# Syllabus - Special Topics: Digital Game Design

### instructor

Zachary O. Dugas Toups

ztoups@nmsu.edu; 575-646-1605

office hours:     T/Th 1:00–4:00pm & by appt.; Science Hall 136

### teaching assistant

Ping Hou

phou@cs.nmsu.edu

office hours:     M/W 3:00–4:00pm & by appt.; Science Hall 159

## required text

Fullerton, T. *Game Design Workshop: A Playcentric Approach to Creating Innovative Games*, 3rd Edition. CRC Press. 2014.

## course description

In this course, we will learn to design, develop, and playtest games. This means we will **play**, but also work hard. The course is structured to use **team-based learning**; this means you will be responsible for the course material (reading) outside of class, but that we will spend most of class doing. We will build at least **two games** from scratch, one individually and one as a team.

### objectives

Students completing this course will be able to:

- Describe, analyze, and/or critique games with a clear vocabulary.
- Design, develop, and playtest games.
- Understand the formal systems of games.
- Communicate game designs through demonstrations and presentations.

### prerequisites

This course involves reading, designing, and coding, but has no prerequisites.

### team-based learning

This is a team-based learning course / "flipped" classroom. There will be **minimal in-class lecturing**, **much in-class do-ing** that captures our objectives, and **out-of-class reading** (with accountability in class). You can expect that:

- You will be responsible for readings outside of class.
- There will be regular Readiness Assurance Tests over the readings.
- There will be minimal lectures, mostly to answer your questions about them. Students will present work.
- There will be a team project, with deliverables throughout the semester, that will take you from concept to completed and evaluated system.
- Most of class time will be spent working in groups on activities. Many of these are meant to engage you in creative thinking about how to build systems, and some will help you progress on your overarching team project.

## policies

### team formation

Teams will be formed after students have identified their interests through the Micro Proposals assignment. **Teams must consist entirely of either graduate students or undergraduates**; this segregation is necessary because the graduate curriculum is different. Teams are 3 students, unless more or less are necessary.

### code

This course does not have a required programming language. **It is assumed students are competent in at least one language.** Because your instructor and/or TA may not be proficient in your chosen language, you must make your code as clear as possible! It must be styled appropriately (use liberal whitespace,

use appropriate indentation, etc.) and should be extensively, but not excessively, documented. Failure to do so is grounds for losing points.

### reading / quizzes

**You are responsible for reading all materials prior to class.** Each day specified as Readiness Assurance will include a test over the specified material. This test is multiple choice and is first taken individually, then the same test is taken again as a team.

### attendance / class participation

**Attendance is expected at every class**, unless the class is released to work on class projects. Students should be present physically and mentally, asking questions, discussing, and not otherwise engaged (in a device). A student with more than one unexcused absence or who clearly does not engage will lose points from the Attendance component of his/her grade.

### assignments

Students are expected to turn in assignments before class on the day specified in the assignment, as specified in the assignment description (usually via Canvas). Frequently, this constraint is a logistics issue, as students will present work in class. Late work will be accepted, but with a 10% penalty per day late (or 20% per class day, if the work is presented in class). Grind assignments (see below) cannot be turned in late.

Graduate student assignments may have modifications from the base undergraduate assignments (generally there is more to do).

You will be working with a team most of the semester, and team activities will make up most of your grade. **Students are only eligible for the team portion of the grade if they earn at least 70% of their individual grade.** This measure is intended to ensure that each student pulls his/her own weight within the team.

## [play] activities / gamification

This is a gamified course, you have a choice in what work you want to do, and, to a certain degree, how much. To "win" class you need to accumulate 1000 points (for 100%). You might do only a few assignments, put in a lot of energy, and do well; you might do many assignments quickly; you might opt out of some assignments. **Grinding Assignments** are primarily where you get to make a choice.

### grinding assignments

Grinds come from the textbook: every chapter includes exercises (**note: Exercise 1.4 on page 10 is special; see Game Journal**). Complete an exercise satisfactorily and you will receive credit for it (except the Game Journal). Note that we will do some exercises in class, either individually or in teams. You can write these up for Grind points. Also note that some exercises rely on earlier exercises; if this is the case, you must do the earlier exercise first.

You may **turn in no more than two Grinds per week**. This means you need to be strategic.

The intent is for all exercises to be treated with approximately equal weight. Generally, this means a **minimum** of three paragraphs and about 30–60 minutes of work. If the exercise matches some component of the chapter, then you

should produce about the same level of work as the chapter. If the exercise is exceptionally simple, it might be a **Minion** (bonus points for the First Player to find it, fewer points to those who complete it later). Some exercises require substantial additional work and are **Bosses** (worth bonus points to the First Player to find it, and a lesser bonus to those who complete it later). Players identify Minions and Bosses by submitting a First Player document.

The following rules govern Grind assignments:

- A Boss takes more than 60 minutes of actually executing a task, excluding write-up / documentation.

- A Minion takes less than 30 minutes of actually executing a task, excluding write-up / documentation.

- You must have completed and turned in an assignment to claim First Player.

- Each Friday, new bonuses/penalties will be announced on Canvas. All attempts at Boss Battles and Minions must be submitted **before** Friday.

- Bonuses / penalties go into effect on Friday; they are not retroactive (if you submit a Grind later identified as a Boss Battle, you do not get the bonus, but also don't get the penalty if an assignment turns out to be a Minion).

- All players who submit First Player documentation during the week are eligible for bonuses on Boss Battles and Minions.

- A player **must** submit First Player documentation to get a bonus for a Boss Battle or Minion (if you submit a Grind assignment found by another player during the week, but no documentation, it's just a normal Grind for you).

- To claim a First Player Bonus, send an email to the professor and TA with a short assessment of how you used your time. If you can show that the assignment legitimately took that amount of time (and not that you were just very slow) and the description of the assignment backs up your claim, then you get the bonus and the assignment gets classified as either a Boss Battle or Minion for future students.

- The professor and TA reserve the right to identify abuse of this system; abusers are not eligible for bonuses.

### game journal

Game Journal entries are graded differently from Grinds. Exercise 1.4 on page 10 is effectively a grinding assignment that can be completed multiple times, up to 10. The journal should take a little less time than most grinding assignments, but should still be in the two paragraph range. The Game Journal is a special type of Grind, and so counts towards the two Grinds per week maximum.

### other assignments

Other assignments appearing on the schedule will be detailed in Canvas throughout the semester.

### grading

Your rubric depends on whether you are taking the graduate course (CS 579) or the undergraduate one (CS 479). Most activities are graded on a team basis; individually assessed items are starred.

You need 1,000 to get an A in the course; 350 (CS 479) or 450 (CS 579) comes from the Team Game Sequence, 200 comes from Readiness Assurance. For the remaining points, you can mix and match other assignments, up to the maximums. Note that these other assignments do **not** shore up low scores in the other categories (Team Game Sequence, Readiness Assurance). Additional assignments can also be submitted for additional points (i.e., you could write up an additional playtest document for a game to hedge your bet on your performance).

| assignment | value |
|---|---|
| normal grind | 15 |
| boss battle (first player) | 25 |
| boss battle (later player) | 20 |
| minion (first player) | 25 |
| minion (later player) | 10 |
| game journal entry | 10 |
| individual game playtest | 50 |

| grade | points | % |
|---|---|---|
| A | 1,000 – 941 | 100% |
| A- | 940 – 871 | 94% |
| B+ | 870 – 841 | 87% |
| B | 840 – 801 | 84% |
| B- | 800 – 771 | 80% |
| C+ | 770 – 741 | 77% |
| C | 740 – 701 | 74% |
| C- | 700 – 671 | 70% |
| D | 670 – 601 | 67% |
| F | 600 – 0 | <60% |

| course | 479 | | 579 | |
|---|---|---|---|---|
| total needed for an A | 1,000 | | 1,000 | |
| total from RA, attendance | 250 | | 240 | |
| total from team game sequence | 350 | | 450 | |
| total req. from other | 400 | | 310 | |
| max. avail. in other | 550 | | 475 | |
| grinding maximum* | 150 | ≈ 10 | 120 | ≈ 8 |
| game journal (ex. 1.4) maximum* | 100 | = 10 | 80 | = 8 |
| Unity tutorial extension* | 50 | = 1 | 50 | = 1 |
| individual game* | 150 | = 1 | 125 | = 1 |
| individual game playtest* | 100 | = 2 | 100 | = 2 |
| readiness assessment* | 100 | | 100 | |
| team readiness assessment | 100 | | 100 | |
| attendance* | 50 | | 40 | |
| team game sequence | 350 | | 450 | |
| micro proposal* | 10 | | 10 | |
| concept sketch | 20 | | 20 | |
| non-digital prototype | 20 | | 20 | |
| functional prototype 1 | 50 | | 50 | |
| functional prototype 1 playtest | 30 | | 30 | |
| functional prototype 2 | 150 | | 100 | |
| functional prototype 2 playtest | - | | 20 | |
| complete system | - | | 130 | |
| final demo & presentation | 50 | | 50 | |
| peer review | 20 | | 20 | |

Syllabus - Special Topics: Digital Game Design

CS 479 / 579 M02 (Fa. 2014) M,W 4:00–5:15pm   4 of 5
Prof. Zachary Dugas Toups

## TENTATIVE schedule

| date | | notes | activity | due 479 | due 579 | max. grinds |
|------|---|-------|----------|---------|---------|-------------|
| 8/25 | M | Intro | introduction to class, self-introduction | | | 26 |
| 8/27 | W | | micro proposal presentations, team formation | ← micro proposal*, chose team boardgame to play → | | |
| 9/1 | M | | Labor Day Holiday | | | |
| 9/3 | W | | boardgame play and discussion | | | 24 |
| 9/8 | M | | develop individual game concept (ch 6 ex) | | | 22 |
| 9/10 | W | | Readiness Assurance: ch 1–3, 6 | ← Readiness Assurance → | | |
| 9/15 | M | | team prototyping (ch 7 ex) | | | 20 |
| 9/17 | W | | make individual games | | | |
| 9/22 | M | | RA: ch 7, 9 | ← RA → | | 18 |
| 9/24 | W | | make individual games | | | |
| 9/29 | M | | play individual games | ← individual game* → | | 16 |
| 10/1 | W | | play individual games | | | |
| 10/6 | M | Unity | Unity | ← individual game playtests* → | | 14 |
| 10/8 | W | Unity | Unity | | | |
| 10/13 | M | | develop concept sketch | | | 12 |
| 10/15 | W | | RA: ch 4–5, 8 | ← RA → | | |
| 10/20 | M | @ CHI PLAY | develop concept sketch | | | 10 |
| 10/22 | W | @ CHI PLAY | non-digital prototyping team project | ← concept sketch v1 → | | |
| 10/27 | M | | RA: ch 10–11 | ← RA → | | 8 |
| 10/29 | W | | **(non-digital OR functional)** prototyping team project | ← concept sketch v2 → | | |

# Syllabus - Special Topics: Digital Game Design

CS 479 / 579 M02 (Fa. 2014) M,W 4:00–5:15pm          5 of 5
Prof. Zachary Dugas Toups

| date | | notes | activity | due 479 | due 579 | max. grinds |
|---|---|---|---|---|---|---|
| 10/31 | F | | - | ← Unity Tutorial Extension → | | |
| 11/3 | M | | play non-digital prototypes | ← non-digital prototype → | | 6 |
| 11/5 | W | | play 579 functional prototype 1 | | functional prototype 1 | |
| 11/10 | M | | play 479 functional prototype 1 | functional prototype 1 | | 4 |
| 11/12 | W | | games research lecture(s) | | functional prototype 1 playtest | |
| 11/17 | M | | RA: 12–17 | ← RA → | | 2 |
| 11/19 | W | | play 579 functional prototype 2 | functional prototype 1 playtest | functional prototype 2 | |
| 11/24 | M | | Thanksgiving Holiday | | | |
| 11/26 | W | | | | | |
| 12/1 | M | | play 579 functional prototype 2 | | | 0 |
| 12/3 | W | | boardgame play and discussion | | functional prototype 2 playtest | |
| 12/8 | M | | Final Exam Slot (12/8, 3:30pm–5:30pm) | final demo, functional prototype 2 | final demo, complete game | 0 |
| 12/12 | F | | | ← peer review* → | | |

## university policies

### academic honesty

Plagiarism is using another person's work without acknowledgment, making it appear to be one's own. Intentional and unintentional instances of plagiarism are considered instances of academic misconduct and are subject to disciplinary action such as failure on the assignment, failure of the course or dismissal from the university. The NMSU Library has more information and help on how to avoid plagiarism at http://lib.nmsu.edu/plagiarism/.

As programmers, reuse is an essential part of our work. You are welcome to use existing libraries and reuse your own code, but must make certain to appropriate document and provide licenses. You must adhere to any licensing terms and are responsible for any fees for software you choose to license.

### disability notice

Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act Amendments Act (ADAAA) covers issues relating to disability and accommodations. If a student has questions or needs an accommodation in the classroom (all medical information is treated confidentially), contact:

Student Accessibility Services (SAS), Corbett Center, Rm. 244
sas@nmsu.edu; (575) 646-6840; website: http://sas.nmsu.edu.

### discrimination policy

NMSU policy prohibits discrimination on the basis of age, ancestry, color, disability, gender identity, genetic information, national origin, race, religion, retaliation, serious medical condition, sex, sexual orientation, spousal affiliation and protected veterans status.

Furthermore, Title IX prohibits sex discrimination to include sexual misconduct: sexual violence (sexual assault, rape), sexual harassment and retaliation.

Office of Institutional Equity (OIE), O'Loughlin House, 1130 University Ave. equity@nmsu.edu; (575) 646-3635; website: http://www.nmsu.edu/~eeo.