Bergen Community College
Computer Science, Engineering and Information Technology
Course Syllabus

Course Title: GAM-230 Game Development 3D II

Credits/Hours: 3 credits/2 hours lecture, 2-hour lab.

Prerequisite: GAM-218 (formerly GAM-222)

Course Description:
This course provides the student game programming knowledge and skills required for making 3D games. A professional game development platform will be investigated along with object-oriented programming concepts which include arrays, classes, properties, delegates, interfaces, and event handling. Students will also learn techniques for using a platform-integrated game engine to create game levels using terrain, material, object and other level editing tools.

Textbooks and Supplies:

Textbook will be provided.

Student Learning Objectives	Assessment Measures
1. Create programs which display game assets that can be manipulated by the player, implement physics, triggers and collisions, accept player inputs via a GUI, implement gameplay, display results and provide audio feedback.	Assignment/Exam
2. Utilize a 3D game engine and associated editors to create a game level with environmental and 3D game assets.	Assignment/Exam
3. Apply game production practices by planning, designing, developing and testing games	Assignment

College Competencies	Student Learning Objective
Technological and Information Fluency	1-3
Applied Knowledge	3
Creativity and Aesthetic Appreciation	1

Course Content:

Assessment: An average of 60% from combined assessment measures is required to demonstrate proficiency in course material.

Exams and Projects	70%
Assignments	30%
Quizzes and Labs (Instructor Discretion)	Bonus Points

Quizzes: There may be several quizzes, each worth 10 points, given at the beginning pre-selected

classes. The quiz material will be based upon the prior lectures and labs, homework, and/or the reading assignments. A quiz cannot be made up if missed. A student entering class late, after a quiz has begun, will not be entitled to extra time to complete the quiz. Students entering class after a quiz is completed will not be permitted to take the quiz and a zero grade will be assigned.

Testing: Students are required to take examinations on the day and time they are scheduled. If special circumstances require a test schedule adjustment, this must be worked out in advance with the instructor. If a student misses an exam (except for prearranged circumstances with the instructor) a zero grade will be assigned.

The instructor can be reached by telephone (see course outline for appropriate phone number), e-mail, or a written note can be left in the Divisional Office (during the day) B-302 or in the Adjunct Office S-107. If there are extreme circumstances (documentation may be required) that prevent a student from taking a test or an exam according to the published schedule, the student should use one of the above options to contact the instructor before the next class. An arrangement for a special testing schedule is solely at the discretion of the instructor. A student who waits for the next class session to speak with the instructor will not be accommodated with a special test schedule.

The use of electronic devices during exams is prohibited. Any student using an electronic device during an exam (unless directed to do so by the instructor) will receive a 0 for the exam.

Projects, Assignments, Laboratory Work: Assignments: are hands-on productions that show the instructor that the student understands concepts presented in class and in the readings and can competently use specified software to apply specific concepts.

It is anticipated that students will spend at least 4 hours per week perfecting their skills and completing their assignments and homework. Some assignments are required for grading. They must be submitted on the assignment due date, and cannot be handed in late. Acceptance of late assignments is solely at the discretion of the instructor.

Some assignments are instructional and need not be submitted. These lab assignments will help students prepare for graded assignments, quizzes, and exams.

Homework: In addition to any homework assignment given during class, it is a standing assignment that the student read each chapter of the book prior to its discussion. Following the class discussion, the student should reread the material and work with the exercises throughout the text. It is anticipated that students will spend at least 4hours per week reading the text, working with the exercises and supplemental resources, and completing assignments.

Policies:

- Lateness – The roll will be taken at the beginning of class. If the student is not in attendance at that time, he/she will be carried in the roll book as being absent unless the instructor is notified immediately after class. Attendance sheets cannot be adjusted at following class meetings.

- The student must adhere to all college polices. Due to the nature of this course, it is recommended that the student review the policy titled “Acceptable Information Technology Use at Bergen Community College”.

- The use of portable electronic devices such as cell phones is not permitted while class is in session. Please be sure to silence electronic devices before entering class.
- The use of audio players or college computers to play music during class is prohibited.
- Students are expected to demonstrate listening, reading, note taking, and writing skills. The student will need to take notes during class discussions and understand and follow verbal and written directions. All assignments and correspondence with the instructor (including e-mail) must be well written in full sentence format. Proper paragraph format must be used for all postings to the student bulletin board (if applicable).
- The subject line of all e-mail correspondence to the instructor must contain the course number and section and student's name. Any e-mail received without this information will not be opened.
- Plagiarism in any form will be treated as a failure to complete an assignment. All work submitted should reflect individual effort by the student.
- In borderline cases that arise in almost every class each semester a student's attendance, class participation, attitude, and observed effort will be considered in helping to determine the student's final grade.

If the instructor does not appear after 20 minutes following the scheduled time, students should generate an attendance list. One volunteer member needs to deliver the list, containing the course title, date, and instructor's name, to the Adjunct Office S-107 or to the Divisional Office (during the day) B-302.

BCC Attendance Policy

All students are expected to attend punctually every scheduled meeting of each course in which they are registered. Attendance and lateness policies and sanctions are to be determined by the instructor for each section of each course. These will be established in writing on the individual course outline. Attendance will be kept by the instructor for administrative and counseling purposes.

Statement on Accommodations for Disabilities

Bergen Community College aims to create inclusive learning environments where all students have maximum opportunities for success. Any student who feels he or she may need an accommodation based on the impact of a disability should contact the Office of Specialized Services at 201-612-5269 or via email at ossinfo@bergen.edu for assistance.

Additional policy and assessment information may be distributed by individual instructors.

Sample Course Outline

Week	Topic*	Assignments*
1	Cover Syllabus and class guidelines, first hands on learning of User Interface in Unreal's material editor, begin planning of map design and concept	Begin creating a Showcase Level
2	Using Bitmap2Material middleware, how to use and generate textures and import them into Unreal	

3	Revisiting MODO, export 3D models and import as static meshes, UV Texturing	
4	Creating custom textures using Substance Designer, how to use and generate custom textures from scratch and import them into Unreal Engine	Check# 1
5	Creating Foliage and Fauna with SpeedTrees, how to use and generate trees, grass, bushes, etc, and importing them into Unreal Engine	
6	Generating Height Maps with World Machine to create backgrounds, how to use and generate mountainous terrain export and import and Unreal Engine.	
7	Creating Cloth physics for use with Unreal through 3DStudio Max, understanding Physx tools and exporting to import into Unreal Engine	
8	Revisiting advanced level design techniques for lighting, atmosphere, and decoration for improved quality level design. Tips and tricks to producing really gorgeous sceneries and landscapes.	Check #2
9	Open lab to work on individual projects, hands on help ready if needed.	
10	Using Unreal's Sequencer and exploring new features, generate level flythrough for preparation of youtube release.	
11	Using Blueprints for basic functionality in Adventure Map part 1.	
12	Using Blueprints for basic functionality in Adventure Map part 2	Check #3
13	Open lab to work on individual projects, hands on help ready if needed. Requested material subject matter**	
14	Open lab to work on individual projects, hands on help ready if needed. Requested material subject matter**	
15	Showcase maps, upload flythrough to YouTube, review material covered and learned throughout the semester.	Submit Final Version of Showcase Level for review
*Topics, quizzes, exams, and assignments may be modified due to time constraints		