

# GAME 102 – Game Engine

UNM Valencia, Game Design and Simulation

updated 8-21-2017

Fall 2018

Tuesday | Thursday, 12:00pm – 1:20pm

**Instructor: Jonathan Morrison**

[jonmorri@unm.edu](mailto:jonmorri@unm.edu)

Campus Office Hours:    Monday & Wednesday    10:00 - 11:45  
   Tuesday & Thursday    10:00 - 11:45  
   Also by appointment  
   B&T 110  
   Office: 505-925-8722  
   Cell: 575-805-6921

## Course Description

Focus on the different engines and gaming technologies that power the games of today.

## Objectives

- Students will demonstrate visual communication skills through critiques, written explanations, and storyboarding
- Students will be able to create environments in Unreal Engine 4 as well as Unity 5
- Students will be able to navigate the complex game packages
- Students will be able to import their own models and creations into their environments
- Students will be able to apply materials and texture assets in their environments

## Required Text

None

## Student Responsibilities/Attendance/Participation

### Student Responsibilities:

- Students must have basic computer and file management skills for all DMA courses. Custom tutoring services are available through the TLC. Required pre/co requisite is IT 101: Computer FUNdamentals. Students that fall behind due to lack of basic computer skills will be dropped.
- Bring a USB Flash Drive (at least 2 GB) to every class. Make sure it is clearly labeled with your name on it.
- Have a UNM email to access Blackboard:
  - o Students will access supplemental information, class agenda/syllabus, and their grades through Blackboard at <https://learn.unm.edu>. Just enter your NetID and your password. You must set-up a UNM email account (<https://netid.unm.edu>) if you do not already have one.
- If you have a disability, please inform me of your needs as soon as possible to ensure that your needs are met in a timely manner.
- Cell phones need to be muted during class times. If you must receive a call, leave the lab before you answer. No phone conversations in the studio. No web browsing, email, or text messaging during lectures, demos, discussions, or critiques.
- **COMPUTERS WILL BE OFF DURING ALL CRITIQUES!!!**

### Academic Integrity

Having academic integrity is paramount to your success in any class. Plagiarism or cheating is not tolerated. Any instance of this will result in a grade of zero for that assignment. Here is the link to the UNM Academic Dishonesty Policy:

<https://policy.unm.edu/regents-policies/section-4/4-8.html>. The policy states:

*Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or who otherwise fails to meet the expected standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.*

Academic Dishonesty is defined as:

*"Academic dishonesty" includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.*

### Attendance/Participation:

- Students are required to complete all projects on time, participate in scheduled critiques/class discussions/presentations, and maintain a safe, respectable, positive lab environment.
- Students are required to attend class, arrive on time, remain present until the end of class, and be prepared for each day's work. More than three absences without prior consultation may result in a failing grade or a drop from the class. Leaving early or arriving late three times results in one absence.
- If you have not attended class for three consecutive class periods and have made no attempt to call/email/IM/contact me, you WILL be dropped.
- Students who do not attend the first week of class will automatically be dropped.
- Students will need to work a few hours each week in addition to the scheduled class times.
- Starting fall semester; we are doing away with the lab responsibility forms that each student signs when taking a class in the computer labs.

### Computer Lab Responsibility:

- Please be advised that use of computer labs on UNM properties is governed by “Policy 2500: Acceptable Computer Use”
- which can be found at <http://policy.unm.edu/university-policies/2000/2500.html>. Food and drink are also prohibited in any
- computer lab on campus. Anyone violating these policies is subject to possible suspension and loss of computer lab privileges.

UNM Email/Black Board Learn Access:

Beginning Fall 2015 semester, all UNM-Valencia students will need a UNM Net ID which can be created by going to: <http://it.unm.edu/accounts/>. UNM Net ID will give you access to the computer labs on campus, blackboard learn and UNM Email.

**STUDENTS WITH DISABILITIES:**

If you have a documented disability, the Equal Access Services office will provide me with a letter outlining your accommodations. I will then discuss the accommodations with you to determine the best learning environment. If you feel that you need accommodations, but have not documented your disability, please contact Jeanne Lujan, the coordinator for Equal Access Services at 925-8910 or [jmlujan@unm.edu](mailto:jmlujan@unm.edu).

**EQUAL OPPORTUNITY AND NON-DISCRIMINATION:**

In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered “responsible employees” by the Department of Education (see page 15 - <http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf>). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity ([oeo.unm.edu](http://oeo.unm.edu)). For more information on the campus policy regarding sexual misconduct, see: <https://policy.unm.edu/university-policies/2000/2740.html>.

## Grading Policy

Grading:

- Grading is based on a timely completion of course assignments, the quality of individual technical and critical development, conceptual progress, personal commitment and the ability to work in a community studio setting. Personal commitment involves regular attendance, consistent effort, completion of work, participation in presentations, critiques and class discussions, and the general willingness to try. Make each project meaningful to yourself!
- Each assignment will culminate in a presentation, which will consist of discussing your work and/or projecting your completed work in class for all to see. All due dates will be announced on Blackboard, as well as on the syllabus. No full credit will be given for any late work. If an assignment is not presented on time, an automatic 0 will be issued. You will need to make arrangements with me if you are planning to make-up the work, and a fair grade will be issued once the work has been submitted, presented, and critiqued, minus an automatic one letter grade deduction.
- Incompletes are rarely issued. If 75% of the semester’s work/projects/deliverables and participation/attendance have been completed with a satisfactory grade, an incomplete may be issued.

## Grading Breakdown

Projects (5)                                      500 points                      100 points each  
Attendance – 250 points  
Participation – 400 points  
Total possible points 1150

## How to Contact the Instructor

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   B&T 110  
   Office: 505-925-8722  
   Cell: 575-805-6921

### **Email:**

I prefer all email to be from the internal Blackboard class email. I will check this Blackboard email regularly and will respond to all emails within 48 hours if not sooner.

Although less preferred, you can email me at [jonmorri@unm.edu](mailto:jonmorri@unm.edu) In the Subject Line of the email, ALWAYS write your full name and class number. For example – “Jonathan Morrison GAME 205”

## Support Information, Resources, & Tutorials

### **Access to the book:**

- University of New Mexico Valencia Bookstore:
  - o <http://www.unm.edu/~unmvc/Bookstore/Bookstore.htm>
- Library System:
  - o University of New Mexico Valencia Campus Library:
    - <http://www.unm.edu/~unmvlclib/>
      - There will be one copy on reserve. You will need to check it out at the front desk. It will only be available for 2-hour checkout, and cannot ever leave the library.
- Purchase Online:
  - o If you plan on purchasing this book online, you need to do so immediately. We will start using it right away! A couple of sources for purchase online are:
    - Amazon.com: [www.amazon.com](http://www.amazon.com) - some new, some used
    - Half.com: [www.half.ebay.com](http://www.half.ebay.com) - discounted prices for used books!

### **DMA / UNM Valencia Tutoring Services:**

- We are proud to have our very own DMA tutor available for Digital Media Arts specific courses! You can walk-in or if you prefer to make an appointment during these times, please call the Learning Center at 925-8900.
- Custom tutoring services are available through The Learning Center <http://www.unm.edu/~tutor/>. Even online tutoring is available!

### **Other tutorials:**

- I will post a number of links to video tutorials in Blackboard for this course.

**Instructor Support:**

- Please see "How to Contact the Instructor" for methods of contacting the instructor for help.

# Course Schedule

## Tentative Schedule

Dates	Schedule	Projects
<u>Week 1</u>	<ul style="list-style-type: none"><li>• Introductions</li><li>• Review Syllabus</li><li>• Review Blackboard</li><li>• Lecture: Intro</li><li>• Program Overview</li></ul>	
<u>Week 2</u>	<ul style="list-style-type: none"><li>• Unreal Engine 4</li><li>• Lighting</li><li>• <b>Project 1 Consistent Room</b></li></ul>	
<u>Week 3</u>	<ul style="list-style-type: none"><li>• New Sequencer and moving platforms</li><li>• End Goal</li></ul>	<b>Project 1</b>
<u>Week 4</u>	<ul style="list-style-type: none"><li>• Lighting and Particles</li><li>• Packaging</li></ul>	
<u>Week 5</u>	<ul style="list-style-type: none"><li>• Project 2: Platformer game</li></ul>	Project 2
<u>Week 6</u>	<ul style="list-style-type: none"><li>• <b>Project 2 Presentation</b></li></ul>	
<u>Week 7</u>	<ul style="list-style-type: none"><li>• Outdoor Environments</li><li>• Terrain Editor</li><li>• Terrain Material</li></ul>	
<u>Week 8</u> *Fall Break	<ul style="list-style-type: none"><li>• <b>Project 3: Outdoor Oasis</b></li></ul>	Project 3
<u>Week 9</u>	<ul style="list-style-type: none"><li>• <b>Project 3 presentations</b></li><li>• <b>Project 4: Underwater Environment</b></li></ul>	
<u>Week 10</u>	<ul style="list-style-type: none"><li>• Cascade for bubbles and plankton</li></ul>	

<u><b>Week 11</b></u>		Project 4
<u><b>Week 12</b></u>	<ul style="list-style-type: none"><li>• Project 4 Presentations</li><li>• Unity 5</li><li>• Intro to Unity</li></ul>	Project 5 - Final
<u><b>Week 13</b></u>	<ul style="list-style-type: none"><li>• Work Time</li></ul>	
<u><b>Week 14</b></u> *Thanksgiving Break		
<u><b>Week 15</b></u>	<ul style="list-style-type: none"><li>• Work Time</li></ul>	
<u><b>Week 16</b></u>	<ul style="list-style-type: none"><li>• <b>Final Project presentations</b></li></ul>	