

# University of Michigan-Dearborn Syllabus



## CIS 488/588 Game Design 2 - 3 credit hours

Prof. Bruce R. Maxim

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Office Hours: 2:00-3:00 M, 2:00-4:00 W, 2:30-4:30 Th, by appt. F

Dearborn Discovery Core Category or Categories: None

Course Meeting Times and Format(s): 6:00-8:45 W, Lecture, 1110 PEC

URL: <http://www-personal.umd.umich.edu/~bmaxim/>

<http://www.engin.umd.umich.edu/CIS/course.des/cis488.html>

<http://www.engin.umd.umich.edu/CIS/course.des/cis588.html>

### Course Description:

This course is a continuation of the material studied in CIS 487/587. The focus of the course will be hands-on development of computer games and computer game development tools (e.g. game engines). Students will study a variety of software technologies relevant to computer game design, including: 3D graphics, computer animation, data-driven game design, multiplayer game programming, and game AI. Lecture topics will be taken from several areas of computer science: simulation and modeling, computer graphics, artificial intelligence, game theory, software engineering, human computer interaction, and game content development.

### Program Goals:

- Our graduates will be successfully employed in a computer and information science-related field or another career path, in an industrial, commercial, academic, governmental, or non-governmental organization, or will be a successful graduate student in a program preparing them for such employment
- Our graduates will lead and participate in culturally diverse teams, becoming global collaborators and adapting to an ever changing field
- Our graduates will continue their professional development by obtaining continuing education credits, professional registration or certifications, or post-graduate study credits or degrees

### University Attendance Policy

A student is expected to attend every class and laboratory for which he or she has registered. Each instructor may make known to the student his or her policy with respect to absences in the course. It is the student's responsibility to be aware of this policy. The instructor makes the final decision to excuse or not to excuse an absence. An instructor is entitled to give a failing grade (E) for excessive absences or an Unofficial

Drop (UE) for a student who stops attending class at some point during the semester. If you miss a lens discussion you will be required to do additional written work to make up your absence.

**Dearborn Discovery Core Goals:**

None.

**Course Objectives:**

a. Outcomes of instruction

- The student will be able to design a 3D multimedia computer game and create design documents for it
- The student will be able to design an original game using an intelligent opponent of the student's own design
- The student will be able to design an original game using an intelligent opponent of the student's own design
- The student will be able to design trade-offs considered in formulating the software architecture design for an original 3D game
- The student will be able to develop the requirements for a 3D multimedia computer game
- The student will be able to develop the requirements for an intelligent computer opponent for a computer game

b. Student outcomes addressed in the course

- Outcome b – An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution (*Not assessed here*)
- Outcome c – An ability to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs (*Not assessed here*)
- Outcome k – An ability to apply design and development principles in the construction of software systems of varying complexity (*Not assessed here*)

**Required Materials and/or Technology:**

REQUIRED: UDK Game Development , A. Thorn, Course Technology, 2012.

REQUIRED: The Art of Game Design: A Book of Lenses, J. Schell, Morgan Kaufmann, 2015.

RECOMMENDED: Unreal Game Development, A. Ashish and A. Pkita, A.K. Peters, 2010.

TECHNOLOGY: UDK, Unreal4, and multimedia editing tools.

**Assignment and Grading Distribution:**

6 Project Assignments (Written and Oral)	50%
Final Reports	20%
Working Game	20%
Attendance	10%

**Grading Scale:**

96%- 100%	A+	77%-79%	C+
92%- 95%	A	74%-76%	C
90%- 91%	A-	70%-73%	C-
87%- 89%	B+	67%-69%	D+
84%- 86%	B	64%-66%	D
80%- 83%	B-	60%-63%	D-

**Tentative Course Outline:**

<b>Date</b>	<b>Activity and Content</b>
Jan 6	Course Introduction and Unreal Basics UDK 1-2
Jan 13	Game Pitch Presentations due
Jan 20	Teams Formed Unreal Level Editing UDK 3-5
Jan 27	Terrain and Lighting UDK 6-8
Feb 3	Game Treatment Presentations - 1110 PEC
Feb 10	Kismet and Reactive Elements UDK 9
Feb 17	Matinee and Bot Navigation UDK 9
Feb 24	Alpha Release Presentations - 1110 PEC Play Testing - 237 CIS
Mar 2	Spring Break
Mar 9	Unreal Scripting and AI UDK 12-14 Lens Presentations (3)
Mar 16	Karma Actors, Weapons, Characters Lens Presentations (3)

Mar 23	Beta Release Presentations – 1110 PEC Play Testing – 237 CIS
Mar 30	User Interfaces, Particle Effects UDK 10-11 Lens Presentations (3)
April 6	Lens Presentations (9)
April 13	3D Game Marketing Presentation Due  Lens Presentations (3)
April 27	3D Project Fair 6:30-9:30 139 CIS

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**Academic Integrity Policy:**

The University of Michigan-Dearborn values academic honesty and integrity. Each student has a responsibility to understand, accept, and comply with the University’s standards of academic conduct as set forth by the Code of Academic Conduct (<http://umdearborn.edu/697817/>), as well as policies established by each college. Cheating, collusion, misconduct, fabrication, and plagiarism are considered serious offenses and violations can result in penalties up to and including expulsion from the University.

**Disability Statement:**

The University will make reasonable accommodations for persons with documented disabilities. Students need to register with Disability Resource Services (DRS) every semester they are enrolled. DRS is located in Counseling & Support Services, 2157 UC ([http://www.umd.umich.edu/cs\\_disability/](http://www.umd.umich.edu/cs_disability/)). To be assured of having services when they are needed, students should register no later than the end of the add/drop deadline of each term. If you have a disability that necessitates an accommodation or adjustment to the academic requirements stated in this syllabus, you must register with DRS as described above and notify your professor.

**Safety:**

All students are strongly encouraged to register in the campus Emergency Alert System, for communications during an emergency. The following link includes information on registering as well as safety and emergency procedures information:

<http://umemergencyalert.umd.umich.edu/> Finally, all students are also encouraged to program 911 and UM-Dearborn's Public Safety phone number (313) 593-5333 into personal cell phones. In case of emergency, first dial 911 and then if the situation allows call UM-Dearborn Public Safety.