



Interactive Arts and Media, Columbia College Chicago

916 S. Wabash Ave. Suite 101, Chicago IL, iam.colum.edu, Phone: (312) 369 7750, Fax: 312-369-8084

Spring 2019

GAME 345 02 Advanced Game Engine Scripting (3 Credits)

Thursdays , 3:30 – 6:20, 916 S Wabash, room 149, canvas.colum.edu

Course Description: A programming/scripting intensive course where students develop proofs of concept utilizing their own original, functional script elements and stock game assets and environments. Current game development platforms are used.

Pre-Requisites: GAME 225 Game Engine Scripting

Instructional Resource Fee: \$ 70

At the conclusion of this course students will be able to:

- Explain the strengths and weakness of game design based on existing game engines.
- Use the chosen game engine and its development environment in future production classes.
- Grasp the structure, grammar, and syntax of the chosen scripting language as a representative of an industry-standard scripting language.
- Create or modify an existing simple demonstration game level in the areas of gameplay, UI, and audio/visual presentation.

Required Texts and Supplies/Materials

- Nystrom, Robert, *Game Programming Patterns*, 2014, available free online: gameprogrammingpatterns.com/contents.html
- Unity account
- GitHub account

Additional Materials:

- Flash/Portable/External Drive (minimum 2GB)

Course Work and Grading: Your performance in this class is judged in part on participation, writing and critique, assignments, exams, and the final project.



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Instructor Contact Information

Instructor Name: Amanda Dittami

E-Mail Address: adittami@colum.edu

Mailbox: 916 S. Wabash Ave., 101

Course Work and Grading

Percentage Breakdown

- Assignments 80%
- Attendance 10%
- Participation 10%

Assignments	Points
See Canvas!	

Grade Scale

A	93-100
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D	67-69
D	65-66
F	Below 65

Commented [BJ1]: The percentage of grades for parts of the course should be relatively the same as other sections of the same class. Your coordinator may set specific percentage amounts for certain classes – if so, use the numbers they have provided.

Important Dates

Spring Semester 2019

Martin Luther King, Jr. Day holiday	Monday, January 21
15-week semester begins	Tuesday, January 22
Add deadline, 15-week semester	Monday, January 28
Drop deadline, 15-week semester	Monday, February 4
Withdrawal deadline, 15-week semester	Friday, March 22
Spring break	Monday, March 25 – Sunday, March 31
Semester ends	Friday, May 10

Add/Drop and Withdrawal Dates

- **Monday, January 28:** End of program revision and late registration, last day to add classes or change course sections
- **Monday, February 4:** Last day to drop classes. The class will not appear on your academic record
- **Friday, March 22:** Last day to withdraw from classes



Grading

Assignments and Projects

Assignments and Projects are to be submitted via Canvas, or by the process indicated by the instructor, **prior to the start of the class they are due.**

- If you do not submit the assignment at the time it is due, your grade on that assignment will be reduced as follows: 10% of your final grade on the assignment, per day.
- **No assignment will be accepted over 1 week late.**
- No assignments will be accepted after the end of the last class.
- Problems with computers (printers or emails) do not suffice as explanation for late assignments.

The instructor is the final arbiter of all grades for the class. Posted grades (i.e., on Canvas) **do not necessarily reflect the final grade** you will receive in the class. Confirm your academic progress in the course with your instructor.

The only final grades given in this class are:

Performance	Description	Grade
Excellent	The student has exceeded the high expectations of the course (excellent effort and products).	A, A-, B+
Good	The student has met the high expectations of the course (good effort and products).	B, B-, C+
Satisfactory	Acceptable achievement. The student has shown some effort and is showing growth, but is not meeting the high expectations of the course.	C
Poor	Minimal achievement (The student has not met the requirements of the class and must repeat the course, if required by their Major.)	C-, D
Failure	Inadequate achievement (The course must be repeated.)	F
Incomplete	See section on Incomplete Grades.	Inc.

Grade Requirements for Major

You are **required to finish with a “C” grade or better** if this class is required for your Major, or is a prerequisite for a class required by your major. If you do not, you must take this class again and cannot advance to the next required class.

Grade Challenges

A student has the right to appeal academic decisions that affect his or her record at Columbia related to grade changes, attendance penalties, and incomplete grades.

There is a limited amount of time after grades are posted that a grade can be appealed. Please consult the Academic Grievances sub-section of the Undergraduate Academic Policies section of the Columbia College Chicago Course Catalog available at catalog.colum.edu for information on the required process.

Incomplete Grade

An Incomplete Grade (I) can only be issued for an undergraduate student who has met the following criteria:

- The student has successfully completed all course requirements to date but is faced with unexpected circumstances during the final weeks of the semester resulting in the inability to complete course requirements by the end of the semester.
- The student must have, in the instructor’s estimation, the ability to complete missed course requirements outside of class and by the end of the eighth week of the following semester.



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The instructor must agree to evaluate the student's work and replace the Incomplete grade before the end of the following semester.

An agreement specifying work to be completed and a due date must be signed by both instructor and student and approved by the Department Chair. For more information, see the college's catalog at catalog.colum.edu.

Academic Progress Report (APR)

During week 6 of fall and spring terms, Columbia College Chicago measures the academic progress of all undergraduate students.

The academic progress report is meant to provide a sense of your performance at this point in time. For each course in which you are enrolled, your instructor will assign you one of the following academic progress reports:

- *Exceeds basic expectations:* Demonstrating performance at a very high level in the course, typically shown as consistent attendance, earning high grades on assignments and displaying a deep engagement with course content.
- *Meets basic expectations:* Demonstrating behavior proven to produce success in college, such as consistent attendance, class participation, and on-time completion of assignments.
- *Does not meet basic expectations:* Demonstrating behaviors known to put students at risk for failure, such as excessive absences, lack of class participation, and missed or incomplete assignments.

While the academic progress report is not a final grade and will not affect your grade point average, it is a valuable indicator of your performance in the course to date. Columbia College Chicago is committed to your success, and this process is important to understand your progress towards that success.

If you are not meeting basic expectations, you will receive this progress report via email and you are strongly encouraged to discuss course expectations with your instructor(s).

Mandatory Attendance Policy Statement

Students are required to attend class regularly. Failure to attend class in the first two weeks of the term will negatively impact financial aid. If your professor reports that you failed to attend and participate in class during the add/drop period, a grade of NS (no-show) will be entered on your record for the course. Please note, you will still be charged tuition and fees for any course for which you receive a NS grade. For more information on non-attendance please visit the Student Financial Services website.

Students are expected to arrive at course sessions by the indicated start time, prepared for the class. **It is the Interactive Arts and Media departmental policy that a student fails the class upon their third unexcused absence.**

Two late arrivals (after the beginning of class) equal one absence. Lateness of more than one-half hour is the equivalent of an unexcused absence. Students leaving class early are considered late for time missed. Students who do not get to class before mid-class break, or do not return after the break, will be marked as absent for that session.

Medical and other emergency leave of absences follow a different policy. Please contact your instructor if such a situation arises.

Students are expected to maintain communication with their instructor regarding their presence in class. Maintaining communication with the instructor allows that instructor the option of marking an absence as excused, rather than unexcused, at his or her discretion. All communication regarding an absence or lateness should occur before the session in question. Contact information for the instructor is in this syllabus.



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An absent student is still responsible for turning in all required assignments on time, unless a prior arrangement is made with the instructor. The instructor may, at his or her discretion, require make-up work or assignments in the place of missed class work.

Participation

Along with tracking Attendance, students are also graded based on their Participation at the end of each class. In order to get the most out of the course, we expect students to attend class regularly while being active, non-disruptive participants.

Participation can be impacted both positively and negatively. Here are some examples:

<u>Positive Participation Examples:</u>	<u>Negative Participation Examples:</u>
<ul style="list-style-type: none"> Actively participating in class discussions. Providing constructive feedback to other students' projects during designated class critiques. Showing interest in and respect for others' views through thoughtful responses to other students' comments. Helping aide fellow students while the instructor is busy helping others. 	<ul style="list-style-type: none"> Excessive use of mobile device or computer that is not related to class. Consistently speaking over classmates and/or instructor. Sleeping in class. Excessively repeatedly coming in and out of the classroom. Making unconstructive negative comments on other students work.

Email

All students are assigned a @loop.colum.edu email when they first register. **This is the only email that instructors are allowed to use to contact you about assignments, scheduling, or other classroom issues.**

It is your responsibility to check this email regularly for information. You can access your @loop.colum.edu email via the Oasis portal oasis.colum.edu. We recommend that you either check that email daily or forward it to an email account that you do check daily.

Backup and Archival Policy

Students are responsible for maintaining their own backup copies of all work. The Interactive Arts and Media department provides each registered student with server storage space as a courtesy and convenience, but does not guarantee access to that server space nor does it guarantee the safety of those files. **Maintain your own electronic backup of your important files.**

Additionally, as part of this class, you may be asked to provide all class work, documentation, proposals, and projects in electronic form on a CD or DVD-ROM on the last day of class. Your instructor will inform you if this is required, and of the specifics of the requirement.

Academic Conduct

In line with Columbia College Chicago's Student Code of Conduct (catalog.colum.edu), students are reminded that the school expects students to treat each other, faculty, and staff with respect. Harassment of any kind is forbidden, as is exposing students or faculty to material and images that might be considered offensive.

Academic Integrity Policy

All work submitted in this course for academic credit must be your own original work, the original work of the group of students cooperating in a project (and appropriate credit given), and/or adhere to all relevant copyright and intellectual property ownership laws.



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You are responsible for your own work, and while consultation and discussion of course topics with other students is encouraged, submitting another's work as one's own - in whole or in part - will result in a failing grade for the assignment. Additional penalty for violation of this policy could be extended to include failure of the class or other disciplinary action at the discretion of the instructor, the department, or Columbia College Chicago.

Excerpts from the college's Academic Integrity Policy (catalog.colum.edu):

Academic integrity is giving credit to the ideas, research, and creations of others; and part of one's education is learning how to give this credit. Every area of creative endeavor requires some form of acknowledgement of sources.

Plagiarism is copying another person's work and presenting it as one's own. **Sources must be acknowledged** in a manner appropriate to the discipline when images, composition, or conceptions are copied, even when the appropriated material is reconfigured to make a new meaning.

Information that is "common knowledge" does not need attribution (for example, George Washington was the first president of the United States). However, common knowledge is relative to specific contexts, and it may be difficult for a student to distinguish between alluding to material that is commonly known and plagiarizing. Therefore, students are advised to credit anything that was new to them when they encountered it in the course of their research.

Recycling: Columbia does not have a College-wide policy on students reusing or reworking the contents of one assignment to meet the requirements of another. Therefore, **students should not assume that recycling of assignments is acceptable**; they must disclose their intention to reuse or rework material at the outset of the project to be sure that they have the faculty member's approval.

Cheating: Assignments and examinations should be the products of the student's own efforts. Cheating includes, but is not limited to, the use of unauthorized materials for examinations or assignments, unauthorized assistance from other people, and papers from commercial companies or the Internet. Students should assume, unless told otherwise, that examinations and assignments should be completed without the use of books, notes, or conversation with others; however, individual faculty members may authorize certain types of materials or collaborations for specific assignments. Students should therefore follow the expectations of their instructor regarding the use of materials for their assignments.

Denial of access: Denying access of materials to other students is a particularly heinous violation of academic integrity. Examples of this violation include deliberately misplacing or destroying reserve materials; altering computer files that belong to another; unduly tying up equipment needed to complete an assignment; making library material unavailable to others by stealing, hiding, or defacing books or journals.

Fabrication: Fabrication occurs when there is falsification or invention of any information, citation, or data in an academic exercise with the intent to deceive. If a student believes that the nature of a particular assignment allows for fabrication, he/she must disclose his/her intention to fabricate to be sure she has the faculty member's approval.

Facilitation: Facilitation occurs when a student knowingly allows his/her work to be used by another student or otherwise aids another student in a violation of academic integrity. **Students who facilitate the dishonesty of others have violated academic integrity even though they may not themselves benefit from the act.**

Falsification: Forgery of a grade change form or having a substitute take an examination are serious violations of ethics.

[Services for Students with Disabilities \(SSD\)](#)

623 S. Wabash building, Room 311, 312.369.8296, SSD@colum.edu, colum.edu/ssd



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Columbia College Chicago seeks to maintain a supportive academic environment for students with disabilities. Students seeking accommodations for a disability must register with the Services for Students with Disabilities (SSD) office. Once registered, a Columbia College Chicago accommodation letter will be provided to the student each semester. Students are encouraged to present their current accommodation letters to each instructor at the beginning of the semester so that accommodations can be arranged in a timely manner by the College, the department, or the faculty member, as appropriate. Accommodations begin at the time the letter is presented. Students with disabilities who do not have accommodation letters should visit the SSD office, Room 311 of the 623 S. Wabash building, call 312-369-8296, email SSD@colum.edu or visit colum.edu/ssd.

Counseling Services

731 S. Plymouth Court, suite 112, 312.369.8700, counselingservices@colum.edu

Services are designed to help students increase self-awareness and address mental health concerns with the goal of empowering students to manage challenging areas in their lives. All counseling services staff follow professional standards of confidentiality. Information discussed within a counseling relationship is not disclosed without written permission of the individual. Counseling Services are provided free of charge. The most utilized services include individual sessions, group sessions, and linkage to community services. A Columbia College student in a relationship with another Columbia College student, can also receive couple sessions. All currently enrolled students are eligible to receive 12 individual sessions per academic year. Group sessions are unlimited.

College Advising Center

623 S. Wabash, Suite 300, 312.369.7645, collegeadvising@colum.edu

The College Advising Center assists undergraduate students with all transitional issues as they navigate their entire college experience. Academic Advisors in the College Advising Center guide students in creating and implementing an educational and professional plan as they progress from orientation toward graduation. As students take responsibility for their academic and career goals, they should meet with their academic advisor on a regular basis. Students at Columbia are expected to meet with their academic advisor at least once a semester during their first year, and once an academic year until graduation. Students can make an appointment through Oasis (using the "Make Appointments" tab) or by contacting the College Advising Center.

Learning Studio

33 E. Congress, first floor, 312.369.8130, colum.edu/learningstudio

The Learning Studio is an excellent resource for academic progress and success for all students at any level. The Learning Studio provides tutoring in several disciplines including science, mathematics, accounting, foreign languages, and writing. Supplemental instruction is also provided for some specific courses. Students are encouraged to visit the Learning Studio for additional academic support and assistance. Students can make an appointment through Oasis (using the "Make Appointments" tab) or by calling the Learning Studio.

Columbia College Library

624 S. Michigan, library.colum.edu

The Library serves students with resources and support for research, study, collaboration, fun, and information in all formats—books, ebooks, articles, primary sources, images, film, music, space, programs, technology, and equipment. Our specialized materials and services focus on what students need and want—textbook reserves, study rooms, collaborative technology, maker lab, 3D printer, light boxes, scanners, equipment checkout (cameras, camcorders, projectors) and research assistance by chat, text, email, phone, or in-person. For more, see the website <http://library.colum.edu> or drop by the Library (624 S. Michigan).



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IAM Open Lab

916 South Wabash, room 122

For lab hours and software inventory, see http://imamp.colum.edu/mediawiki/index.php/RM_122

SEMESTER SCHEDULE

Class	Date	Lecture/Class Topics	Notes
1	1/24	Intro, project setup, first person narrative game design	Start project 1!
2	1/31	3D Worldbuilding, Software architecture, review style rules, properties, preprocessor directives	
3	2/7	Command pattern, input manager, Euler angles & quaternions	Preproduction milestone
4	2/14	Game loop pattern, update pattern, component pattern	
5	2/21	Singleton pattern	
6	2/28	Observer pattern, events	First playable milestone
7	3/7	Interfaces	special feature approval required
8	3/14	Ray / spherecast / 3D physics	
9	3/21	Animation, state pattern	Alpha milestone
	3/28	Spring break no class!	
10	4/4	Saving and loading	
11	4/11	Workshop, review progress, assign tasks	
12	4/18	Workshop, review progress, assign tasks	Beta milestone
13	4/25	Workshop, review progress, assign tasks	
14	5/2	Workshop, review progress, assign tasks	
15	5/9	Final Project Playtesting	Final release milestone!

NOTE: This syllabus is intended to give the student guidance in what may be covered during the semester and will be followed as closely as possible. However, instructors reserve the right in their discretion to modify, supplement, and make changes as course needs arise.

A copy of this syllabus is available electronically in the section for this class in Canvas. (<http://canvas.colum.edu>)