# Course Details

**Course ID:** CIT 447: Modeling/Simulation Development – Section 101 – CRN 1674

**Meeting Times:** Tuesday and Thursday, 11AM – 12:15PM

**Location:** Weisburg Family Applied Engineering Complex (WAEC) Rm. 1104

**Course Description:** This is a three (3) credit hour course. This course applies fundamentals of game development to education games or simulations within a virtual world. Explore virtual worlds, basic scripting/modeling techniques and role-playing simulations to teach any concept.

**Prerequisites**: CIT 446: 3D Modeling (or permission)

**Required Texts:** Chandler, H. (2014). *The Game Production Handbook*. 3rd Edition. Burlington, MA: Jones & Bartlett Learning. ISBN: 9781449688097

# Instructor

**Name:** Matthew Mundell

**Office:**  Prichard Hall 208

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**Email:**  [mundell2@marshall.edu](mailto:mundell2@marshall.edu)

**Office Hours:** MWF: 12 – 1PM

TR: 9:30 – 11AM

Or by appointment.

# Objectives

There will be three (3) contact hours of classroom lecture and discussion per week. Coursework will include classroom lectures, assignments, and projects along with in-class discussion.

|  |  |  |
| --- | --- | --- |
| **Learning Outcomes** | **Practice** | **Assessment** |
| Students will explore various types of serious and educational game genres. | In class lecture, discussion, and hands-on examples | Projects 1-3 |
| Students will practice game design and development by creating simulations and interactive models. | In class lecture, discussion, and hands-on examples | Projects 1-3 |
| Students will discover techniques for accurately representing real scenarios in virtual environments. | In class lecture, discussion, and hands-on examples | Projects 1-3 |

# Policies

## Computer Requirements

Course materials will be provided through MUOnline (<http://www.marshall.edu/muonline/>). Class announcements and other communications will be sent using your Blackboard account. You can reach me by emailing me through MUOnline or at my Marshall email ([mundell2@marshall.edu](mailto:mundell2@marshall.edu)). Please use your official Marshall University email address when sending class related communications. It’s good practice to check your email and MUOnline frequently (at least once a day). If you have a smart phone, I encourage you to setup your Marshall account on it so you get notified as soon as possible when you receive email.

We will use the popular game engine Unreal Engine 4 for game development. Unreal is completely free to download and install on your personal computers at <https://www.unrealengine.com/download>. You only have to pay them if you start making money with your games ☺ Please try to use the same version at home that is available on the lab computers for compatibility. Students may opt to use a different engine (probably Unity) for their projects based on extenuating circumstances, just ask me first.

Unreal uses Microsoft Visual Studio as a programming environment, and many of you will already be comfortable with it. Visual Studio 2017 is provided on university computers. As students in the College of Science, you also have access to put this on your personal computers through the Microsoft Imagine Premium program accessible via <http://www.marshall.edu/cos/software/>. Or, simply download the free community edition at <https://visualstudio.microsoft.com/downloads/>.

## Attendance

Attendance is worth 10% of your final grade. Your attendance grade will be reduced for each **unexcused** absence after your 3rd (In other words, you can miss 3 classes before it starts to hurt your grade).

If you miss class, **you are still responsible for all assignments and exams.**  If you have obligations which will cause you to miss an exam and inform me ahead of time OR you provide a University Excused Absence for an exam day, a make-up exam time will be arranged. Otherwise, missed exams will receive a grade of zero (0).

## Grading

Coursework will account for the following percentages of your final grade.

Project 1: 30%

Deliverable 1: Plan 10%

Deliverable 2: Prototype 20%

Deliverable 3: Finished Project 70%

Project 2: 30%

Deliverable 1: Plan 10%

Deliverable 2: Prototype 20%

Deliverable 3: Finished Project 70%

Project 3: 30%

Deliverable 1: Plan 10%

Deliverable 2: Prototype 20%

Deliverable 3: Finished Project 70%

Attendance: 10%

Final letter grades are determined based on the following scale:

90-100% A

80-89% B

70-79% C

60-69% D

0-59% F

The instructor reserves the right to change these values depending on overall class performance and/or extenuating circumstances.

### Submission Guidelines

Assignments will be given and turned in through MUOnline unless otherwise noted. Programming projects should be submitted as a compressed .zip file containing all relevant files, including solution (.sln), source and header files, .exe, and output files if applicable. Submissions should follow the following naming convention:

CIT447\_*LastName*\_*FirstInitial*\_*AssignmentName*.zip

### Assessment of Work

Grading of coursework will primarily be based on correctness and in the case of larger projects, completeness of provided requirements; in other words, if a given program compiles without error and exhibits the required functionality. However, points may also be deducted for redundant or unnecessary code, lack of proper documentation, poor readability (indentation, naming schemes, etc.), lack of robustness (how easily your code can be broken), and warnings or logical errors.

While students are encouraged to help each other learn and study, you are responsible for turning in your own work. If you give or receive assistance to/from another student, please include a comment about it with your submission, or it may be investigated as Academic Dishonesty (see below).

### Late Policy

Unless otherwise noted, all assignments are due by midnight on the provided due date. Assignments turned in late will receive a penalty of **5% off per day late after the first day** (so if you are 5 minutes late there will be no penalty, 1 day late and it will be 5% off, 2 days will be 10% off, etc.). No late work will be accepted after **Friday, December 14**.

If you have trouble understanding something which prevents you from completing an assignment on time, please ask in class, email or visit my office during office hours and I will happily help you. And remember, if you must turn something in late, a few points **and** **the experience** are better than nothing.

## Inclement Weather

Students can find information concerning Marshall’s policy regarding inclement weather regarding inclement weather online via <http://www.marshall.edu/ucomm/weatheremergency-closings/>. Please note that a two-hour delay means that classes that begin at 10:00 a.m. begin on time. Classes that begin at 9:30 a.m. meet at 10:00 a.m. and continue for the remaining period of that class.

## Withdrawal Policy

This course follows standard University policy for withdrawals. The last day to drop this course with a “W” is **October 26.**

## Cell Phones

Please be respectful of others and set your phone to ‘Silent’ or ‘Vibrate’ during class. If you need to take a call, please take it outside.

## Academic Dishonesty

As described in the Marshall University Creed, Marshall University is an “Ethical Community reflecting honesty, integrity and fairness in both academic and extracurricular activities.” Academic Dishonesty is something that will not be tolerated as these actions are fundamentally opposed to “assuring the integrity of the curriculum through the maintenance of rigorous standards and high expectations for student learning and performance” as described in Marshall University’s Statement of Philosophy. A student, by voluntarily accepting admission to the institution or enrolling in a class or course of study offered by Marshall University accepts the academic requirements and criteria of the institution. It is the student’s responsibility to be aware of policies regulating academic conduct, including the definitions of academic dishonesty, the possible sanctions and the appeal process. For the purposes of this policy, an academic exercise is defined as any assignment, whether graded or ungraded, that is given in an academic course or must be completed toward the completion of degree or certification requirements. This includes, but is not limited to: Exams, quizzes, papers, oral presentations, data gathering and analysis, practical and creative work of any kind.

If you are found cheating on projects or plagiarizing answers from the Internet or other sources there will be no second chance. In this course, STUDENTS ARE NOT TO “COPY & PASTE” MATERIAL FROM A SOURCE INTO ANY ASSIGNMENT UNLESS SPECIFICALLY AUTHORIZED BY THE INSTRUCTOR. Your penalty is that you will receive a failing grade for the course. In those cases in which the offense is particularly flagrant or where there are other aggravating circumstances, additional, non-academic, sanctions may be pursued through the Office of Judicial Affairs. Notice of an act of academic dishonesty will be reported to the Department Chair, Dean of the College of Science, and to the Office of Academic Affairs. Please refer to the Marshall University Undergraduate Catalog for a full definition of academic dishonesty.

## University Policy

By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to [www.marshall.edu/academic-affairs](http://www.marshall.edu/academic-affairs) and clicking on “Marshall University Policies.” Or, you can access the policies directly by going to [www.marshall.edu/academic-affairs/policies/](http://www.marshall.edu/academic-affairs/policies/).

*Academic Dishonesty/Excused Absence Policy for Undergraduates/Computing Services Acceptable Use/Inclement Weather/Dead Week/Students with Disabilities/Academic Forgiveness/Academic Probation and Suspension/Academic Rights and Responsibilities of Students/Affirmative Action/Sexual Harassment*

# Schedule

The following is a tentative class schedule with topics and due dates. Please note this may change based on class progress or extenuating circumstances.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Week 1 | T | 21-Aug | Overview and Syllabus |  |
| R | 23-Aug | Serious Games |  |
| Week 2 | T | 28-Aug | Part I: General Production |  |
| R | 30-Aug |  |  |
| Week 3 | T | 4-Sep | Educational Games |  |
| R | 6-Sep |  |  |
| Week 4 | T | 11-Sep | Part IV: Pre-Production | Project 1 Deliverable 1 Due |
| R | 13-Sep |  |  |
| Week 5 | T | 18-Sep | Business, Economic Simulations |  |
| R | 20-Sep | Playtest Day | Project 1 Deliv. 2 Due **(in class)** |
| Week 6 | T | 25-Sep | Part V: Production |  |
| R | 27-Sep |  |  |
| Week 7 | T | 2-Oct | Military Simulations | Project 1 Final Deliverable Due |
| R | 4-Oct | Part III: Teams |  |
| Week 8 | T | 9-Oct |  |  |
| R | 11-Oct | Part VI: Testing | Project 2 Deliverable 1 Due |
| Week 9 | T | 16-Oct | Sports Simulations |  |
| R | 18-Oct |  |  |
| Week 10 | T | 23-Oct | Playtest Day | Project 2 Deliv. 2 Due **(in class)** |
| R | 25-Oct |  |  |
| Week 11 | T | 30-Oct | Artistic Simulations |  |
| R | 1-Nov |  | Project 2 Final Deliverable Due |
| Week 12 | T | 6-Nov | Part VII: Post-Production |  |
| R | 8-Nov |  |  |
| Week 13 | T | 13-Nov |  | Project 3 Deliverable 1 Due |
| R | 15-Nov |  |  |
| Week 14 | T | 20-Nov | Thanksgiving Break – University Closed | |
| R | 22-Nov |
| Week 15 | T | 27-Nov | Part II: Business Information |  |
| R | 29-Nov |  |  |
| Week 16 | T | 4-Dec | Dead Week, Playtest Day | Project 3 Deliv. 2 Due **(in class)** |
| R | 6-Dec |  |  |
|  | R | 13-Dec |  | Project 3 Final Deliverable Due |