

Spring Quarter 2009 Syllabus

Course # Course Name: CA2439 Introduction to 3-D Animation

Meeting Times and Location: Mondays and Wednesdays, 11:00AM – 2:00 PM, with appropriate breaks, Room 231

Instructor Name & Contact Information: Steve Paul
612.965.1816
sdpaul@aii.edu
My mailbox is in room 341, in the cubby under my last name.

Office Hours: Tuesdays and Thursdays 2:00PM – 3PM, Room 303, and by appt.

Course Description: Building on the skills acquired in 3D modeling, students learn to animate and apply the principles of animation in a computer environment. Students are also introduced to concept of rigging and setting up their model for animation. Prerequisite CA2429.

Course Length: 11 Weeks

Instructional Contact Hours: 60 (20-lecture, 40-lab)

Credit Value: 4 Credits

Course Competencies:

The student will:

Create and/or transform objects in a 3D environment

- *Identify the fundamental animation features and function devices in the 3D animation software package used*

- *Transform a 3D model using motion and time*

Apply traditional animation techniques to 3D animation

- *Integrate the 12 Principles of Animation*

- *Set up hierarchical relationships*

- *Develop an animation that utilizes cycles*

Apply industry-standard storyboard and scripting techniques to animation

- *Create a storyboard for a brief animation project*

- *Produce animation based on the storyboard for the project*

Identify camera techniques in computer animation

- *Apply basic camera and light techniques to 3D animation*

Analyze real world observation and apply to animation

- *Utilize industry-standard blocking techniques in the pre-planning process*

Required Materials:

Recommended:

Webster, Chris Animation: The Mechanics of Motion Focal Press, 2005, ISBN 978-0240516660

Williams, Richard The Animators Survival Kit New York: Faber & Faber 2002 ISBN 0-571-20228-4

Johnston, Ollie and Thomas, Frank, The Illusion of Life: Disney Animation, Disney Editions, 1995, ISBN 978-0786860708

Whitaker, Harold and Halas, John, Timing for Animation, Focal Press, 1981----2006, ISBN-13: 978-0240517148

Technology Needed: *Portable hard drive or similar backup device, access to a video camera, 3DS Max 2009, Photoshop CS3, properly equipped PC.*

Instructional Methods & Resources: This course will challenge you to develop professionally-relevant knowledge and skills. Course information will be presented in many forms, including lecture, class discussion, demonstration, case studies, simulations, field projects, and studio or lab projects. Students will use library and community resources, including research and reference materials, gallery exhibitions, industry events, and guest speakers. Materials can be obtained from other libraries using the interlibrary loan program.

Estimated Homework Hours: At least 4 hours per week. There is no way to anticipate how many hours it takes to come up with a great idea, so get your work done early. Procrastination will not help you!

STUDENT EVALUATION AND GRADING

Successful professionals require a supportive environment. In-class discussions and/or critiques of other students' work and ideas is a chance to help each other grow as conceptual and critical thinkers.

Student Evaluation:	Course Activities	Points Available
	Bouncing Balls	70 pts
	Crane, Claw and Balls	80 pts
	In-class exercises	150 pts
	Character Walk	250 pts
	SNAFU scene	300 pts
	Class participation	200 pts
		Total: 1000 pts

Points Distribution	GRADING SCALE		MILESTONE: This is a milestone course for Animation students. This means students must earn a final grade of C or better to pass.
Bouncing Balls 7%	A	100 – 93%	
Crane, Claw and Balls 8%	A-	92 – 90%	
In-class exercises 15%	B+	89 – 87%	
Character Walk 25%	B	86 – 83%	
SNAFU scene 30%	B-	82 – 80%	
Class participation 20%	C+	79 – 77%	
	C	76 – 73%	
	C-	72 – 70%	
	D+	69 – 67%	
	D	66 – 60%	
	F	Below 60%	

The academic programs at Art Institutes International-Minnesota are designed to prepare you for your future career. Your future will be wrought with deadlines and time clocks, so this class will require real world punctuality. If you are absent or late for class, you will not be able to make up points associated with in-class activities, including quizzes, tests, presentations, and critiques. Tardy students are responsible for making their presence known to the instructor at an appropriate time. (See the Attendance Policy below for more information.)

Homework and other preparatory work must be done before class meets and is due immediately at the beginning of class, unless the instructor publishes other requirements.

A WORD ON DEADLINES - Late work is not acceptable. In the business world, deadlines are rarely pushed back. Work submitted after deadline will earn 0 points. Your instructor may make an exception in cases of severe personal illness or death in the family. Technology, transportation, relationship, and childcare problems are not the basis for an exception.

Because group effort may be required, attendance is mandatory. Unexcused absences will result in a lower grade. Excused absences may be permitted, but students are expected to let the instructor know in advance. If you miss a particular class, it is also your responsibility to contact a peer (or peers) to get notes and any assigned work.

You may be evaluated individually and as a member of a team on a variety of learning experiences. Different testing methods afford you diverse opportunities to demonstrate your skills and knowledge, including field assignments, tests, presentations, papers, projects, quizzes and more. Final grades will be determined by scores on your individual assignments, assessments, and classroom participation. Your final grade may also be influenced by group-based activities.

If you disagree with a grade in this course, you may take these steps:

- Step 1. Make an appointment with me to discuss your situation. Bring your graded work, the assignment sheet and this syllabus to the meeting. If you feel the issue is not fully addressed, proceed to
- Step 2. Submit a written appeal to me, explaining why you believe your grade is wrong. You should justify your opinion with information from the assignment sheet and/or syllabus. If you feel the issue is not fully addressed, proceed to
- Step 3. Make an appointment to discuss your concerns with your Academic Director. If you feel the issue is not fully addressed, proceed to
- Step 4. Submit a written account to the Dean of Academic Affairs. The written account should indicate your name, phone number, and ID#, and discuss the steps you have taken to remedy the situation. The Dean may convene an appeals committee. Be prepared to produce your graded work, the assignment sheet and this syllabus.

ACADEMIC POLICIES

Discrimination Policy

It is AI Minnesota policy not to discriminate against qualified students with documented disabilities in its educational programs, activities, or services. If you have a disability-related need for adjustments or other accommodations in this class, please contact Becky Lothe, 612-656-6866, rlothe@aii.edu, or visit Becky in Pence room 209. Any accommodations will be authorized by Becky—no exceptions.

Attendance

Regular, on-time attendance is both courteous and professional. The Art Institutes International Minnesota expects students to demonstrate professionalism by attending all classes as scheduled, arriving on time, and remaining for the full duration of the class. Outside employment should not be scheduled during class hours.

Students should be aware that even if there is no “attendance” grade per se for a class, it is difficult to succeed in class without regular, on-time attendance. Individual faculty may determine the impact, if any, of absences on grades. The Art Institutes International Minnesota supports the attendance policy for each class as it is described in the syllabus. The full AiM attendance policy is found in the Student Handbook.

Academic Dishonesty

At the Art Institutes International Minnesota, plagiarism is a cumulative offense; each act of plagiarism is documented in the student’s academic record until degree completion. Violations of this policy will be handled in accordance with the disciplinary procedures outlines in the Student Code of Conduct Policy.

Examples of plagiarism include paraphrasing an original document or piece(s) of an original document and not citing the original author's name and publishing year, using direct quotes from an original document and not citing the original author's name and year, and using written documents, still or moving images, original ideas, research information, audio samples and music clips, and failing to cite the original author's name and publishing year.

Cheating is the action to deceive or alter the perception regarding the author or originator of student work and is a violation of the Student Code of Conduct. Cheating includes the duplication of written or electronic assignments, exams or documents either in whole or in part and submitted as an original piece of work; the exchange of answers with others either giving answers or receiving answers during an in-class assignment, test or exam, or take-home assignment or exam.

Typical disciplinary sanctions for a first offense of plagiarism or cheating includes automatic failure of the assignment/exam with no opportunity to re-do or make up the plagiarized/cheating work. Sanctions for the second offense include automatic failure of the course. Subsequent incidents will result in dismissal from the school. [From the 2008/09 AiM Student Handbook section on Academic Integrity, beginning on page 35.]

CLASSROOM COURTESIES AND PROFESSIONAL EXPECTATIONS

Collaboration and Communication

The learning environment should provide a business-like approach to getting the job done, so any behavior that would be deemed as inappropriate for the typical work environment will put the student at risk. Examples include disrespectful language, passive-aggressive behavior, lack of commitment to personal or team success, and any other behaviors that disrupt the learning environment for other students. Additionally each team member is responsible for the academic integrity of the group.

YOU MUST USE YOUR SCHOOL EMAIL ACCOUNT, or forward your school email to another personal account. You must be able to accept and respond to email on a daily basis.

Academic Resources

YOU ARE ACCOUNTABLE FOR REQUIRED ACADEMIC SKILLS. Successful students possess course-appropriate reading comprehension, critical thinking, research, writing, presentation, and communication skills. If you or your instructor determine that you have a need for additional resources beyond those offered in class, there are several options available to you.

- **The Academic Achievement Center** is located in room 320 (across from the Academic Advising office). The Academic Achievement Center houses peer tutors in program areas and general education.
- **The Interior Design Skills Center** houses Interior Design peer tutors and general education. The Skills Center is located in room 011, in the basement of the LaSalle building.

Peer tutors assist students with subject/content area academic support, as well as, study skills and organizational tips. Peer tutors are current AIM students in good academic standing-(a CGPA of 3.5) with a desire to assist others in their academic progress. All peer tutors receive mandatory tutor training.

Students (tutees) who seek academic support may visit each of the centers to receive tutoring assistance in a wide variety of subject areas. Each tutor schedule (located outside of the center door) identifies the tutor and their specific areas of expertise. Some Peer tutors also serve as Teaching Assistants, where their role is to work alongside an instructor during lab/group hours of a class.

- **Academic Advising** is located in room 316 in the LaSalle building. Academic Advisors are available to assist you in identifying areas or patterns of academic weaknesses, and to put into place any support resources a student may need.

You are also responsible for executing tutorial recommendations made by your instructors. Remember, your instructors and Academic staff are here to help you find the resources you need.

- **The Library** is located on the second floor in the LaSalle building. The library is open 79 hours per week and is currently processing an average of 5,000 circulation transactions per month. The collection is comprised of books, newspapers, journals and magazines, videos, DVDs, and CDs that support the curricula. The collection currently numbers over 23,000 volumes with and an additional 189 periodical subscriptions. Materials also include royalty-free music/sound effect CDs, art history and interior design slides, and copies of computer software manuals utilized within the College. Textbooks and reserve materials are available for in-house use, and many academic and industry databases are available, including WilsonWeb, Proquest, AccuNet / AP, Gettyimages, Electronic Library for Minnesota, Grove Art Online, Hoover's Online and Oxford Reference Online.

Student Life

The Student Affairs Office is located in room 209 in the Pence building. There you can find information, services and program that can help you to extend and integrate academic content and life experiences.

Community Resources

This course will engage community resources, including local libraries, galleries, exhibitions, guest speakers and industry tours. Your active participation is important and expected.

Add Other Items to Note:

Weekly Course Schedule
 This schedule is subject to change!

The instructor reserves the right to make changes to the syllabus and weekly breakdown. Students will be notified of any changes as soon as possible.

Week	Day 01	Day 02
01	<p>Hour 1: Demonstration/Review of Animating in 3DS Max, use of modifiers, and Curve Editor. Bouncing Balls assignment given.</p> <p>Hours 2 & 3: work on creating a simple bouncing ball animation in 3DS Max.</p>	<p>Hour 1: Demonstration/discussion on incorporating squash & stretch, arcs, and timing in 3D. Rendering animation in 3DS Max.</p> <p>Hours 2 & 3: work on Bouncing Ball project.</p>
02	<p>Hour 1: Demonstration of the use of modifiers, constraints, trajectories, ghosting and key frame interpolation within 3DS Max. Using arcs, timing, ease in & out to achieve believable physics.</p> <p>Hours 2 & 3: work on finishing Bouncing Ball assignment.</p>	<p>Hour 1: Bouncing Ball assignment due, presentation of projects, group critique and discussion of problems and solutions.</p> <p>Hour 2: Introduction of the Crane and Balls project.</p> <p>Hour 3: Work on Crane project.</p>
03	<p>Hour 1: group discussion of meaning and incorporation of the principles of overlap and follow-through in 3D. Demonstration of Link Constraint, Hierarchy panel tools, basic Forward Kinematic rigging.</p> <p>Hours 2 & 3: work on Crane project.</p>	<p>Hour 1: Discussion of problems and solutions in linking and Forward Kinematics.</p> <p>Demonstration of various methods of animating a water balloon; using Stretch, FFD, Link Xform, and Skin modifiers</p> <p>Hours 2 & 3: work on Crane project.</p>
04	<p>Hour 1: Discussion on incorporating secondary action principles in 3D. Demonstration on the use of Space Warps in deforming mesh. Demonstration on creating manipulators and wiring parameters.</p> <p>Hours 2 & 3: Finish work on Crane project.</p>	<p>Hour 1: Crane project due. Small group peer critique, presentation of exemplary work to the larger group for feedback.</p> <p>Hour 2: Introduction of the IK Character Walk project. Demonstration of basic Inverse Kinematic leg rig.</p> <p>Hour 3: Work on creating a simple IK leg rig and develop a basic six step walk.</p>

Week	Day 01	Day 02
05	<p>Hour 1: Review of rigging bipedal legs with Inverse Kinematics. Demonstration of the deeper levels of working with Bones systems and IK. Using Helper objects and Controllers to add functionality to a rig. Three Walks in-class assignment given.</p> <p>Hours 2 & 3: Work on animating neutral, male and female walks using only the lower body.</p>	<p>Hour 1: Discussion of Acting & Character Intention in animation. Examination and analysis of “real world” footage of people walking. Discussion of the “20 Questions” of character through walk analysis.</p> <p>Hours 2 & 3: Introduction of the “Walking with Character, Upper Body” in-class assignment. Continued work on Three Walks.</p>
06	<p>Hour 1: Three Walks project due, small group peer critique, presentation of exemplary projects to the whole class for feedback and critique.</p> <p>Hour 2: Demonstration of rigging a simple Forward Kinematics system for the upper body.</p> <p>Hour 3: Work on incorporating, developing and refining the upper body into character walks.</p>	<p>Hour 1: Walking with Character, upper body project due. Small group peer critique, presentation of exemplars for whole class feedback.</p> <p>Hour 2: Demonstration of alternate methods of upper body rigging.</p> <p>Hour 3: Work on IK Character Walk project.</p>
07	<p>Hour 1: Discussion and demonstration of incorporating walking, weight transfer & Camera movement.</p> <p>Hours 2 & 3: Work on IK Character Walk project.</p>	<p>Hour 1: IK Character Walk project due, peer critique, exemplar presentation for entire class feedback.</p> <p>Hour 2: “SNAFU” project explained and given.</p> <p>Hour 3: Work on storyboards for “SNAFU”</p>
08	<p>Hour 1: Demonstration of rigging for mesh deformation bone influence.</p> <p>Hours 2 & 3: Begin staging of “SNAFU”, finalize Character Walk revisions.</p>	<p>Hour 1: IK Character Walk project revision due. Small group peer critique. Presentation of “most improved” project from each group.</p> <p>Hour 2: Review and clarification of mesh deformation using Skin.</p> <p>Hour 3: Work on SNAFU.</p>
09	<p>Hour 1: Demonstration of wiring specialty rigs, bone influence weight distribution. Skinning in-class assignment given.</p> <p>Hours 2 & 3: Work on Skinning assignment and SNAFU.</p>	<p>Hour 1: Skinning assignment due, discussion and sharing of problems and solution insights.</p> <p>Hours 2 & 3: Work on SNAFU.</p>

Week	Day 01	Day 02
10	Hour 1: Discussion of analyzing movement, acting and shot composition. Hours 2 & 3: Working on SNAFU.	Hour 1: SNAFU rough draft due, small peer group critique. Large group presentation for feedback. Hours 2 & 3: Work on SNAFU.
11	Hours: 1-3: Individualized conferences	Hours 1 – 3: SNAFU project due, presentation, feedback and review.