

THE ART INSTITUTE OF TAMPA
A BRANCH OF MIAMI INTERNATIONAL UNIVERSITY OF ART & DESIGN

MISSION STATEMENT

Miami International University of Art & Design is a multi-campus, career-oriented institution that provides students with academic preparation and practical skills through programs in the applied arts and design industries. The institution prepares its undergraduate students for entry-level positions and its graduate students for advancement in their chosen fields. The University is dedicated to fostering a culture that encourages creativity, research, and learning-centered endeavors.

COURSE SYLLABUS

Course Number: MAAA353
Course Title: Technical Visualization
Class Meetings: **Thursday 1PM – 5PM**
Session / Year: **Fall 2017**
Instructor Name: Krishna Sadasivam
Email Address: krishna.at.ait@gmail.com
Telephone:
Office Hours: **posted on sivamstudios.com/ait**

Course Title: **Technical Visualization**
Course Description: In this course students will create detailed visualizations of engineered objects and spaces. Students also learn to illustrate physical effects of lighting, textures, and movement for animation and visualizations.

Course Length: 11 weeks
Contact Hours: 44 hours
Credit Values: 3 credits
Estimated Homework: 10 hours per week

Quarter Credit Hour Definition: A quarter hour of work is the equivalent of fifty (50) minutes of class time (often referred to as a “contact hour”) of instruction per week over the entire term. The credit hour is the unit by which the university measures its course work. The number of credit hours assigned to a course quantitatively reflects the outcomes expected, the mode of instruction, the amount of time spent in class, and the amount of outside preparatory work expected for class. The working understanding is that for every hour a student spends in class, the student will be assigned two hours of work outside the class.

Prerequisite(s): **Hard Surface and Organic Modeling**

Learning Objectives:

Upon successful completion of the course, the student should be able to:

Develop a true-scale 3D model from technical reference materials

- Research the constructive anatomy of object creation
- Interpret detailed mechanical drawings of components that are critical to the proposed design including all essential dimensions and tolerances
- Define scale within the environment
- Create detailed models
- Generate shaders that emulate real world surfaces

Generate professional quality renders

- Create photometric lighting setups that replicates various times and environmental conditions
- Communicate technical information through animation sequences that illustrate object and space

Instructional Materials and Reference:

Textbook(s): How to Draw: Drawing and Sketching Objects from Your Imagination, Scott Robertson

Technology Needed: 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.)

Grading Scale:

All assignments must have clear criteria and objectives. All students shall be treated equitably. It will be every student's right to know his or her grade at any reasonable time he or she requests it. The criteria for determining a student's grade shall be based on a percentage of total points, as follows:

93 – 100%	= A
90 – 92%	= A-
87 – 89%	= B+
83 – 86%	= B
80 – 82%	= B-
77 – 79%	= C+
73 – 76%	= C
70 – 72%	= C-
65 – 69%	= D+
60 – 64%	= D
0 – 59%	= F

**Student Evaluation /
Grading Policies:**

The following assignments, projects, and exams fulfill the learning objectives for this course:

Project 1:

Reference and research	100
3D Basic Blocking / Lighting / Shading Studies	100
Pencil rendered layouts	100
Color Flats	100
Final Deliverables	200

Project 2:

Reference and research	100
3D Basic Blocking / Lighting / Shading Studies	100
Pencil rendered layouts	100
Color Flats	100
Final Deliverables	200

**Electronic Submission of
Assignments:**

Any assignments submitted to the instructor as electronic attachments to an email are the responsibility of the student. Instructor will acknowledge the receipt of the email to the student within 24 hours of receiving it. If the student does not receive an acknowledgement within 24 hours it is the student's responsibility to contact the instructor, otherwise it is assumed that the assignment has not been sent.

Students with Disabilities:

The University provides accommodations to qualified students with disabilities. The Student Affairs office assists qualified students with disabilities in acquiring reasonable and appropriate accommodations and in supporting equal access to services, programs and activities at the University.

Students who seek reasonable accommodations should notify the Dean of Student Affairs 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 Dean of Student Services 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. Complaints will be handled in accordance with the school's Internal Grievance Procedure for Complaints of Discrimination and Harassment.

Course Attendance:

The University expects students to attend all scheduled meetings of each course. Students should be prepared to start the quarter on the first day of classes and to add/drop courses early in the first week of the quarter to minimize absences. Absences accrue against the student even if the student was not originally registered for the class but adds it after the start of classes.

Students who do not attend any of their classes during the Add/Drop will be withdrawn from the University. They must contact the Assistant Director of Readmissions to return.

Students must attend a minimum of nine classes per course in order to receive a passing grade in the course. The only exceptions to this policy are graduating seniors and university imposed closings for holidays. Attending fewer than nine classes or 36 hours of course instruction will result in course failure unless the Dean of Academic Affairs determines that there are acceptable extenuating circumstances. Students should be prepared with written documentation of circumstances beyond their control that contributed to the absences for consideration by the Dean. If the student is allowed to remain in the class and receive a grade, there will need to be a description of appropriate make-up work from the respective Instructor. Please note that a student can withdraw from any class through the ninth week without receiving an "F." Course withdrawal forms must be submitted to the Registrar's Office by the close of business on Friday of week nine in order to receive a "W" grade. Holidays and official class cancellations do not count as absences.

REQUIREMENTS

1. Attend all class meetings, arrive on time, and stay for the duration of the class.
2. Faculty policies regarding attendance, tardiness arriving to class and returning from breaks, or leaving class early can be found in the course syllabus.
3. Students who violate the attendance policy will fail the course.

**Consecutive Days
Absence Policy**

A student who is withdrawn for failure to attend any classes within a consecutive ten calendar day period may be permitted to apply for readmission into the subsequent quarter.

Students who miss ten consecutive calendar days may be withdrawn from the University and will receive W's for all courses, if the withdrawal occurs before the end of the ninth week of the quarter, or WF's for all courses, if the withdrawal occurs after the end of the ninth week of the quarter. Students who have been withdrawn due to violation of the consecutive absence policy but are still in good academic standing will be able to return the following quarter through the readmissions process. Students who have been withdrawn and the withdrawal results in a violation of the satisfactory academic progress policy (SAPP) must follow the procedure for appealing academic termination. See the Satisfactory Academic Progress section.

Academic Honesty:

The University does not tolerate plagiarism, cheating, copying or academic dishonesty in any form. Academic integrity policies apply to both the giver and receiver of information. Students who witness any act of academic dishonesty should report the incident to a faculty member,

their Chair, or to another member of the University staff or administration immediately.

Saving Work:

It is the student's responsibility to save his or her work. The student should save and verify multiple copies prior to leaving the classroom. The teacher is in no way responsible for work saved on the hard drives, nor is he or she required to give an extension on work improperly saved. Local and network drives at the University, including all computers in the labs, will be purged regularly and should never be used by students for long-term storage. These drives are available for student use during class and lab sessions, but all data will be deleted on a daily basis. Students are expected to backup all work. Loss, theft, and computer failure are not acceptable excuses for not saving work.

Reminders:

Students wishing to withdraw from a course must do so before week nine. Students wishing to drop a course without penalty must do so the first week of class.

Library:

The Libraries on each campus are one of the most important resources available to students while attending the University. The Library supports learning and encourages intellectual curiosity among students and faculty. The Library staff works in cooperation with faculty to help students develop the ability to find, evaluate, and use information in order to become lifelong learners. To fulfill this mission, the Library develops and maintains a quality collection of books, periodicals, audiovisual materials, and online databases. The Library provides access to remote resources through Internet access and cooperative agreements with other libraries.

WEEKLY CLASS TOPICS AND ASSIGNMENTS

WEEK 1 Thursday

Overview: Introduction to class and course overview. Exploring the use of 3D tools for layout / lighting / shading

Weekly Objective:

Interior Spaces Project 1 assigned (each student will be assigned a separate interior space to explore)

Review / principles of design / perspective

Exploration of design through the thumbnail process.

Examples of interior layouts

Collecting and Analyzing References

Composition layout guidelines

Rule of Thirds

Golden Mean

Exploring Narrative through Environment

The Importance of Thumbnails

Using 3D tools to inform 2D visualizations

Getting Comfortable with Maya

Planning the layout

Understanding scale

Setting up the workspace

Shaders

Understanding lighting setups

Aspect ratios

Configuring the Camera

Depth of Field

**Reading Assignment
and/or Homework:**

Prepare thumbnails / collect references / basic 3D blocking with lighting and shadows

WEEK 2 _____ Thursday

Overview: **Moving from 3D to 2D / penciling / shading**

Weekly Objective:

Render settings for line art
Lightboxing from a 3D model
Customizing tool options in Sketchbook Pro
Penciling with Sketchbook Pro
Working with Vanishing Points
Adding detailed elements to match the perspective of your scene
How to effectively organize your composition in layers

**Reading Assignment
and/or Homework:**

All three interior space views must be penciled for next week.

WEEK 3 _____ Thursday

Overview: **Working with Color and Texture**

Weekly Objective:

Coloring techniques in Photoshop
Working with Textures in Photoshop
Color unifiers (what they are and how to use them)
Depth of Field techniques using the Iris Blur
Adding highlights and shadows
Customizing Photoshop's brush palette for coloring / painting
Defining patterns for fills

The contrast test

Matching patterns onto surfaces using the Perspective Tool

**Reading Assignment
and/or Homework:**

Color Flats must be complete

WEEK 4 _____ Thursday

Overview: Organizing and Presenting a Design Project

Weekly Objective:

Using Design Principles within a Presentation

C.R.A.P.: what it stands for and why it's the most important acronym you'll remember in design.

**Reading Assignment
and/or Homework:**

Final deliverables due. All process work must be neatly organized and presented. Bring your triptych (printed) to class next week.

WEEK 5 _____ (MIDTERM GRADES) Thursday

PROJECT 1 PRESENTATION and CLASS CRITIQUE

Project 2: Exterior Space assigned

**Reading Assignment
and/or Homework:**

assemble thumbnails for your exterior cityscape. Bring in one found object and any references for Project 2.

WEEK 6 Thursday

Overview: Using MELscript for terrain generation

Weekly Objective:

Exploring MELscript to perform scattering and scaling functions.

What is a found object?

Scattering workflow

Elements to consider when framing a composition

Staging: Worm's Eye views, Bird's Eye Views and Fish Eye views.

**Reading Assignment
and/or Homework:**

3D blocking with lighting studies for your cityscape

WEEK 7 _____ Thursday

Overview: Working with unusual perspective/camera angles to create dynamic and interesting compositions

Weekly Objective:

Crazy perspective tricks to impress your friends and win over your enemies.

Lens choices and how they affect objects.

WEEK 8 _____ Thursday

THANKGIVING HOLIDAY. CLASS DOES NOT MEET.

WEEK 9 _____ Thursday

Overview: Stylizing and expression. Prop design. Exploring story-telling potential through stylization of design elements.

Weekly Objective:

Adding a narrative to an external environment

Using texture brushes

**Reading Assignment
and/or Homework:**

Pencil rendering due.

WEEK 10 _____ Thursday

Overview: Story-Telling /Narrative potential in design elements. Props; designing creating, painting

Weekly Objective:

Add your weekly in class lessons / activities .

**Reading Assignment
and/or Homework:**

Color flats are due

WEEK 10 _____ Thursday

Overview: Final review of principles

Weekly Objective:

Prepare for final presentation next week.

**Reading Assignment
and/or Homework:**

Organize your process work into a presentation. Bring your triptych (printed) to class next week.

WEEK 11 _____ Thursday

Overview: FINAL PRESENTATION and CLASS CRITIQUE

Weekly Objective:

Review course objectives.

**Reading Assignment
and/or Homework:**

READ, PRACTICE, DRAW (repeat.)

STUDENT / INSTRUCTOR CONTRACT (DUE AT THE BEGINNING OF CLASS ON WEEK 2)

I, _____, affirm that I have received the syllabus MAAA353 for Fall Quarter 2017. Furthermore, I have read the content of this document and understand that I will be held accountable for the assignments and other required work for this class.

I confirm that I have received the following documents:

- MAAA353 syllabus
- Class attendance policy
- Grading criteria
- Statement of Project dues dates and/or deadlines.
- Purchase requirements
- Overview of assignments and class schedule
- The website for the course assignments (<http://www.sivamstudios.com/ait>) and the instructor's contact information (krishna.at.ait@gmail.com)
- I understand that late work will not be graded and will result in a ZERO.

Signature

Date