



## THE ILLINOIS INSTITUTE OF ART TINLEY PARK

### Course Syllabus: Media

**Course Title:** Advanced Lighting & Texturing  
**Course Number:** MAAB313

**Class Meetings:** Mondays & Wednesdays  
**Session/Year:** Winter 2015

**Instructor Name:** Allen Tieri  
**Email Address:** atieri@aii.edu  
**Instructor Availability Outside of Class:** Upon request)

#### Advanced Lighting & Texturing

**Course Description:** In this class students will continue their exploration of and expand on their knowledge of materials, textures, lighting and rendering strategies to add detail and realism to objects without adding complexity to the model. Students will simulate real world surfaces and textures.

**Prerequisite(s):** *Material and Lighting*

**Corequisite(s):** *None*

#### **Instructional Contact Hours/Credits:**

*(Please insert the number of weeks, hours, lecture hours, and lab hours the class meets. This must match the language in your catalog.)*

**Course Length:** 11 Weeks  
**Contact Hours:** 66 hours  
**Lecture:** 33 hours  
**Lab:** 33 hours  
**Credit Values:** 4.0 Credits

#### Quarter Credit Hour Definition:

A quarter credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than:

- (1) One hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for 10-12 weeks, or the equivalent amount of work over a different amount of time; or

(2) At least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

### **Media Objectives**

- Industry knowledge: graduates will accurately use marketing and management terminology, principles, and concepts to analyze and meet client needs.
- Technology: Graduates will demonstrate proficiency with common business computer programs including inventory management, presentation, spreadsheet, and Web software.
- Planning and problem-solving: Graduates will demonstrate the ability to plan and analyze key marketing and management processes, including an ability to analyze, formulate and implement innovative solutions.
- Communication: Graduates will demonstrate professional oral, written, and visual communication skills and organizational skills according to industry expectations.
- Context: Graduates will understand the broader context of their professional knowledge in relation to history, literature, mathematics, psychology, economics, culture, U.S. and international law and policies, and the history of design and typography.
- Professionalism: Graduates will have developed an appropriate professional demeanor, an understanding of the nature and culture of the profession, an understanding of possible careers and career paths, and a clear understanding of professional ethics and standards.

#### ***Demonstrate principles in lighting theory***

- Utilize HDR images
- Employ multi-pass rendering techniques
- Demonstrate the layering of light in space to create mood, emotion and theme

#### ***Utilize lighting in a 3D package***

- Match CG lighting to live action images
- Demonstrate proficiency with various lighting algorithms and techniques

#### ***Evaluate rendering solutions***

- Apply optimal rendering solutions
- Utilize various rendering techniques

#### ***Implement comprehensive shading networks***

- Create comprehensive shading networks
- Analyze real world surfaces

### **Instructional Materials and Reference:**

**Textbook(s):**

*Digital Lighting & Rendering. Jeremy Birn. Publisher: New Riders Press, ISBN: 0321316312 978-0321316318*

**Technology Needed:** P Either Window computers running XP or Macintosh computers running MacOS10.x with an Internet connection, printers, software including image manipulation, digital painting, 3D, & virus utilities. Students should have removable hard or flash drive for personal file storage.

**Instructional Methods:** (Instructional methods include, but are not limited to simulations, case studies, discussion, group work, questioning, presentations, journals, individual projects, etc.)

**Basis for determination of final grade**

<u>Grading Scale</u>	
93-100%	A
90-92.9%	A-
87-89.9%	B+
83-86.9%	B
80-82.9%	B-
77-79.9%	C+
73-76.9%	C
70-72.9%	C-
67-69.9%	D+
63-66.9%	D
Below 63.0%	F

**Instructional Methods:**

Class Participation - is affected by attendance but also credited by contributing to in-class discussions, presentations, critiques and critiquing.

Assignments - included in this grading block are: homework assignments, lab-work, quizzes, group projects, and presentations.

Mid-Quarter Exam/Project & Final Exam/Project - Both Mid-Quarter and at the end of the quarter you will have either an exam, project or combination of both depending on what is appropriate.

**Student Evaluation/Grading Policies:**

The evaluation process is described below and—like this syllabus—is subject to change by the instructor discretion. Any changes will be announced in class. Students are encouraged to consult the instructor on any/all explanation(s) of each project/exam grade acquired.

Details on all assignments, projects, quizzes and exams will be made available in your eCompanion as well as discussed in class. Students are encouraged to consult the instructor on any/all explanation(s) of each assignment or project grade acquired. If you are absent from a class, it is your responsibility to secure missing notes and/or assignments, and it is highly recommended that you develop a buddy system for contacting fellow classmates regarding missing material(s).

ALL projects will have a DEADLINE and PROJECTS MUST BE HANDED IN ON TIME OR YOU WILL RECEIVE NO CREDIT. LATE WORK WILL NOT BE ACCEPTED. You cannot miss a deadline in the real world, and you will not be allowed to extend a deadline in class. Attaching any project to e-mail will not be accepted unless given permission by the instructor.

All work in this course must reflect your own efforts. While group collaboration is encouraged a student must clearly demonstrate personal competence and individual expression in all assignments.

### **Plagiarism Policy**

Plagiarism is the act of obtaining credit for work by dishonest, deceptive, or fraudulent means. It is the act of taking ideas, words, images or specific substance of another and offering these as one's own.

The Tinley Park campus has a strict policy against plagiarism:

Academic Failure: the student may receive an "F" for the course for a second offense of plagiarism.

Suspension or Dismissal: the student may be suspended or dismissed from the college for a third offense against the plagiarism policy.

The use of copyrighted materials including the use of celebrities and athletes is strictly prohibited.

### **Classroom Policy:**

Doors will close 15 minutes after the start of class and will not open again until mid-class break point. During breaks you will be expected to manage your time and take advantage of food/beverages and bathroom use. Students are to remain seated during class until the break or instructor dismissal. In case of an emergency you must notify your instructor before leaving the classroom.

### **In-Class Behavior:**

You are expected to be respectful and courteous to your fellow students and instructor. The following behaviors will not be tolerated in the classroom and you may be asked to leave if you do not comply:

- Disrupting classmates i.e. being overly talkative, talking loudly, foul language and etc...
- Using computers for entertainment i.e. Watching movies, playing video games, listening to music without headphones and etc...
- Using cell phones/unauthorized personal device usage
- Sleeping
- Working on assignments for other classes.

During lab hours students must work on the current class assignment to continue their education through applied practice. (If a current class project is completed before the assignment's due date the student will use the class time to further develop the project.

**Student Art Work:** Is to be completed with the highest standard of integrity, Just meeting the standards will earn you a "B" However, going above and beyond will award you an "A"

**Attendance Policy:** The student is expected to attend all classes as scheduled, to be on time and to remain in classes for their full duration. There are no excused absences. All courses in Media, Design or Fashion programs and General Education courses are limited to 32% absenteeism. For example a 4-hour per week course would equal 14 hours of absenteeism, and a 6-hour week course would equal 21 hours of absenteeism. Exceeding these limits could result in an attendance withdrawal or a failing final grade. For Culinary, all lab classes are limited to 10% absenteeism and all lecture classes are limited to 20% absenteeism. This equals 6 hours for a three-hour-per-week course and 18 hours for an 18-hour-per-week course. Additionally, after your third absence you will degrade down one whole letter grade, i.e. and "A" would degrade down to a "B" and so on.

Exceeding these limits could result in an attendance withdrawal or a failing final grade.

Missed time includes accumulated time marked as "tardy" from class, as well as total absences from classes and any classes missed during the schedule adjustment period. Absence in all scheduled courses for two consecutive weeks will result in an Attendance Suspension from the college. Attendance withdrawal accompanied by an unsatisfactory SAPP or ICR status may also result in dismissal.

**Conduct Code:** Each student is responsible for adhering The Illinois Institute of Art Code of Student Conduct (as stated in the college catalog), which notes, in part, that: "The Illinois Institute of Art reserves the right to suspend or terminate any student who:

- Displays conduct detrimental to the training environment within the classrooms
- Displays conduct detrimental to the well being of fellow students and/or faculty and staff members within ILIA or at any Illinois Institute of Art sponsored activity or facility
- Causes damage to the appearance or structure of ILIA or housing facilities and/or equipment therein
- Who copies or otherwise plagiarizes the artwork or assignments/projects of other students or professionals
- Who otherwise displays conduct detrimental to his or her own academic progress or ultimate success in the field for which he or she is being educated

### **Disability Services**

The Illinois Institute of Art-Tinley Park provides accommodations to qualified students with disabilities. The Disability Services office assists qualified students with disabilities in acquiring reasonable and appropriate accommodations and in supporting equal access to services, programs and activities at Illinois Institute of Art-Tinley Park.

Students who seek reasonable accommodations should notify the Disabilities Services Coordinator Sara Spiegel, Student Support and Disability Services Coordinator, at 312-777-8616 of their specific limitations and, if known, their specific requested accommodations. Students will be asked to supply medical documentation of the need for accommodation. Classroom accommodations are not retroactive, but are effective only upon the student sharing approved accommodations with the instructor. Therefore, students are encouraged to request accommodations as early as feasible with the Disability Services Coordinator to allow for time to gather necessary documentation. If you have a concern or complaint in this regard, please contact the Dean of Student Affairs in Room 249 or call 708- 781-4031. Complaints will be handled in accordance with the school's Internal Grievance Procedure for Complaints of Discrimination and Harassment.

### **Equal Education Opportunity Policy**

The Illinois Institute of Art-Tinley Park does not discriminate or harass on the basis of race, color, national origin, sex, gender, sexual orientation, disability, age, religion, genetic marker, or any other characteristic protected by state, local or federal law, in our programs and activities. The following person has been designated to handle inquiries and coordinate the school's compliance efforts regarding the non-discrimination policy: Dean of Student Affairs at 708.781.4031.

### **Tutoring:**

Tutoring is available, free of charge, by calling 708-781-4080 or [adewey@aii.edu](mailto:adewey@aii.edu) to setup an appointment.

## Suggested Weekly Outline

- Week 1:** Discussion of lighting and texture mapping techniques. Demonstration of UVW mapping. Basic 3-point lighting review.
- Week 2:** Creating multi-sub object and blend materials. Add complexity to simple geometry with texture.
- Week 3:** Projection mapping. Lighting a scene with global illumination. Light a basic scene using global illumination.
- Week 4:** Creating reflective materials. UVW unwrap. Unwrap a texture and fit to model.
- Week 5:** Opacity mapping. Creating multi-layered materials. Make a basic shape look photo-real utilizing complex mapping techniques.
- Week 6:** Displacement mapping vs. bump mapping. Ambient occlusion mapping.
- Week 7:** Using high dynamic range (HDR) maps to light a scene.
- Week 8:** Simulating sunlight and artificial light. Light an exterior and interior scene. Create a fully textured and lit scene for final.
- Week 9:** Normal mapping. Work on final scene.
- Week 10:** Continue work on final scene.
- Week 11:** **FINAL SCENE DUE.** In-class critique.

Last Reviewed: 1/09/2015

I, \_\_\_\_\_

hereby acknowledge that I have received, reviewed and understand the syllabus and the expectations and requirements of MAA 313 – Advanced Lighting & Texturing.

**Signature:**\_\_\_\_\_

**Date:**\_\_\_\_\_