

AIU Exam – Introduction to Architectural Design & Drafting

School: Science & Engineering

Major: Architecture

Course title: Introduction to Architectural Design & Drafting

Credits for course: 3 credits

Description of course:

Whether your interest lies in theoretical problem solving, artistic creations, or working with your hands creating something practical; a course in architectural drafting and design will help you satisfy that interest. An architectural drafting class can lead to a career as a drafter, CAD technician, designer, interior decorator, interior designer, architect, or engineer.

Mastering the information and skills presented in this text will prepare you for jobs as a drafter or CAD technician and serve as a solid foundation for each of the other listed professions as well as many others.

Book & chapter: Architectural Drafting & Design, Alan Jefferis, **Chapters 1 thru 5**

Link to book: To download, Click on the button in the upper right corner with 3 dots. You will see a download option there.

https://www.dropbox.com/s/7hm4zzoyecqj3rf/Architectural_Drafting_and_Design%20use.pdf?dl=0

Bibliography of book:

Jefferis, Alan, and David Madsen. *Architectural drafting and design*. Cengage Learning, 2010.

Format of the assignment: Assignment must have an AIU cover page, introduction to the topics of the chapter, answers to the questions below, conclusion about the exam and the bibliography of book at end of assignment.

Instructions for Adding Course & Submitting Exam: Go to the top of your student platform. On the left you will see a link to add a course called “Add Courses into Curriculum”. Click there. Then you will see a button to add a new course. It will then ask you to give the specific name of the course, which is given above on this exam.

Then you submit the assignment through another link at the top of the platform called “Submit an assignment”. You choose the course name from the drop-down list. Then you choose to send the assignment “offline”. Then you upload the file(s) for the course.

Please include questions with your answers, so that we can see the question being answered.

Questions for Exam... (Answers must not be copied from another source.)

Chapter 1, page 32

Question 1–1 List five types of work that a junior drafter might be expected to perform.

Question 1–2 What three skills are usually required of a junior drafter for advancement?

Question 1–3 What types of drawings should a junior drafter expect to prepare?

Question 1–6 List and briefly describe different careers in which drafting would be helpful.

Question 1–7 What is the purpose of a bubble drawing?

Question 1–8 Why should furniture placement be considered in the preliminary design process?

Question 1–11 List and describe the steps of the design process.

Question 1–13 Following the principles of this chapter, prepare a bubble sketch for a home with the following specifications:

- a. 75 × 120' lot with a street on the north side of the lot
- b. A gently sloping hill to the south
- c. South property line 75' long
- d. 40' oak trees along the south property line
- e. 3 bedrooms, 2 1/2 baths, living, dining, with separate eating area off kitchen
- f. Exterior style as per your choice

Explain why you designed the house that you did.

Chapter 2, page 40

Question 2–1 Define and list the elements of the following construction-related documents:

- a. Loan applications
- b. Contracts
- c. Building permits
- d. Completion notices
- e. Bids
- f. Change orders

Question 2–2 Outline and briefly discuss the required building construction inspections.

Chapter 3, page 57

Question 3–1 Describe a mechanical drafting pencil.

Question 3–5 In a short, complete paragraph, describe how to properly use a mechanical pencil.

Question 3–6 In a short, complete paragraph, describe how to properly use an automatic pencil.

Question 3–7 List three characteristics recommended for technical pen inks.

Question 3–9 What type of compass is most commonly used by professional drafters?

Question 3–10 Why should templates be used whenever possible?

Question 3–13 What is the advantage of placing drafting tape or plastic at the center of a circle before using a compass?

Question 3–15 What are two uses for dividers?

Question 3–16 At what number of degree increments do most drafting machine heads automatically lock?

Question 3–17 How many minutes are there in 1° ? How many seconds in $1'$?

Question 3–19 What type of eraser is recommended for use on polyester drafting film?

Question 3–20 Provide a short, complete paragraph explaining the proper erasing technique.

Question 3–21 Name at least five features found on a residential floor plan template.

Question 3–22 What piece of drafting equipment is used to draw curves that have no constant radii?

Question 3–23 Describe the parallel bar and how it is used.

Question 3–25 In combination, the 30° to 60° triangle and the 45° triangle may be used to make what range of angles?

Question 3–26 Show how the following scales are noted on an architectural drawing: $1/8"$, $1/4"$, $1/2"$, $3/4"$, $1\ 1/2"$, and $3"$.

Question 3–28 What architectural scale is usually used for drawing residential floor plans?

Question 3–29 List three factors that influence the selection of a scale for a drawing.

Question 3–30 Name the scale shape that is commonly used, and why.

Question 3–32 What is an advantage of using metric scales?

Chapter 4, page 64

Question 4–1 List five factors in the choice and use of drafting materials.

Question 4–2 Why is transparency so important in reproducing copies using the diazo process?

Question 4–3 Describe vellum.

Question 4–6 Define *matte*, and describe the difference between single-matte and double-matte.

Question 4–7 Which of the following combinations yields the best reproduction: graphite on vellum, plastic lead on polyester film, or ink on polyester film?

Question 4–8 What are the primary elements that give the best reproduction?

Question 4–9 Identify three standard sheet sizes commonly used by architectural offices.

Question 4–13 What are the results of a properly folded print?

Question 4–14 Briefly describe the revision process and its steps.

Question 4–16 Is a diazo print the same as a blueprint? Explain.

Question 4–17 Describe the diazo process.

Question 4–18 What should a good-quality diazo print look like?

Question 4–19 Define *sepias* and describe their use.

Question 4–21 Describe the recommended first-aid for the following accidents: ammonia spilled on the skin, ammonia in the eyes, and inhaling excess ammonia vapor.

Question 4–22 List four advantages of photocopying over the diazo process.

Question 4–23 Give at least two reasons for using microfilm.

Question 4–25 Why is CADD rapidly replacing the need for microfilm?

Chapter 5, page 85

Question 5–1 Define *sketching*.

Question 5–2 How are sketches useful in CADD?

Question 5–3 Describe the proper sketching tools.

Question 5–4 Should paper for sketching be taped to the drafting board or table? Why or why not?

Question 5–6 What type of paper should be used for sketching?

Question 5–7 Briefly describe a method that can be used to sketch irregular shapes.

Question 5–9 What is the difference between an isometric line and a non-isometric line?

Question 5–10 What do proportions have to do with sketching techniques?

Question 5–11 Define *orthographic projection*.

Question 5–13 When is a surface foreshortened in an orthographic view?

Question 5–16 In architectural drafting, what are the exterior front, right-side, left-side, and rear views also called?

Question 5–19 Briefly describe the trammel method for sketching a circle.

Question 5–20 Why must the paper be free to rotate when you are using the hand-compass method for sketching a circle?

Question 5–21 What is the distance from the center of a circle to the circumference called?

Question 5–22 Name the distance that goes all the way across a circle and passes through the center.

Question 5–23 Describe an easy way to sketch a 15" circle on paper and a 6'–6" circle at a construction site.

Question 5–24 In a short but complete paragraph, discuss the importance and use of measurement lines and proportions in sketching objects.

Question 5–25 Briefly describe how the block technique works for making sketches of objects.

Question 5–28 Name the four views that are commonly used as elevations to describe the exterior appearance of a structure.

Question 5–29 Why should a soft lead and slightly rounded pencil point be used when sketching?

Question 5–30 Briefly describe how you would use your pencil to establish measurements if you were sketching a house across the street.