

## CSC-348: Game Design and Development

### Instructor Information

Dr. Chris Alvin

Office: Riley Hall 200-J

Office Phone: 864-294-2269 (Please email.)

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Web: <https://courses.furman.edu>

Office Hours: Monday 2:00 pm-4:00pm; Wednesday 1:00 pm-3:00pm; or by appointment.

### Class Meeting Times

Lecture:	Riley 106	Tuesday, Thursday	8:00am-9:15am
Lab:	Online	Thursday	3:00pm-5:00pm
Midterm Exam:	Take Home	Around March 10	
Final Exam:	Riley 106	Thursday, April 29	8:30pm-11:00pm

### Prerequisites

CSC-122 and CSC-261

### Course Description

An interactive overview of game design and development. Game design from a historical perspective by analyzing classic and modern board games and video games. Topics include: immersion, storytelling, mechanics, balance and fairness, and content. Engage student design ideas by iteratively developing an original, prototype game. Game development topics include: scripting, interaction, detecting objects, collision detection, and artificial intelligence (AI).

### Required Textbook

Bond, Jeremy Gibson, Introduction to Game Design, Prototyping, and Development: From Concept to Playable Game with Unity and C# (2<sup>nd</sup> Edition), Addison-Wesley Professional, ISBN-13: 978-0134659862.

### Recommended Resources

- Unity Tutorials: <https://unity3d.com/learn/tutorials>
- C# Reference for Unity: <https://docs.unity3d.com/ScriptReference/>
- A Comparison of C# to Java: <http://www.25hoursaday.com/CsharpVsJava.html>

### Development Environment

- Unity3D (<https://unity3d.com/>)
- Visual Studio Community (<https://visualstudio.microsoft.com/vs/community/>)

### Grading Specifications

- |                         |     |
|-------------------------|-----|
| • Labs and Homework     | 25% |
| • Quizzes               | 5%  |
| • Final Project         | 20% |
| • Midterm Exam          | 20% |
| • Cumulative Final Exam | 25% |
| • Professionalism       | 5%  |

## Approximate Grading Scale

$grade \geq 92\%$	A	$72\% \leq grade < 78\%$	C
$90\% \leq grade < 92\%$	A-	$70\% \leq grade < 72\%$	C-
$88\% \leq grade < 90\%$	B+	$68\% \leq grade < 70\%$	D+
$82\% \leq grade < 88\%$	B	$60\% \leq grade < 68\%$	D
$80\% \leq grade < 82\%$	B-	$grade < 60\%$	F
$78\% \leq grade < 80\%$	C+		

Grade intervals may be adjusted downward per instructor discretion. As a point of reference, the descriptions of letter grades as presented in the Furman University Catalog is repeated here:

Grade	Description
A	Excellent. The mark of highest distinction earned by those students whose work represents the best that can be expected of a student at Furman.
B	Good. The mark of distinction earned by those students whose work represents a high degree of achievement in meeting the characteristic demands of the course.
C	Satisfactory. The mark earned by those students who have attained such familiarity with the content of the course and such ability to apply this knowledge as may be expected of a student who gives to the course a reasonable amount of time, effort, and attention.
D	Marginal. The lowest passing grade representing inferior work. It indicates that the student would be seriously handicapped in attempting subsequent courses for which this work is a prerequisite.
F	Failure. The mark indicates unconditional failure. No credit earned.

## Additional Course Guidelines

### Some General Advice:

- Come to class (on time).
- Review your notes, do the reading, do the assignments.
- Participate: answer questions, contribute to discussions, offer comments and observations, and ask questions.
- Seek me out with any questions, comments or concerns.
- Start assignments early and give yourself time to think about them thoroughly.
- Make sure you fully understand how the labs and projects work.
- Work through class examples on your own.
- If you get stuck, ask questions!

Procrastinating and crunching before a deadline will result in heartache and a lower grade. A solid work ethic in this course will be rewarded!

**Seek Help:** It is to your advantage to communicate with me whether in class, during office hours, or via email. *You are encouraged to stop by my office even if I do not have formal office hours.*

**Minimum Requirements:** In order to pass this class you must (1) earn a passing grade, (2) submit at least 50% of all labs, homework, and quizzes, and (3) take all exams. Simply, you cannot blow off an entire aspect of the course and pass this class! Note that this basic requirement is necessary but not sufficient to pass the class.

**Professionalism:** We should all strive to foster and maintain a professional environment. There are many forms of professionalism, but I believe strongly that professionalism is another form of respect. Therefore, be respectful. Show up to class on time. Be attentive. Be respectful of others (students and

instructor). Those acting in an unprofessional manner will be warned and eventually the professionalism grade component will be adjusted.

**Electronic Devices:** *The use of cell phones in class is considered completely disrespectful, and doing so will result in your being asked to leave the classroom.* Cell phones must be silenced in the classroom; if you have an emergency situation or other concern for which your phone needs to be accessible, please let the instructor know in advance.

The use of laptop computers in the classroom can be done in a very positive and productive way; however, the use of a laptop during class for purposes not related to class content is unprofessional and disrespectful; hence, it will not be tolerated.

**Attendance policy:** Students need to consistently engage with the material inside and outside of class. Any dates on which you will not be able to attend class due to a planned absence must be discussed with the instructor in advance. Please arrive to class on time and do not leave early, unless arrangements have been made with the instructor.

- Leaving early without permission will be counted as an absence.
- Arriving to class more than 5 minutes late will be counted as an absence.
- Being late to class or lab three times will result in an absence to be assessed on the day of the third absence (the late count then restarts at 0)

Regular attendance is expected. Formally, we will follow the Furman University Catalog:

An upperclassman who exceeds **25% for any reason** will be in violation of the maximum established by the University (p. 40 of the *Furman University Catalog*) and will be dropped from the course with a grade of “F.”

There will be NO ‘makeup’ assessments without a valid, documented conflict (illness, University sponsored event, etc.). If you have such a conflict, please contact the instructor at least one week in advance of the assessment date to make arrangements; for final exam conflicts, see below.

For absences due to illness, this class will follow protocols as established by Furman University administration and the discretion of the Earle Student Health Center. Minimally, inform the instructor of your absence due to illness as soon as possible.

Please also review the policies on exams with respect to attendance.

**Remote Attendance policy:** All general “Attendance Policy” statements hold. Attendance in a remote environment means that your camera is turned on (except in extreme cases where permission is acquired from the instructor). Professional attendance means you are seated and engaged in the course. For example, getting up and walking around with a phone connection is unprofessional and distracting. As with a ‘normal’ class environment, no recordings of lectures are planned.

**In-Person / Remote Attendance policy:** If you are an in-person student, you may not attend the course remotely unless otherwise directed by the University or instructor permission. Waking up late and hopping on a zoom call is not acceptable.

**Quizzes:** Quizzes will be administered remotely (via Moodle) on specific days as announced. Quizzes will cover *any* material encountered in the course with a focus on content from the most recent material. All quizzes are closed book and closed notes unless otherwise stated. Missed quizzes cannot be taken without a University documented conflict. Please note students more than 5 minutes late to class are classified as absent (according to the attendance policy); similarly for students leaving class early.

**Late Assignments and Late Days:** Each student will be granted 2 late days plus ‘unprofessional’ late days. An unprofessional late day is defined as a late day which, if used by the student, will result in a 20%

deduction in their professionalism grade. Late days are defined as calendar days, not business days. Any extra time taken into a day will result in a use of one complete late day (there are no fractional late days). No assignment may use more than one unprofessional late day. If a pair or group assignment is submitted late, all members will incur the use of a late day.

Late electronic submission is typically via email.

**Lab Deadlines:** Labs are generally due by Tuesday at 3pm. *Unless otherwise announced, online lab attendance is still required to earn credit.*

**Lab Grading:** If you are absent from lab (or class), leave lab (or class) early without permission, or your laptop fails to maintain a charge, you will receive a zero for the lab. *Labs will not be accepted via email unless requested by the instructor.*

**Midterm Exam:** There will one take-home midterm exams in addition to a final exam.

**Final Exam Conflicts:** Final exam conflicts will be handled according to the Furman University Catalog policy:

Requests to take the final exam at a time that differs from the University final exam schedule must be approved by the Associate Academic Dean. (“Any instructor who wishes to administer the final examination at a time other than the one specified on the final exam schedule must secure the approval of the department chair and the Associate Academic Dean,” from the *Furman University Catalog*.)

**Communication:** Please communicate with me via email (with the following caveat). We are in an age of informality where emails are typed like text messages (abbreviations, lack of capitalization, no greeting, etc.). Courtesy, professionalism, and respect is much appreciated. Emails to any instructor should adhere to a few simple rules:

- Send email from your Furman email account (and no other).
- Include an applicable subject in the subject line.
- Address your email to me (Dear Dr. Alvin, Hi Dr. Alvin, etc.).
- Sign the email with, at least, your first name.
- If you are asking a question about source code, please provide it one of two ways:
  - If the code in question is short, please copy and paste pertinent source code into the email body.
  - If the code is longer or consists of multiple files, attach the entire code base in a single zip file.
- Do not wait until the last minute to complete any assignment.

If you follow these simple rules, I will return the favor in kind.

**Grading Policy for Code-Based Items:** A critical element in software development is the need to thoroughly test your code. *If you submit a program that does not execute without intervention from the instructor, you will earn at most 50% of the points.* Code that does not compile is extremely difficult to grade effectively, efficiently, and fairly. Therefore, you must make every effort to submit source code that, minimally, executes.

**Academic Integrity:** Academic Integrity standards are important to our Furman community and will be upheld in this class. Students should review the Academic Integrity Pledge posted in the classroom and resources available on [www.furman.edu/integrity](http://www.furman.edu/integrity). In this class, the grade penalty for an academic integrity violation:

A Zero (0), or whatever is the equivalent of the lowest failing grade possible, shall be assigned for that piece of work to any students cheating on an examination or other piece of work. The Associate Academic Dean will also be informed of the infraction.

Copying any part of another person's program or allowing your program to be copied is not permitted.

**Citations:** If you consult with any source (other than the textbook or the instructor) to complete an assignment, you should credit that source with a citation. Sources that should be cited include friends, classmates, tutors, websites, and any books other than the textbook. A friend or tutor should never complete an assignment for you. You should never copy and paste large segments of code from a website. It is sometimes acceptable to copy *small* segments of code from a website (3 lines or fewer), but the website should be cited.

**Additional Resources in the Center for Academic Success (CAS; LIB 002):** The Writing & Media Lab (WML) is staffed by student Consultants who are trained to help you improve your writing and multimodal communication skills. The consultation process is non-directive and intended to allow students to maintain ownership of their work. In addition to helping with the nuts and bolts, WML Consultants also support you in developing your own ideas thoughtfully and critically, whether you're writing an essay or planning a video or other multimedia project. You may drop into the WML during its regular hours (LIB 002; 9 AM to 10 PM) or visit the Writing and Media Lab website to make an appointment online.

Professional Academic Assistance Staff in CAS can provide students assistance with time management, study skills, and organizational skills.

The Writing and ESL Specialist provides professional writing support as well as support for students whose primary language is not English.

**Accommodation Requests:** I encourage students with disabilities to make an appointment to meet with me as soon as possible to discuss ways I can help facilitate your learning. All discussions will remain confidential.

The Student Office for Accessibility Resources is committed to helping qualified students with disabilities achieve their academic goals by providing reasonable academic accommodations under appropriate circumstances. If you have a disability and anticipate the need for an accommodation in order to participate in this class, please register with the Student Office for Accessibility Resources. They will assist you in getting the resources you may need to participate fully in this class. You can contact the SOAR office at 864.294.2320 or at [soar@furman.edu](mailto:soar@furman.edu). You can find additional information and request academic accommodations at the [SOAR webpage](#).

**Project Submission:** Please follow the protocol stated in the description of the assignment; including header comments, inline comments, naming conventions, and input / output conventions as described in the assignment.

**Course Schedule:** The course schedule is malleable. Please see the Moodle course page for due dates and other announcements.

### **Nondiscrimination Policy and Sexual Misconduct**

Furman University and its faculty are committed to supporting our students and seeking an environment that is free of bias, discrimination, and harassment. Furman does not unlawfully discriminate on the basis of race, color, national origin, sex, sexual orientation, gender identity, pregnancy, disability, age, religion, veteran status, or any other characteristic or status protected by applicable local, state, or federal law in admission, treatment, or access to, or employment in, its programs and activities.

If you have encountered any form of discrimination or harassment, including sexual misconduct (e.g. sexual assault, sexual harassment or gender-based harassment, sexual exploitation or intimidation, stalking, intimate partner violence), we encourage you to report this to the institution. If you wish to report such an incident of misconduct, you may contact Furman's Title IX Coordinator, Melissa Nichols (Trone Center, Suite 215; [Melissa.nichols@furman.edu](mailto:Melissa.nichols@furman.edu); 864.294.2221).

If you would like to speak with someone who can advise you but maintain complete confidentiality, you can talk with a counselor, a professional in the Student Health Center or someone in the Office of Spiritual Life. If you speak with a faculty member, understand that as a "Responsible Employee" of the University, the faculty member MUST report to the University's Title IX Coordinator what you share to help ensure that your safety and welfare are being addressed, consistent with the requirements of the law.

Additional information about Furman's Sexual Misconduct Policy, how to report sexual misconduct and your rights can be found at the Furman Title IX Webpage at [www.furman.edu/titleix](http://www.furman.edu/titleix). You do not have to go through the experience alone.