

ITT Technical Institute

DT1210

Rapid Visualization Techniques

Onsite and Online Course

SYLLABUS

Credit hours: 4.5


Contact/Instructional hours: 56 (34 Theory Hours, 22 Lab Hours)

Prerequisite(s) and/or Corequisite(s):

None.

Course Description:

This course introduces the concepts of rapid communication of design topics utilizing techniques of freehand drawing and their application to technical sketching and design visualization. Hands-on projects include drawing of two- and three-dimensional shapes and objects, spatial thinking and eye-hand coordination in relation to the practice of drafting and design.



COURSE SUMMARY

COURSE DESCRIPTION

This course introduces the concepts of rapid communication of design topics utilizing techniques of freehand drawing and their application to technical sketching and design visualization. Hands-on projects include drawing of two- and three-dimensional shapes and objects, spatial thinking and eye-hand coordination in relation to the practice of drafting and design.

MAJOR INSTRUCTIONAL AREAS

1. Sketching techniques
2. Visual art terms
3. Design processes
4. Creative approach to problem solving
5. Portfolio

COURSE LEARNING OBJECTIVES

By the end of this course, you should be able to:

1. Describe the relevance of sketching to the design professions.
2. Demonstrate the ability to use tools and materials to create freehand sketches.
3. Apply freehand skills to translate thoughts and concepts into graphical representations.
4. Apply visualization skills to translate real-life situations into graphical representations.
5. Demonstrate an understanding of structure of objects and spaces.
6. Demonstrate an understanding of two-dimensional and three-dimensional objects and the objects' two-dimensional representations.
7. Demonstrate an understanding of three-dimensional spaces and their two-dimensional representations.
8. Apply three-dimensional principles in the graphical representations of objects and spaces.
9. Apply figure-drawing techniques within the context of drafting and design work settings.

MODULE 1: IMPORTANCE OF SKETCHING FOR DESIGN

COURSE LEARNING OBJECTIVES COVERED

- Describe the relevance of sketching to the design professions.

- Demonstrate the ability to use tools and materials to create freehand sketches.

TOPICS COVERED

- Drawing for Design and Communication
- Sketching
- Understanding Line Weight, Light, Shadow, and Texture
- Sketching Tools
- Design Drawing

MODULE LEARNING ACTIVITIES	GRADED	OUT-OF-CLASS TIME
Reading: Kirkpatrick, J. M., & Koenig, P. A., Section One, pp. 1-60, and Chapter 1.	No	5.5 hr
Lesson: Study the lesson for this module.	No	1.5 hr
Lab: Complete the lab titled "Sketching a Plan View."	Yes	N/A
Exercise: Submit the exercise titled "Sketching to Scale."	Yes	2 hr
Project: Read and begin the project.	No	1 hr

Total Out-Of-Class Activities: 10 Hours

MODULE 2: TRANSLATING THOUGHTS INTO GRAPHICS

COURSE LEARNING OBJECTIVES COVERED

- Apply freehand skills to translate thoughts and concepts into graphical representations.
- Apply visualization skills to translate real-life situations into graphical representations.

TOPICS COVERED

- Developing a Good Lettering Style
- Line Used in Technical Sketching
- Sketching Constructions
- Orthographic Projection Methods
- Sketching Orthographic Views

MODULE LEARNING ACTIVITIES	GRADED	OUT-OF-CLASS TIME
Reading: Kirkpatrick, J. M., & Koenig, P. A., Chapters 2, 3, and 4.	No	5 hr
Lesson: Study the lesson for this module.	No	2 hr
Discussion: Participate in the discussion titled “Logo Designs.”	Yes	2 hr
Exercise: Submit the exercise titled “Doodles to Objects Design.”	Yes	3 hr
Lab 1: Complete the lab titled “Lettering.”	Yes	N/A
Lab 2: Complete the lab titled “Orthographic Views of Mechanical Parts.”	Yes	N/A
Project: Continue work on Project Part 1.	No	3 hr

Total Out-Of-Class Activities: 15 Hours

MODULE 3: VISUALIZING REAL-LIFE OBJECTS

COURSE LEARNING OBJECTIVES COVERED

- Apply visualization skills to translate real-life situations into graphical representations.
- Demonstrate an understanding of structure of objects and spaces.

TOPICS COVERED

- Uses of Sectional Sketches
- Constructing a Sectional View
- Perspective Sketching Methods
- Basics of Perspective Sketching

MODULE LEARNING ACTIVITIES	GRADED	OUT-OF-CLASS TIME
Reading: Kirkpatrick, J. M., & Koenig, P. A., Chapters 5 and 6.	No	2 hr
Lesson: Study the lesson for this module.	No	2 hr
Exercise 1: Submit the exercise titled "Mechanical Section."	Yes	3 hr
Lab: Complete the lab titled "Architectural Section."	Yes	N/A
Exercise 2: Submit the exercise titled "Perspective Basics."	Yes	3 hr
Project: Submit Project Part 1.	Yes	4 hr

Total Out-Of-Class Activities: 14 Hours

MODULE 4: CHARACTER SKETCHING AND PICTORIAL VIEWS

COURSE LEARNING OBJECTIVES COVERED

- Demonstrate an understanding of two-dimensional and three-dimensional objects and the objects' two-dimensional representations.
- Demonstrate an understanding of three-dimensional spaces and their two-dimensional representations.
- Apply figure-drawing techniques within the context of drafting and design work settings.

TOPICS COVERED

- People Sketching
- Game Character Sketching
- Pictorial Sketching Forms
- Oblique and Isometric Sketching
- Sketching Floor Plans

MODULE LEARNING ACTIVITIES	GRADED	OUT-OF-CLASS TIME
Reading: Kirkpatrick, J. M., & Koenig, P. A. (2012), Chapters 7, 8, and 9.	No	4 hr
Lesson: Study the lesson for this module.	No	2 hr
Exercise 1: Submit the exercise titled "People Practice."	Yes	3 hr
Exercise 2: Submit the exercise titled "Architectural-Scale Drawings."	Yes	3 hr
Lab 1: Complete the lab titled "Mechanical Pictorial Views."	Yes	N/A
Lab 2: Complete the lab titled "Emergency Escape Diagram."	Yes	N/A
Project: Begin work on Project Part 2.	No	2 hr

Total Out-Of-Class Activities: 14 Hours

MODULE 5: ELEVATIONS AND DIMENSIONS

COURSE LEARNING OBJECTIVES COVERED

- Demonstrate an understanding of three-dimensional spaces and their two-dimensional representations.

TOPICS COVERED

- Sketching Dimensions
- Dimensioning to Windows, Doors, and Exterior and Interior Walls
- Sketching Elevations
- Steps in Sketching the Front Elevation

MODULE LEARNING ACTIVITIES	GRADED	OUT-OF-CLASS TIME
Reading: Kirkpatrick, J. M., & Koenig, P. A., Chapters 10 and 11.	No	3 hr
Lesson: Study the lesson for this module.	No	2 hr
Discussion: Participate in the discussion titled "Visualization of Scale."	Yes	N/A
Exercise: Submit the exercise titled "Dimensions."	Yes	3 hr
Lab: Complete the lab titled "Dimensioning for Architecture and Mechanical Drafting."	Yes	N/A
Project: Continue work on Project Part 2.	No	4.5 hr

Total Out-Of-Class Activities: 12.5 Hours

MODULE 6: PERSPECTIVE SCENES

COURSE LEARNING OBJECTIVES COVERED

- Apply three-dimensional principles in the graphical representations of objects and spaces.

TOPICS COVERED

- Sketching Perspective Scenes
- Sketching an Exterior Scene Using the One-Point and Two-Point Perspectives
- Shading

MODULE LEARNING ACTIVITIES	GRADED	OUT-OF-CLASS TIME
Reading: Kirkpatrick, J. M., & Koenig, P. A., Chapter 12.	No	4 hr
Lesson: Study the lesson for this module.	No	1.5 hr
Project: Submit Project Part 2.	Yes	1.5 hr
Practicum: Submit the assignment titled "Portfolio."	Yes	4 hr

Total Out-Of-Class Activities: 11 Hours

EVALUATION AND GRADING

EVALUATION CRITERIA

The graded assignments will be evaluated using the following weighted categories:

CATEGORY	WEIGHT
Discussion	10%
Exercise	25%
Lab	30%
Project	25%
Practicum	10%
TOTAL	100%

GRADE CONVERSION

The final grades will be calculated from the percentages earned in the course, as follows:

GRADE	PERCENTAGE
A (4.0)	90-100%
B+ (3.5)	85-89%
B (3.0)	80-84%
C+ (2.5)	75-79%
C (2.0)	70-74%
D+ (1.5)	65-69%
D (1.0)	60-64%
F (0.0)	<60%

LEARNING MATERIALS AND REFERENCES

REQUIRED RESOURCES

COMPLETE TEXTBOOK PACKAGE

- Kirkpatrick, J. M., & Koenig, P. A. (2012). *Rapid visualization and drawing techniques (Custom ed.)*. Boston, MA: Pearson Custom.

OTHER ITEMS

- DDT Drafting Kit

RECOMMENDED RESOURCES

- Books and Professional Journals
 - Berry, W.A. (1994). *Drawing the human form: Methods, sources, concepts (2nd ed.)*. Upper Saddle River, NJ: Pearson Education, Inc.
 - Brooke, S. (2007). *Drawing as expression: Techniques and concepts (2nd ed.)*. Upper Saddle River, NJ: Pearson Education, Inc.
 - Bryant, M.W. (2011). *Fashion drawing: Illustration techniques for fashion designers*. Upper Saddle River, NJ: Pearson Education, Inc.
 - Drury, F. & Stryker, J. (2009). *Drawing: Structure and vision*. Upper Saddle River, NJ: Pearson Education, Inc.
 - Goldstein, N. (2011). *Figure drawing: The structure, anatomy, and expressive design of human form (7th ed.)*. Upper Saddle River, NJ: Pearson Education, Inc.
 - Simblet, S. (2005). *Sketch book for the artist*. New York, NY: Dorling Kindersley Limited.

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INSTRUCTIONAL METHODS AND TEACHING STRATEGIES

The curriculum employs a variety of instructional methods that support the course objectives while fostering higher cognitive skills. These methods are designed to encourage and engage you in the learning process in order to maximize learning opportunities. The instructional methods include but are not limited to lectures, collaborative learning options, use of technology, and hands-on activities.

To implement the above-mentioned instructional methods, this course uses several teaching strategies, such as scenario-based lessons and assessments. Your progress will be regularly assessed through a variety of assessment tools including discussions, exercises, labs, a project, and a practicum.

OUT-OF-CLASS WORK

For purposes of defining an academic credit hour for Title IV funding purposes, ITT Technical Institute considers a quarter credit hour to be the equivalent of: (a) at least 10 clock hours of classroom activities and at least 20 clock hours of outside preparation; (b) at least 20 clock hours of laboratory activities; or (c) at least 30 clock hours of externship, practicum or clinical activities. ITT Technical Institute utilizes a “time-based option” for establishing out-of-class activities which would equate to two hours of out-of-class activities for every one hour of classroom time. The procedure for determining credit hours for Title IV funding purposes is to divide the total number of classroom, laboratory, externship, practicum and clinical hours by the conversion ratios specified above. A clock hour is 50 minutes.

A credit hour is an artificial measurement of the amount of learning that can occur in a program course based on a specified amount of time spent on class activities and student preparation during the program course. In conformity with commonly accepted practice in higher education, ITT Technical Institute has institutionally established and determined that credit hours awarded for coursework in this program course (including out-of-class assignments and learning activities described in the “Course Outline” section of this syllabus) are in accordance with the time-based option for awarding academic credit described in the immediately preceding paragraph.

ACADEMIC INTEGRITY

All students must comply with the policies that regulate all forms of academic dishonesty or academic misconduct. For more information on the academic honesty policies, refer to the Student Handbook and the School Catalog.

INSTRUCTOR DETAILS

Instructor Name	
Office Hours	
Contact Details	

(End of Syllabus)