade Appeals, a student who believes that he or she has not been held to
appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the
final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a
complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of
the parties involved in the process and the number of days allowed for completing the steps in the process, see University Rule 13.02.99.C2,
Student Grade Appeals, and University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through
the University Rules Web site at http://www.tamucc.edu/provost/university_rules/index.html. For assistance and/or guidance in the grade
appeal process, students may contact the Office of Student Affairs.