# CG 125
# Introduction to 3D Production, Computer Animation (3 Cr.)
# Spring 2015

**Pre-requisite(s):** ART 125 or ART 126
**Instructor: Randy Briley**
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**Teacher's Assistant: Section A: Roland Ocampo, Section B: Tai Gordon,**
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**Room and Time:** **Section A - Meiles**, Monday 9AM - 11:50AM
**Section B - Einstein**, Monday 12:00PM - 2:50PM

## Catalog Description:

This course introduces game design students to current software and production process of 3D animation. The course begins with basic information such as interface organization strategies, equipment options, and production elements. Then it introduces techniques for texture mapping, modeling, rigging, lighting, cameras, and animation. Additionally, it looks at basic interface customization options and strategies in 3D graphics, culminating in a series of applied problems in 3D production techniques.

## Course Objectives:

1. Provide a theoretical and practical overview of 3D creation as it relates to game development and the Computer Graphics (CG) field in general.
2. Develop fundamental understandings and skills in 3D modeling, texture mapping, camera, lighting and rendering.
3. Apply previous knowledge of traditional art & animation skills to the electronic 3D realm in Computer Graphics.
4. Develop professional work habits including establishing effective art pipelines, creating & manipulating 3D objects quickly and efficiently. Solve technical issues as they relate to the 3D creation and production process in a self-directed manner.

## Exit Competencies:

1. Student demonstrates understanding of 3D production process.
2. Student demonstrates basic software skills competency with 3D animation software including basic modeling, texturing, keyframing, and rendering.
3. Student demonstrates understanding of implementation of 3D assets into a game engine.

## Classroom Policy:

1. *Class attendance and participation:* Come on time and come prepared. We expect regular attendance of all students at all classes. Anyone who comes to class unprepared or without the materials to work may be asked to leave and will be marked absent for the day. Class participation is one of the ways you are graded.
2. Every student is expected to behave in a professional manner at all times. Come to class with an open mind, be flexible to change and have the right work attitude. Meet your deadlines and do your homework.
3. CG production, 3D modeling and animation are highly technical endeavors. You will need to develop your ability to solve problems, troubleshoot errors and fix inconsistencies in your work. The best CG productions are made by creative team members that can reliably solve a problem and achieve a desired result in a self-directed manner.

**Late work:**
All work is due one hour before class time. The following penalties will apply to late work:

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|---|---|
| Less than one week late: | **10%** deduction |
| More than one week late: | **40%** deduction |

Two exceptions: medical emergency and death in the family. Both exceptions need to be documented. i.e. a doctor's written note related to your injury/health issue. See Student Services for support if this arises.

**Attendance Policy:**

3 unexcused absences = reduction of final grade, one full grade letter.
4 unexcused absences = class failure

**Grade Scale:**

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|---|---|
| **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** | 60-69% |
| **F** | 59% and below |

**Grading Distribution:**

| | |
|---|---|
| Attendance and Professional Attitude | 10% |
| Class Work and Participation | 10% |
| Homework & Small Projects | 40% |
| Final Project | 25% |
| Exam | 15% |

**Grading Philosophy:**
Evaluation your work and participation is based on professional industry standards. Allowances will be made for the fact that you are new to the software and concepts, however, understanding what is and is not acceptable work in a game development environment is critical to your viability in the workforce.

**A:** Outstanding work, demonstrating a professional level of creativity and skill, completed on time, meeting and exceeding project objectives; displays a positive, enthusiastic attitude, dedication and professional demeanor. Participates in all classroom activities and discussions.
**B:** Excellent work, demonstrating a professional level of creativity and skill in most areas, completed on time, meeting and exceeding project objectives; displays a positive, enthusiastic attitude, dedication and professional demeanor. Participates in most classroom activities and discussions.
**C+:** Above average student level work

**C:** Average student level work. Competent work, completed on time, meeting project objectives; displays an acceptable level of understanding and abilities relating to subject matter. Takes part in classroom activities and discussions.
**C-:** Below average student level work
**D:** Less than satisfactory work. Needs further development. May not meet project requirements. May not demonstrate a professional attitude and dedication to the learning process. Participates in few classroom activities and discussions.
**F:** Unacceptable work.

**Academic Integrity:**

Each student in this course is expected to abide by DigiPen's Student Enrollment Agreement. With the exception of the RTIS project, any work submitted by a student in this course for academic credit will be the student's own work. For the RTIS project, collaboration is allowed though individual performance for completing the assigned tasks will be what is evaluated.

You are encouraged to study together and to discuss information and concepts covered in lecture and the sections with other students. You can give "consulting" help to or receive "consulting" help from such students. However, this permissible cooperation should never involve one student having possession of a copy of all or part of work done by someone else, in the form of an e mail, an e mail attachment file, a diskette, or a hard copy.

Should copying occur, both the student who copied work from another student and the student who gave material to be copied will both automatically receive a zero for the assignment. Penalty for violation of this Code can also be extended to include failure of the course and University disciplinary action. During examinations, you must do your own work.

Talking or discussion is not permitted during the exam, nor may you compare papers, copy from others, or collaborate in any way. Any collaborative behavior during the exam will result in failure of the exam, and may lead to failure of the course and University disciplinary action.

## cg125s_15: Tentative Course Schedule

*May change at the discretion of the instructor to accommodate guest presenter, student needs*

| **Tentative Topics covered by week** | |
|---|---|
| **Week 1** | Course Overview & Maya Interface |
| **Week 2** | Production elements & 3D Modeling |
| **Week 3** | Camera, Lighting and Rendering |
| **Week 4** | 3D Modeling Notions, Parenting/Grouping, Constraints |
| **Week 5** | 3D Animation, Topology and Edge Flow notions for animation, IK, |
| **Week 6** | Materials, Texturing & Unwrapping |
| **Week 7** | Introduction to exporting models and animation to game |
| **Week 8** | Rendering and Lighting, more Material & Texture Notions |
| **Week 9** | Studio time for final project |
| **Week 10** | Animation Review & Rendering Outputs |
| **Week 11** | **Semester Project due –** Exam Preview |
| **Week 12** | Finals Week - **Exam** |