

# THEATRE 3146

## Computer Aided Drafting and Design

Tuesday/Thursday 2:00 –4:20  
RTFP Design Studio Room 137

### Instructor Contact

**Name:** Matthew McKinney

**Pronouns:** He/His

**Office Location:** 213

**Office Hours:** T/Th 11:00-12:00 or by Appointment

**Email:** Matthew.McKinney@unt.edu

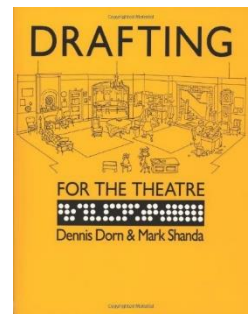
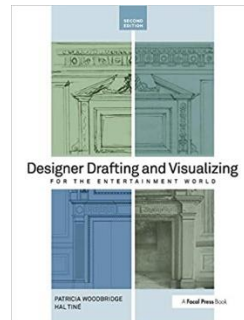
### Course Description

Utilizing computer software to assist theatre designers and technicians in presenting design and schematic drawings. Focusing on the basics of drafting, Orthographic projections, how to create ground plans, centerline sections, elevations & details in layouts for production. As well as 3D drafting in fully realized renderings.

### Course Objectives

This course will introduce you to the world of computer drafting. Students will explore the basic and advanced techniques used to create a cohesive and complete drawing in order to convey artistic and schematic information to others. Students will learn the process involved in producing a set of drawings specifically for theater and event management, including ground plans, centerline sections, elevations and details. Students will also learn the basics of 3D rendering in presenting their designs. The course will cover:

- Principals of drafting
- Types of drawings
- Orthographic projections
- Image Tracing
- 3D drafting techniques
- 3D texture and lighting application
- 3D Rendering and Environments



### Materials

#### Recommended Reading:

- *Backstage Handbook 4<sup>th</sup> Edition* by Paul Carter
- *Designer Drafting for the Entertainment World 2<sup>nd</sup> Edition* by Patricia Woodbridge
- *Drafting for the Theatre 2<sup>nd</sup> Edition* by Dennis Dorn & Mark Shanda.

**Required Materials:**

- Architects Scale Rule
- A cloud server or USB flash drive - to save all of your work
- A computer mouse - with a wheel button

**Recommended Materials:**

- Vector Works (Student License) for your personal computer. Student licenses are free with a student ID.

## Class Format

- Tuesday & Thursday class meetings are combination lecture/lab which take place in the department computer lab
  - DFP 127
  - The Lab is open to students outside of class on Monday to Friday from 8:00am – 5:00pm
  - You must have your UNT ID login to access the computers.
- **Lecture:** Student participation in lecture, when asked, is encourage. Attending the lecture is expected. However, things do come up that may take priority, see the class participation section.
- **Lab:** Lab is very participatory. You will be working in the lab practicing the techniques learned in the lecture. Lab should be fun. Please keep a positive attitude and you will be surprised what you can learn. Do not be afraid to ask questions.

## Class Participation

- Attendance and participation counts 150 Points towards your final grade
- After 2 unexcused absences 50 points will be removed for each subsequent absence
- 3 tardies (1-15 minutes late) will count as an absence
- If you are more than 15 minutes late you are considered absent

## Course Requirements

• Attendance and Participation	150 Points
• Assignments	
○ Drafting objects and tools	50 Points
○ Room Drafting Plan - Hand Drafting	50 Points
○ Baseball Field Project	50 Points
○ Room Drafting Plan - CAD	50 Points
○ Orthographic projections	50 Points
○ Ground plan	50 Points
○ Elevations	50 Points
○ Details and Section	50 Points
○ Sheets & Viewports	50 Points
○ Image tracing	50 Points
○ 3D Objects	50 Points
○ 3D Elevations	50 Points
○ 3D Furniture	50 Points
○ 3D textures and images	50 Points
○ 3D Rendering	50 Points
• Midterm Project	100 Points
• <u>Final Project</u>	<u>100 Points</u>
• TOTAL	1100 Points

## Grading

- A = 990-1100
- B = 880-989
- C = 770-879
- D = 660-769
- F = 550-659

Your assignments must be on time. If you are unable to have your work at the start of the class it is due, the grade will drop 50% if turned in within 24 hours. After 24 hours it will not be accepted. This of course will be amended for excused absences.

# Course Calendar

Week # DATE	TUESDAY	THURSDAY
1 1/17	<b>CLASS:</b> Meet & Greet, Syllabus, Objectives, Computer peripherals, Intro to drawings, Basic Drafting techniques.	<b>CLASS:</b> Drafting Basics, Room floor plan, Class room visit <b>LAB:</b> Floor plans
2 1/24	<b>CLASS:</b> Introduction to Vectorworks, Moving around the drawing, basic object creation and editing <b>LAB:</b> Drafting basics continued <b>DUE:</b> Room Floor plan hand drafting (beginning of class)	<b>CLASS:</b> Orthographic projections, isometrics, how to create <b>LAB:</b> Orthographic projections <b>DUE:</b> Orthographic projections Project
3 1/31	<b>CLASS:</b> Title blocks, viewports basics, sheet layers <b>LAB:</b> Baseball field project <b>DUE:</b> Baseball field Project	<b>CLASS:</b> Types of drawings, Ground plan, centerline section, elevations, details, sections. <b>LAB:</b> Room plan
4 2/7	<b>CLASS:</b> Classes and Layers <b>LAB:</b> Room Ground plan <b>DUE:</b> Room Ground Plan Project	<b>CLASS:</b> Groundplans & Centerline sections, Image tracing <b>LAB:</b> Project Work
5 2/14	<b>CLASS:</b> Organizing your drawing, Symbols, Groups, Resources Pallett <b>LAB:</b> <b>DUE:</b> Image Tracing Project	<b>CLASS:</b> Elevations <b>LAB:</b> <b>DUE:</b> Ground plan Project
6 2/21	<b>CLASS:</b> Viewports advanced <b>LAB:</b> Project Work	<b>CLASS:</b> Details and sections <b>LAB:</b> Project work <b>DUE:</b> Elevations
7 2/28	<b>CLASS:</b> <b>LAB:</b> Project Work	<b>CLASS:</b> General Review for Midterm project <b>LAB:</b> Project work <b>DUE:</b> Detail & Sections Project
8 3/7	<b>LAB:</b> MIDTERM PROJCT	<b>CLASS:</b> Floating Lecture <b>LAB:</b> Free Lab <b>DUE:</b> Sheets & Viewports Project
9 3/14	SPRING BREAK	SPRING BREAK
10 3/21	<b>CLASS:</b> An introduction to 3D Modeling, Multi view panes, <b>LAB:</b> Project Work	<b>CLASS:</b> 3D modeling and editing <b>LAB:</b> Project Work <b>DUE:</b> 3D Objects Project
11 3/28	<b>CLASS:</b> 3D modeling, Working planes <b>LAB:</b> Project Work	<b>CLASS:</b> Wall tool <b>LAB:</b> Project Work <b>DUE:</b> 3D Elevations project
12 4/4	<b>CLASS:</b> Furniture examples, hybrid symbols, image symbols, symbols library <b>LAB:</b> Project Work	<b>CLASS:</b> <b>LAB:</b> Project Work <b>DUE:</b> 3D Furniture Project
13 4/11	<b>CLASS:</b> 3D Textures and Rendering <b>LAB:</b> Project Work	<b>CLASS:</b> <b>LAB:</b> Project Work <b>DUE:</b> 3D Textures and images Project
14 4/18	<b>CLASS:</b> 3D rendering modes, Visualization, camera setup, walk through mode, perspective views, perspective VPs. <b>LAB:</b> Project Work	<b>CLASS:</b> <b>LAB:</b> Project Work <b>DUE:</b> 3D renderings Project
15 4/25	<b>CLASS:</b> <b>LAB:</b> Final Project Lab	<b>CLASS:</b> <b>LAB:</b> Final Project Lab
15 5/2	<b>CLASS:</b> <b>LAB:</b> Final Project Lab	<b>CLASS:</b> <b>LAB:</b> Final Project Lab
FINAL	Thursday 5/12 1:30 p.m. - 3:30 p.m. FINAL: FINAL PROJECT DUE	