

# 3D GAME DESIGN (IA 312.01)

## COURSE DETAILS

### INFORMATION

- 📍 Location: BR206
- 📅 Day/Time: Tuesday, 9am-3pm
- 👤 Instructor: Sam Sheffield (ssheffield@mica.edu)
- 📍 Office: BR312 (Hours by appointment!)

### CLASS SITE

- 📄 Full URL: [samsheffield.com/mica/3df16](https://samsheffield.com/mica/3df16)
- 📄 Shortened URL: [tiny.cc/3df16](https://tiny.cc/3df16)

## COURSE DESCRIPTION

This class builds upon the student's technical and design skills in 2D games and makes the jump into 3D. Students will learn how to program, design and build games in 3d environments with a focus on understanding 3d workflows and tools. Students will create their own games as well as work on group projects while learning how to analyze and critique 3D game systems.

## COURSE GOALS

- ✓ Continue building upon digital game development skills introduced in Game Play 2.
- ✓ Become familiar with Unity's 3D toolkit & workflow.
- ✓ Understand the challenges inherent in the development of 3D digital games.
- ✓ Continue developing a critical vocabulary for discussing digital games.

## LEARNING OBJECTIVES

By the end of this course, you will be able to...

- ✓ Design, build, & distribute 3D games built with Unity.
- ✓ Create interactive experiences in virtual 3D space.
- ✓ Work with in-engine & external assets to prototype games.
- ✓ Demonstrate an understanding of the interplay between different media used to create a digital game.

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## REQUIRED MATERIALS

### ENTIRE SEMESTER

- ✎ Unity Personal (5.4+) + Unity Account
- ✎ 2D image editing software (Photoshop, Gimp, etc.)
- ✎ 3D modeling software (Maya, Maya LT, Blender, etc.)
- ✎ External hard drive or cloud-based file backup
- ✎ Prototyping supplies (sketchbook & writing utensils)
- ✎ USB or Bluetooth gamepad compatible with your computer

### EXPECTED COSTS

- \$ **Tools:** You have access to student versions of all software needed in this class, but your preferred tools may cost money.
- \$ **Unity Assets:** Some useful assets may be introduced throughout the semester, but they will not be mandatory purchases.
- \$ **Games:** We will be studying various games throughout the semester. These will be available in the IA lounge, but you may find it more comfortable to play these on your own computer.

## RESOURCES

### THEORY & CRITICISM (PRINT)

- 📖 *Rules of Play* by Salen & Zimmerman
- 📖 *The Art of Game Design: Book of Lenses* by Jesse Schell

### THEORY & CRITICISM (ONLINE)

- 🔗 *Gamasutra* (<http://gamasutra.com>)
- 🔗 *GDC* ([http://www.youtube.com/channel/UC0JB7TSe49lg56u6qH8y\\_MQ](http://www.youtube.com/channel/UC0JB7TSe49lg56u6qH8y_MQ))
- 🔗 *Game Maker's Toolkit* (<http://www.youtube.com/user/McBacon1337>)
- 🔗 *Tropes vs. Women in Video Games* (<http://feministfrequency.com>)
- 🔗 *Tiny Design* (<http://tiny-design.tumblr.com>)
- 🔗 *Critical Distance* (<http://www.critical-distance.com>)
- 🔗 *Kill Screen Daily* (<http://killscreendaily.com>)
- 🔗 *Raph Koster's Website* (<http://www.raphkoster.com>)

### GAMES (GOOD & CHEAP... OR FREE!)

- ↪ *Humble Bundle* (<https://www.humblebundle.com>)
- ↪ *itch.io* (<https://itch.io>) ↪ *Warp Door* (<http://warpdoor.com>)
- ↪ *IA Game Library* (<http://tiny.cc/iagames>)

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## COURSE POLICIES

These are your responsibilities as a student in this class...

### LATENESS POLICY

- ☠ Class starts at 9am. If you are not here, you are late.
- ☠ Leaving early without permission also counts as late.
- ☠ 3 late incidents = 1 absence.

### ATTENDANCE POLICY



- ☠ More than 3 unexcused absences = failing grade\*.
- ☠ Excused absences must include some form of written documentation.
- ☠ You are responsible for any material covered in class and homework.

## AM I LATE OR ABSENT?

### ARRIVE AFTER...



### LEAVE BEFORE...



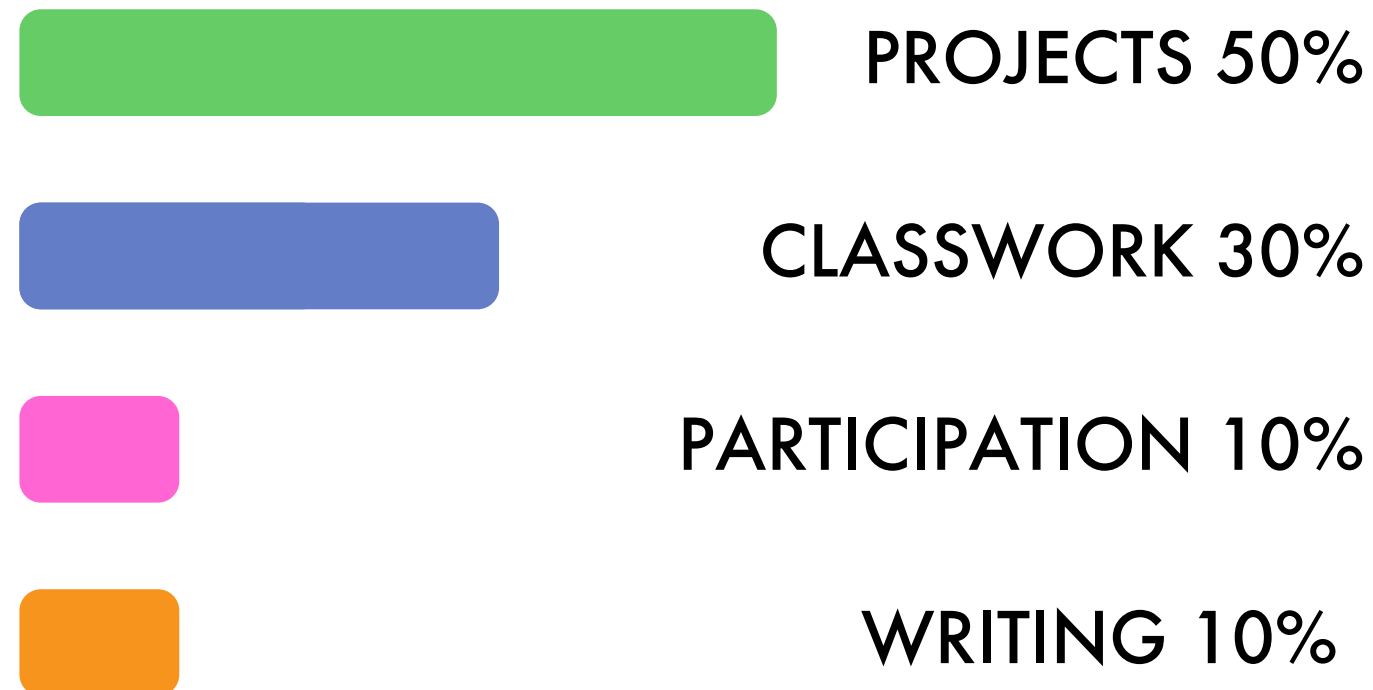
## PRESENTATIONS ARE MANDATORY

- ✌ Attending both project presentations is mandatory!
- ✌ Presentation grade penalties (-1 letter grade) for lateness or unexcused absence.

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## GRADING

Your final grade in this class will be based on the following...



## GRADING BREAKDOWN

### PROJECT GRADES

Projects are evaluated based on their quality, timely completion, and commitment to the process of their creation. Points will be deducted for work that is late, underdeveloped, or missing documentation. **Upload to class Drive for credit.**

## GRADING BREAKDOWN CONTINUED

### PROJECT GRADES CONTINUED (PEER REVIEWS)

For the sake of transparency and accountability, everyone is expected to submit brief, confidential feedback on every team member.

### CLASSWORK GRADE

This grade is for work done in-class and as homework. The grade is based on quality of work, effort, and timely completion. **Upload to class Drive for credit.**

### PARTICIPATION GRADE

This grade includes working during studio time, and involvement in presentations, discussions, & critiques.

### WRITING GRADE

Written responses to games & readings will be assigned during the semester. Roughly 250-500 words in length, in any digital format, uploaded to your class Drive. This grade is primarily based on ideas & content, not writing ability.

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## PROJECTS

### DEADLINES

- ☹ Work must be completed & uploaded to class Drive by 9am on the due date.
- ☹ All late work must be turned in within 1 week of due date at a penalty of -1/2 letter grade per day.
- ☹ Excused absences are exempt from the late penalty.

### DOCUMENTATION

Each project must be documented with...

- 🔗 Original source files (Unity project + assets)
- 🔗 Tested builds (Windows + PC. Zip format)
- 🔗 3 edited screen grabs or short screen captures

### BACKING UP WORK

It is your responsibility to back up all of your classwork throughout the semester. **Computer issues will not be an acceptable excuse for late work.** Cloud-based options (Google Drive, Dropbox, Bitbucket, etc.) are best.

## PROJECT GRADING BREAKDOWN



Excellent work, attendance, and participation. Made good use of studio time and met all deadlines. Work took risks and shows your own personal voice.



Good work, attendance, and participation. Made use of class time. Met most deadlines. Work did not take risks or show personal voice.



Average work. Met some deadlines, but didn't make good use of class time. Weak attendance or participation.



Poor work. Missed most deadlines, didn't make use of class time. Poor attendance and participation.

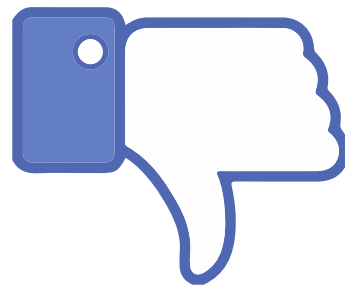


Missing or work more than 1 week late. Missed all deadlines, didn't make use of class time. Poor attendance and participation.

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## COLLABORATION

- ⚙ Both projects, as well as some classwork, will be team-based.
- ⚙ Work must demonstrate that it is a combined effort.
- ⚙ Each team member provides written peer feedback.
- ⚙ Files/documentation are uploaded to one Google Drive.



## INTERNET, DEVICES, & ATTENTION

Please be 100% present in class (when not on break)...

- 💣 Close laptops during presentations and discussions.
- 💣 Keep mobile devices in your bag (phones, 3DS, etc).
- 💣 Refrain from working on outside classwork during class.
- 💣 No Facebook, Twitter, emailing, texting, YouTube, Instagram, Twitch, Steam, etc. during class.
- 💣 No playing unassigned games during class.

## HELP ME!

### BY EMAIL

We can probably solve most problems via email. Please...

- ✉ Include all necessary project files.
- ✉ Be patient. I'll respond as soon as I can. :)

### IN-PERSON

I'm happy to meet in BR312 or BR217, but my office hours are **by appointment only**. I'm typically available...

TUE	WED	THU	FRI
3-5pm	2-5pm	3-5pm	10-5pm

### LAST MINUTE REQUESTS

As much as I'd like to assist you, last minute help requests made on Monday night may go unanswered. **This will not be an acceptable excuse for missing a deadline.**

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## MICA POLICIES

### AMERICANS WITH DISABILITIES ACT

Any student who may need an accommodation based on the potential impact of a disability should contact the Learning Resource Center at 410-225-2416, in Bunting 458, to establish eligibility and coordinate reasonable accommodations.

### ENVIRONMENTAL HEALTH AND SAFETY

Students are responsible to follow health and safety guidelines relevant to their individual activities, processes, and to review MICA's Emergency Action Plan and attend EHS training. Students are required to purchase personal protection equipment appropriate for their major or class. Those students who do not have the proper personal protection equipment will not be permitted to attend class until safe measures and personal protection are in place.

### PLAGIARISM

Each discipline within the arts has specific and appropriate means for students to cite or acknowledge sources and the ideas and material of others used in their own work. Students have the responsibility to become familiar with such processes and to carefully follow their use in developing original work.

### PLAGIARISM POLICY

MICA will not tolerate plagiarism, which is defined as claiming authorship of, or using someone else's ideas or work without proper acknowledgment. Without proper attribution, a student may NOT replicate another's work, paraphrase another's ideas, or appropriate images in a manner that violates the specific rules against plagiarism in the student's department. In addition, students may not submit the same work for credit in more than one course without the explicit approval of the all of the instructors of the courses involved.

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## MICA POLICIES CONTINUED

### CONSEQUENCES

When an instructor has evidence that a student has plagiarized work submitted for course credit, the instructor will confront the student and impose penalties that may include failing the course. In the case of a serious violation or repeated infractions from the same student, the instructor will report the infractions to the department chair. Depending on the circumstances of the case, the department chair may then report the student to the Office of Academic Affairs, which may choose to impose further penalties, including suspension or expulsion.

### APPEAL PROCESS

Students who are penalized by an instructor or department for committing plagiarism have the right to appeal the charge and penalties that ensue. Within three weeks of institutional action, the student must submit a letter of appeal to the department chairperson or program director, or relevant dean or provost related to the course for which actions were taken. The academic officer will assign three members of the relevant department/division to serve on a review panel. The panel will meet with the student and the instructor of record and will review all relevant and available materials. The panel will determine whether or not to confirm the charge and penalties. The findings of the panel are final. The panel will notify the instructor, the chairperson, division, the student, and the Office of Academic Affairs of their findings and any recommendations for change in penalties.



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## MICA POLICIES CONTINUED

### TITLE IX ACCOMODATION










Maryland Institute College of Art seeks to provide an environment based on mutual respect that is free of bias, discrimination and harassment. If you have encountered sexual harassment/misconduct/assault we encourage you to report this. Disclosures made to faculty must be reported to the Title IX Coordinator, Title IX Deputy Coordinator, or Title IX Specialist. Disclosures made by students in course assignments are not exempt from mandatory reporting. If you require academic accommodations due to an incident involving sexual harassment or discrimination, please contact Student Affairs at 410.225.2422 or Human Resources at 410.225.2363.

### EXTENDED ILLNESS OR CAUSE FOR LEGITIMATE ABSENCE

In the case of extended illness or other legitimate absences that may keep the student from attending a class for more than three meetings, students must contact the Student Development Specialist in the Division of Student Affairs so that instructors can be notified. Graduate students must contact the instructor, program director, and the Office of Graduate Studies. Students in art education or professional studies programs must contact the Dean for the Center for Art Education or the Dean of the School for Professional and Continuing Studies, respectively. The appropriate administrator will facilitate a conversation with faculty to determine whether the student can achieve satisfactory academic progress.

# 3D GAME DESIGN SCHEDULE (OVERVIEW)



-  Introduction to class Q & A session.
-  Prototyping, greyboxing, creating assets in-engine, importing assets, physics, interactions, first person perspective, designing spaces
-   Project work session. Be prepared to discuss and playtest your in-progress work.
-  Advanced topics: Raycasting, Basic AI, navigating space, Humanoid & IK animation, texture mapping, mixing 2D & 3D space
-  Fall break.
-   Projects due. All builds must be published by the start of class. Critiques begin at 9am.
-  **IMPORTANT!** Attendance to both crits is mandatory. Serious grade penalties in effect for absences and lateness.