

## **Computer Animation**

Art 384 / Art 649 (3 Credit Hours)

Fall 2008

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### **Course Description and Rationale:**

This is the first 3D animation course at UMBC. In it, students should learn the basics of a computer animation program (currently Maya, but maybe something else someday) and how to get it to make a sequence of frames of an animation.

Students will learn something about all of the steps of making 3D animation: planning, modeling, materials assignments, rigging, animating, lighting, and rendering.

They will also be encouraged to think about these activities as artistic activities, studying related work both ancient and recent.

This is a gateway class. You must make a “B” or better in this class to move on in your AIM classes.

**Textbook:** Learning Autodesk Maya 2008: Foundation, ISBN 978-1-897177-42-6

This is the current book in the “Maya: Foundation” series. I use it, not for its brilliant insights into art and philosophy, but because Autodesk uses it in their Certified Instructor program; it is their standard textbook.

### **Additional Texts, not required:**

There are many, many “Mastering Maya 5” (or 8.5 or 4.5, or 3) books, or “Learning Maya 3.14” and the like, most by Alias, all more or less technically helpful.

The Animator’s Survival Kit by Richard Williams and The Animator’s Workbook by Tony White are fine books on how to do frame animation.

There are many books about the making of movies under the title set “The Art Of ...” (X-Men 3, Monsters Inc.2, Toy Story 12)-- good for knowing the field. Mostly they are advertising. Similarly, movies on DVD usually have “making of” extras that can have interesting information on them, securely embedded in nonsense about the director’s vision and genius. Take with grains of salt.

Maya Visual Effects: The Innovator’s Guide, by Eric Keller- nice, weird tutorials.

Advanced Maya Texturing and Lighting by Lee Lanier- the best guide to the hypershader, texture tools, and the advanced Mental Ray stuff that I’ve found.

Puppetry, by Eileen Blumenthal-- good for inspiration.

**Prerequisites:** Art 341, Introduction to Animation.

**Required Materials:**

If you are going to use computers other than the ones in ENG005 to do your work, you must use Maya 2008. If you used Maya PLE or (somehow) a newer version than Maya 2008, you will not be able to use the lab computers to open your files, which is unacceptable, and, since you've been warned, your fault.

If you insist on using computers outside of ENG005, you take on sole responsibility for maintaining that hardware, even if you do not own it. For example, if you make your final project on your girlfriend's computer, and it crashes, and you lose everything, you get a 0, because you chose to work outside of ENG005.

I recommend owning a digital camera and a flash drive (minimum 1GB). We'll end up using vART disks, but having backup storage and transfer storage is very useful.

**Lab Hours:**

You will have swipe access to the lab, so there are no lab hours.

**Special Assistance Notice (from the *Americans with Disabilities Act*):**

If you have a disabling condition that will require an accommodation in tests or class structure, please advise the instructor or the department accordingly.

**Course Requirements:**

**1) Attendance/Late Policy:** I take roll every day. One of your grades is for attendance. Every time you're absent, I take three points off this grade. Being late is the same as being absent.

To get an excused absence, send me an email no later than 1 hour before the start of class.

No Athlete may miss class for practice in any sport. If any athlete misses a class due to a game, he/she is responsible for contacting the instructor to make up work. One week prior to the class to be missed due to a game, the athlete is to present a form from the Athletic Department with the time and date of the contest signed by either the Athletic Director or the Assistant Athletic Director. If this is not done, the absence is unexcused.

## 2) Academic Integrity

### Plagiarism

Plagiarism is the presenting of others' ideas as if they were your own. When you write an essay, create a project, do a project, or create anything original, it is assumed that all the work, except for that which is attributed to another author or creator is your own work. Word-for-word copying is not the only form of plagiarism.

Plagiarism is considered a serious academic offense and may take the following forms:

- Copying word-for-word from another source and not giving that source credit.
- Cutting and pasting from internet or database sources without giving that source credit.
- Paraphrasing the work of another and not giving that source credit.
- Adopting a particularly apt phrase as your own.
- Reproducing any published or copyrighted artwork, both fine and commercial.
- Digitally duplicating or downloading any copyrighted software, programs, or files.
- Paraphrasing another's line of thinking in the development of a topic as your own.
- Receiving excessive help from a friend or elsewhere, or using another project as your own.

[Adapted from the Modern Language Association's *MLA Handbook for Writers of Research Papers*. New York: MLA, 1995: 26.]

**Bottom Line:** If you wish to use work that it not your own, give attribution.

### Evaluation:

Technical proficiency gets a B; good art gets an A. We are responsible, not only to the demands of academia, but to the demands of the industry. If you get an "A" in this class, for work that can't get you a job, I have failed you.

All assignments are weighted equally.

**1) Presentations:** there will be 2 writing assignments.

**2) Projects:** There will be 5 projects. Each one counts equally toward your final grade.

I am very particular about how you should turn things in. Please take seriously the description of how to turn in your work; it costs me, time, and you, points, otherwise. I regard grades as pay for the work you give me. I don't expect you to work for no pay.

**3) Tests/Homework:** There will be a mid-term.

## Tentative Schedule

Week of:

- Aug 27 W: Intro, Syllabus, 3D concepts, **Project A assigned: Primitive person.**
- Sept 1 M: Memorial Day; stay home.  
W: 6 steps to making an animation. **Writing Assignment 1.**
- Sept 8 M: The Graph Editor  
W: outliner and camera animation
- Sept 15 M: Animation, review of first pass  
**Project A due-- critique. Project B assigned: Moe and Joe**
- Sept 22 W: previews, play-blasting, frame rates  
M: animation practice, industry discussion  
**Writing Assignment 1 due.**  
W: Industry discussion. Sept 29  
M: Polygons: vertex pulling, selection modes, face operations  
W: turning frames into movie files in AfterEffects.
- Oct 6 M: **Mid-Term.** First aid on Project B.  
W: polygons: operations on faces.  
**Project B Due-- critique. Project C assigned: Polygonal Model.**
- Oct 13 M: troubleshooting polygons  
W: NURBS modeling A: lines, points, lofting, revolution.
- Oct 20 T: NURBS modeling B: modifying and combining.
- Oct 27 M: dynamics, car crashes  
W: using rigged characters
- Nov 3 M: from groups to rigs  
**Project C Due, project D assigned: Polygonal Model.**  
W: more rigging
- Nov 10 M: modeling first-aid  
W: lighting: goals and tools
- Nov 17 M: lighting practice and troubleshooting  
W: Polygons review and stress-fest
- Nov 24 M: Lab and troubleshooting.  
**Project D due, project E assigned: TBA**  
W: Thanksgiving break.
- Dec 1 M: Rigid body demo  
W: Lighting first aid.  
**Writing Assignment 2: Cover Letter**
- Dec 8 M: Last class
- Dec 10 W: Study Day, no Class
- Dec 15 M: **Likely date of final exam, probably 10AM**