MAS-n330 Intermediate Game Design & Development

Indiana University School of Informatics MAS IUPUI
Section 25706, Spring 2013, Mondays 3:00 – 5:40pm, IT 255, 3 credits

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Office Hours: By Appointment
First Come – First Serve.

IUPUI Mission:

The Mission of IUPUI, is to provide for its constituents excellence in
- Teaching and Learning
- Research,
- Scholarship, and Creative Activity
- Civic Engagement

With each of these core activities characterized by
- Collaboration within and across disciplines and with the community
- A commitment to ensuring diversity, and
- Pursuit of best practices

IUPUI's mission is derived from and aligned with the principal components – Communities of Learning, Responsibilities of Excellence, Accountability and Best Practices – of Indiana University's Strategic Directions Charter.

Statement of Values:

IUPUI values the commitment of students to learning; of faculty to the highest standards of teaching, scholarship, and service; and of staff to the highest standards of service. IUPUI recognizes students as partners in learning. IUPUI values the opportunities afforded by its location in Indiana's capital city and is committed to serving the needs of its community. Thus, IUPUI students, faculty, and staff are involved in the community; both to provide educational programs and patient care and to apply learning to community needs through service. As a leader in fostering collaborative relationships, IUPUI values collegiality, cooperation, creativity, innovation, and entrepreneurship as well as honesty, integrity, and support for open inquiry and dissemination of findings. IUPUI is committed to the personal and professional development of its students, faculty, and staff and to continuous improvement of its programs and services.

Principles of Undergraduate Learning (PUL):
- Oral presentation
- Writing skills
- Critical thinking
- Application of knowledge
- Intellectual depth, breadth, and adaptive-ness
- Understanding of society and culture
- Values and ethics

University Expectations/Guidelines/Policies:
University Regulations state: "Students are expected to be present for every meeting of the classes in which they are enrolled." Only the instructor can excuse a student from classes or course responsibilities. There are always legitimate reasons for missing class. Personal illness, accident, a death or serious illness in the immediate family, athletic trips, scheduled interviews, plant visits, and field trips, or other circumstances may make your class attendance impossible. Each of these situations will be evaluated on an individual basis. Students should make direct contact with his/her instructor preferably before a class. If the instructor cannot be reached in person, by e-mail, or by telephone, the student should leave a message in the instructor's department mailbox. Students can only make up work from an authorized absence and permission from the instructor.

Attendance and Participation:
IUPUI policy is that class attendance is mandatory. Attendance is taken at the start each class. **Any student missing a FOURTH class, without an approved excuse, will lose ONE FULL LETTER GRADE from the final grade (ie A > B, etc.). An additional FULL LETTER GRADE will be removed for every missed day after the fourth missed day. Be on time to class. Lateness is assessed 15min after class begins. Every three "lates" equals one absence that in turn counts towards the final grade reductions.** If you are unable to attend, please send me a notice through email before class. Absences may be excused with valid doctor's documentation or other extenuating circumstances. Students are expected to actively participate in class by asking questions and sharing any relevant experiences.

Administrative Withdrawal:
Administrative Withdrawal: A basic requirement of this course is that you will participate in class and conscientiously complete writing and reading assignments. Keep in touch with me if you are unable to attend class or complete an assignment on time. **If you miss more than half our class meetings within the first four weeks of the semester without contacting me, you will be administratively withdrawn from this section. Our class meets once per week; thus if you miss more than two classes in the first four weeks, you may be withdrawn.** Administrative withdrawal may have academic, financial, and financial aid implications. Administrative withdrawal will take place after the full refund period, and if you are administratively withdrawn from the course you will not be eligible for a tuition refund. If you have questions about the administrative withdrawal policy at any point during the semester, please contact me.

Incompletes:

The IUPUI Campus Bulletin presents the campus policy on incompletes, noting that a grade of incomplete may be assigned by an instructor when exceptional circumstances, such as illness, prevent students from finishing all works required in a course. The grade of I will be awarded only if the work is mostly complete, generally 75 to 80 percent, and of passing quality. The key decision in deciding whether or not to give an incomplete involves assessing whether or not the student has completed, at a passing level, enough of the course and whether "exceptional circumstances" apply. Exceptional circumstances can include the serious illness of the student, spouse or partner, child, or parent; or a fire or accident that interrupts the end of the semester. Note that an incomplete is never warranted as a remedy for procrastination.

Academic Honesty:

All students in New Media should aspire to high standards of academic honesty. This class encourages cooperation and the exchange of ideas. However, students are expected to do their own work.

Plagiarism: (adapted from the definition by the School of Liberal Arts)

Plagiarism is the use of the work of others without properly crediting the actual source of the ideas, words, sentences, paragraphs, entire articles, music or pictures. Using other students' work (with or without their permission) is still plagiarism if you don't indicate who initially did the work. Plagiarism, a form of cheating, is a serious offense and will be severely punished. When an instructor suspects plagiarism, he/she will inform the student of the charge; the student has the right to respond to the allegations. Students whose work appears to be plagiarized may be asked to produce earlier drafts of the work. Students should, for this reason and as a protection in cases of lost papers, diskettes, retain rough drafts, notes and other work products for 2 or 3 weeks after the end of each semester. The penalties for plagiarism include reprimands, being failed for a particular exam, paper, project or the entire course, disciplinary probation, or dismissal. Faculty, after consulting with their chair and. or the dean must notify students in writing of their decision. Students have the right to appeal such decisions by the submitting a petition. All students are responsible for reading the Code of Student Rights, Responsibilities, and Conduct of Indiana University Purdue University Indianapolis.

Liability Warning:

Your student ID and password are private! Under no circumstance are you to give them out to anyone. If another person uses your ID or password you will be held personally responsible for any and all activity on your computer account. If plagiarism is involved you run the risk of being dismissed from the school. If a computer or software is damaged you are responsible for repair and replacement. Loaning out your ID or password involves too much risk. "A student must not violate course rules as contained in a course syllabus, which are rationally related to the content of the course or to the enhancement of the learning process in the course." [Code of Student Rights, Responsibilities, and Conduct, page 29]

Welcome!

Welcome to n330 Intermediate Game Design & Development! This class will introduce you to using the professional grade software, Unreal Tournament Engine (UT3) and Unreal Development Kit (UDK) to create your own, original game levels. You may utilize other software programs such as Maya, Photoshop, Illustrator, Audacity, CrazyBump, and a several others for complete level creation. It will be shown how all this software can be used for interactive 3D games, game presentations, and other multimedia projects. We will focus how you can, and will, use these in real world settings. This class will give you the foundation to begin your journey to mastering this software and for the generation of your own gaming projects.

Each class will consist of a lecture by the instructor followed by class time for your practice of the material presented. Discussions concerning the assignment and newly acquired information will be distributed during class. There will also be time for student concerns and topics. Students will be expected to work on their projects outside of class and develop them each week.

The class objectives seek to give you a working foundation in the tools, strategies, and techniques for interactive 3D driven games from initial concept to full production. We will examine the processes of integrating graphics, textures, objects, and audio for the visually effective communication and engagement of your game. **Visual engagement and interactive exploration of created spaces will be central pillars of the class.** It will be these topics that engage your players regardless of the game's subject matter. We will not limit ourselves to the technical aspects of this work but will incorporate a healthy dose of visual communication and fine art techniques and practices to assist with project creation. Concerning class projects, the theme of the class is to prepare you for the real-world with several, portfolio-ready, projects that will present an engaging and entertaining gaming experience. This focus will arc throughout the class with weekly assignments keeping you on track and educated with all the smaller details that are needed for all the projects.

In this class you will be expected to work hard, explore, participate in discussions, but most of all have fun with the subject matter and the tools required to create it. This is a chance to be energized by what opportunities UDK and your imagination offer. Most of all, you should be motivated and open to new ideas and practices.

Classroom Behavior, Respect, Edicts, & Policies:

Respect for your Fellow Gamer:

Cell phones, pagers (really?), blackberries, iPods, Zunes (does anyone actually have one of these?) and all other personal devices are to be turned off and not used during class times. I mean it. They. Are. Annoying! They may be used only during breaks or at the consent of the instructor. Anyone using these devices in a disruptive manner will be asked to leave the class.

"Social sites" such as Facebook.com, MySpace.com, their illegitimate child MyFace.com, Friendster.com (again, is anyone on this?), Twitter, or Instant Messenger are not allowed during class. These sites are disruptive and a distraction. And for God's sake you get to be on them 21 hours a day outside of class so give yourself a break. No one cares how your cousins status on how she is moving into her new place and that Tweet from your best friend's brother about the roller-derby is going to be there when class gets out. Anyone caught using these will be asked to cease and if not will then be asked to leave the class.

Students are expected to be respectful of the instructor and each other during lectures and presentations. Unless asked a question, talking should not interfere with whoever is speaking at the time.

Respect Triangle – Prof > Student, Student < Prof, Student >< Student
(from my regional-district-manager, who thinks-outside-the-box)

Do to a complete abuse of the class time provided in previous semesters, no student is allowed to leave early without permission of the instructor. Family emergencies, religious activities, personal extreme sickness will be allowed and excused if told to the professor in a timely manner. Any student(s) found leaving early will be marked late for that day. Remember, three lates will count as one absent. Also, any students who disappear during break just randomly will be treated in the same manner.

Email Response Time:

Due to the complete overload of the current academic schedule, all students must allow 24 – 48 hours for a response from the instructor. Email may not be returned with 24 hours due to current backlogs. Student patience is greatly appreciated and sending out the same email 20 times in one day will not garner a quicker response. All email is answered in order that it is received. **All email needs the item: "n330" in the subject line.** Also, students will not want to wait until the night before to make their games as they will be riddled with holes, bugs, and glitches and have hardly any hope of being fixed by test time. Games need to be made ahead of the Playtest day to allow for adequate email questions and response time. Basically, I will get to everyone, there just does not need to be any panic. The greatest words ever spoken were:

DON'T PANIC!

Please remember them.

Lateness: **There are NO Late Assignments!**

No projects will be accepted after the due date expressed in the syllabus class schedule below, unless there is a death in the family, a religious holiday, or a grave personal matter that you can show worthy proof of. Any work turned in after the due date will receive a 0 thought may still receive corrective commentary and critique.

Wacom Tablets and Pens:
Please note that Wacom pens will no longer be available for use. Too many stolen.

Classroom & MARLA Access:
These will be discussed in class.

Game Culture:

This is not JUST a technical class. You must have culture to have context for content creation. This class is not just a place where you will learn Flash, code, animation, or game making.

It is not a sterile, dry place for you to simply learn some tech and run off. It is a place of deep study and reflection on the topics at hand. A place to study all of the great games that have come before us (even if the graphics are only 8-Bit some older games far outshine anything new with all the latest bells-&-whistles and we will ask why), all the great games around us, and the possible game futures in front of us.

This class takes a serious look at how Game-Culture is influencing modern society and how it is infiltrating our daily lives. Videos, articles, and discussions will be continually held to challenge your insights to games and their potential.

Why do some games cause a societal revolution and others fade before they are released. How will games and the characters and worlds they create shape our world and ourselves? These reflections and questions will deeply enrich your comprehension of games and make you a truly better game maker.

P.S. Sometimes its just fun to play some goofy UDK games and watch some insane game-related videos to stir up the creative juices! You have no idea how much this helps!

Playing the Game-Class:

This class is going to be fun! Fun is the single most crucial element of gaming and the class will reflect that. But a part of fun is challenge. This class will be equally challenging. To survive in this class you need to not see it as a tired-old class, but a new game for you to conquer, beat, and win!

Think of the various assignments as levels. Levels that are going to throw all sorts of baddies, open pits, and power-ups your way. These assignments/levels want to try and hold you back. They have all sorts of minions at their command like software comprehension, code, animation, writing, creating, etc. But with enough determination and insight you will recognize the patterns and amounts of effort needed to strategize around and navigate through them triumphantly. This game/class has four level/assignments and each one gets harder and more challenging. Yet, when you get past one and best it, the taste of victory will be ever so sweet. You will then be ready for the next one. Getting better and stronger as you go.

The grades you receive are the points/coins you collect along the way. You may not collect all the points on a particular level but that's why there are extra-credit assignments and random projects. These act as those "oh-so-wonderful" hidden zones filled with coins as far as the eye can see. You need to be ready for them and know your standing in the class with your point/coin tally. Plus, it just feels so much better to have as many coins/points as possible. They may not buy happiness but they sure rent it.

The three absences in class are your three lives. You have three chances to make it through this game without a penalty. I would use these wisely if you hope to finish in good standing.

The final grade in the class is your ranking in this game. If you find all the coins, secrets, hidden widgets, beat all the enemies, pass all the levels, and make it past the boss you will come out with a high game ranking. One that is worthy of your mom taking a picture of it and posting the photo on the fridge.

And finally, there is the ever-present Boss. Just think of your kindly instructor as your smiling, neighborhood Bowser. Large, aggravating, helpful, and someone you can't wait to beat. The boss is always the paradox in a game. He is the one you must get past to truly complete the game. Without him and his obnoxious taunting and endless waves of minions you would not be able to prove yourself to yourself and those around you. A sharp sword always needs a heavy anvil to be smithed on. He may be in the way, but the boss of any game is always the best teacher. Remember this paradox. The boss may roar, kidnap the princess, and challenge you but he does it with a smile of happiness when you send him into the boiling lava.

I will challenge you, help you, assist you, say things you may not want to hear and things you want to hear, and push you to your greatest potential. I will be by your side through all of this. I take this stuff very seriously. Games say a lot about the culture and people who make them. They are a true expression of self, fun, and play. All things needed for a balanced, meaningful, and rich life. I am honored you have taken this class and chosen to play this game. I want you to win. You want to win. So let's go get this thing started.

GAME ON!

PS. Please ask about our snazzy new Achievement System!

Class Description:

This class looks at the concepts, construction, production, and development behind video games and the characters, creatures, environments, and narratives that populate them. By developing personally created and motivated goals, programming events and implementing story elements, students will successfully create a video game experience. Additional critical topics covered will include world development and creation, design of game space, programming, character, creature, and environmental animation, and playability testing.

Course Skills Outcome: (Goals)

Game narrative and world creation/development, basic game-related design solutions, basic programming, character, creature, and environmental animation, playability/testing skills and the creation of several complete and portfolio ready game projects and an understanding of essential 3D game design.

Core Communication and Quantitative Skills learned in this class:

- Express personal ideas and facts to others effectively in a variety of formats;
- Comprehend, interpret, and analyze texts, games, animations, and imagery;
- Communicate orally in one-on-one and group settings;
- Solve game related problems and
- Make efficient use of information resources and technology for personal and professional needs.

By the end of the semester the student should have knowledge pertaining to the above information. This will be delivered through readings, discussions, hands on activities and other methods of learning. Students will learn how to adapt current, new and emerging technologies and best practices to incorporate as many human senses as possible for the purposes of engagement.

Equipment/Supplies: (Recommended)

- One Blank-Page Sketchbook: images, text, & ideas (solely for this class)
- Pens, pencils, colored pencils, markers, erasers (personal preference for utilizing in sketchbooks)
- **All class work to be turned in over ONCOURSE in the right folder!**
- **BACKUPS!!!** CD's, DVD's, Thumbdrive, iPod, external hard drive, etc (for backup of all class materials and scanned in images)
- Imagination, Drive, & and Commitment to Gaming

Software:

Primary: Unreal Tournament Engine, Maya, CrazyBump.
Secondary: Photoshop, Illustrator, Audacity, QuicktimePro.

Grading Scale:
A+ = 98 – 100%, A = 94 - 97%, A- = 90 – 93%
B+ = 87 – 89%, B = 84 86%, B- = 80 – 83%
C+ = 77 – 79%, C = 74 - 76%, C- = 70 – 73%
D+ = 67 – 69%, D = 64 - 66%, D- = 60 – 63%
F = below 59%. **Super F = under 9% (yes, this has actually been given out thrice!)**

A = Excellent (Wow!), B = Good (Hmmmm, Not bad, shows potential)
C = Average (Meh, it'll pass but….), D = Below Average (Really?)
F = Fail (What are you doing here?), **Super F = Epic Fail (nuff said.)**

In the case of borderline grades, factors such as respect, attendance, tardiness, attitude, and class participation will be considered.

Extra Credit:
Extra credit work will be given out during the course of the semester and will be fully explained during class times.

Class Projects: (further explained on Assignment Sheets given out during class)

Alpha:
1. Game Level Idea Design Document = 100pts.
2. Game Level Drawn Map = 100pts.
3. Midterm Level/Map = 150pts.
4. Final Level/Map = 200pts.

Beta:
5. Weekly Assignments = 25pts each (Assigned in Class).
6. Game Playtest Forms = 25pts each.
7. Game Playtest Participation = **50pts each (This. Means. To. Show. Up!!!)**

Variable:
8. Participation = Paramount.
9. Random Assignments = Random Points.

Total Possible Class Points = TBD (To Be Determined)

Calendar and Schedule:

August:
Week 1. Aug. 19th: First Day of Class, Introduction, Examples, Get-to-know-ya!
Week 2. Aug. 26th: Introduction to the Unreal Tournament Engine & UDK.
                          Topics – History, Interface, BSP, Geometry, & Blocking.

September:
Week 3. Sept. 2nd: LABOR DAY – No Class. Go Home!
Week 3. Sept. 9th: Topics – Landscape/Terrain, Meshes. & Mapping.
                        Assignment – Level/World Idea Document Due!
Week 4. Sept. 16th: Texture/Materials, CrazyBump & Lighting.
                        Assignment – World Graph Map Due!
Week 5. Sept. 23rd: Topics – Game Elements & Volumes.
Week 6. Sept. 30th: Topics – Extra Engine Elements.

October:
Week 7. Oct. 7th: Topics – Extra Engine Elements.
Week 8. Oct. 14th: FALLLLL BREEEAAAAKKK!!!!! Again – No Class. Go Home!
Week 9. Oct. 21st: Midterm Level Map Due. Playtest & Presentations.
Week 10. Oct. 28th: Topics – Kismet Lecture 1. (Animated Systems)

November:
Week 11. Nov. 4th: Topics – Kismet Lecture 2.
Week 12. Nov. 11th: Topics – Cameras.
Week 13. Nov. 18th: Topics – Cascade Lecture 1. (Particles)
Week 14. Nov. 25th: Topics – Cascade Lecture 2.

December:
Week 15. Dec. 2nd: Topics – Open Lab.
Week 16. Dec. 9th: Final Original Level/Map Due. Playtest & Presentations.
Week 17. Dec. 16th: Optional Review & Comment Day.

Nasty Weather, Junky Car Breakdown, Prof. Sick - Cancellation Policy:
If for some other reason I cannot make it to class I will send out a group email stating the situation. Make sure to check your email at least once a day.

World of Warcraft Right-of-Play Clause:
Any student found assisting or in anyway playing on the Alliance side of WoW on any server will be promptly ganked and banished from class. We have no need for any-goody-two-shoes in this realm! Consequently, any student found assisting or playing on the Horde side of WoW may receive bonus points on every assignment. We need to encourage the right way to play at all times! **FOR THE HORDE!!!!!!!**

Right of Revision Statement
The instructor in this course reserves the right to change the sequence of material and/or dates as outlined in this course syllabus.