INTRODUCTION

T his book was born of the need for a simple yet engaging tutorial that would help beginners step into the world of AutoCAD or AutoCAD LT without feeling intimidated. That tutorial has evolved over the years into a full introduction to the way in which architects and civil and structural engineers use AutoCAD to increase their efficiency and ability to produce state-of-the-art computerized production drawings and designs.

Because AutoCAD and AutoCAD LT are so similar, it makes sense to cover the basics of both programs. For most of the book, the word *AutoCAD* stands for both AutoCAD and AutoCAD LT.

When you come to a section of a chapter that applies to AutoCAD only, an icon (shown here) is displayed in the margin to alert you. Then, at the end of that section, extra information for AutoCAD LT users is provided to give you a workaround or otherwise keep you in step with the tutorial.

Chapters 16 and 17, which are an introduction to drawing in 3D, apply only to AutoCAD, because AutoCAD LT doesn't have the 3D commands and features. But LT users, be assured: Other than the 3D features, LT is much the same program as AutoCAD, with minor differences. You'll be prompted when those differences come along.

This book is directed toward AutoCAD and AutoCAD LT novices—users who know how to use a computer and perform basic file-managing tasks, such as creating new folders and saving and moving files, but who know nothing or little about AutoCAD or LT (as we'll call AutoCAD LT throughout the book). If you're new to the construction and design professions, this book will be an excellent companion as you're learning AutoCAD. If you're already practicing in those fields, you'll immediately be able to apply the skills you'll pick up from this book to real-world projects. The exercises have been successfully used to train architects, engineers, and contractors, as well as college and high-school students, in the basics of AutoCAD.

For those of you in other trades and professions, the project that runs through the book—drawing a small cabin—has been kept simple so that it doesn't require special training in architecture or construction. Also, most chapters have additional information and exercises specifically designed for non-AEC users. Anyone wanting to learn AutoCAD will find this book helpful.

What Will You Learn from This Book?

Learning AutoCAD, like learning any complex computer program, requires a significant commitment of time and attention and, to some extent, a tolerance for repetition. You must understand new concepts to operate the program and to appreciate its potential as a drafting and design tool. But to become proficient at AutoCAD, you must also use the commands enough times to gain an intuitive sense of how they work and how parts of a drawing are constructed.

At the end of most chapters, you'll find one or more additional exercises and a checklist of the tools you have learned (or should have learned!). The steps in the tutorial have a degree of repetition built into them that allows you to work through new commands several times and build up confidence before you move on to the next chapter.

Progressing through the book, the chapters fall into four general areas of study:

► Chapters 1 through 3 familiarize you with the organization of the screen, go over a few of the basic commands, and equip you with the tools necessary to set up a new drawing.

► Chapters 4 and 5 introduce the basic drawing commands and develop drawing strategies that will help you use commands efficiently.

► Chapters 6 through 11 work with AutoCAD's major features.

► Chapters 12 through 15 examine intermediate and advanced AutoCAD features.

► Chapters 16 and 17 introduce the 3D features of AutoCAD.

In the process of exploring these elements, you'll follow the steps involved in laying out the floor plan of a small, three-room cabin. You'll then learn how to generate elevations from the floor plan and, eventually, how to set up a title block and print your drawing. Along the way, you'll also learn how to do the following:

► Use the basic drawing and modify commands in a strategic manner.

► Set up layers.

► Put color into your drawing.

► Define and insert blocks.

► Generate elevation views.

► Place hatch patterns and fills on building components.

► Use text in your drawing.

► Dimension the floor plan.

Later chapters in the book touch on more advanced features of AutoCAD, including the following:

- ▶ Drawing a site plan.

- ▶ Using external references.

- ▶ Setting up a drawing for printing with layouts.

- ▶ Making a print of your drawing.

- ▶ Working in three dimensions, for AutoCAD users.

All these features are taught using the cabin as a continuing project. As a result, you'll build up a set of drawings that document your progress through the project and that you can use later as reference material if you find that you need to refresh yourself with material in a specific skill.

At the end of the book is a glossary of terms that are used in the book and are related to AutoCAD and building design, followed by an index.

Files on the Website

If you're already somewhat familiar with AutoCAD and you're reading only some of the chapters, you can pull accompanying files from this book's page on Sybex's website (www.sybex.com/go/acadner2008).

Hints for Success

Because this book is essentially a step-by-step tutorial, it has a side effect in common with any tutorial of this type. After you finish a chapter and see that you have progressed further through the cabin project, you may have no idea how you got there and are sure you couldn't do it again without the help of the step-by-step instructions.

This feeling is a natural result of this kind of learning tool, and you can do a couple of things to get past it. You can work through the chapter again. Doing so may seem tedious, but it offers a great advantage: you gain speed in drawing. You'll accomplish the same task in half the time it took you the first time. If you do a chapter a third time, you'll cut your time in half again. Each time you repeat a chapter, you can skip more and more of the explicit instructions, and eventually you'll be able to execute the commands and finish the chapter by just looking at the figures and glancing at the text. In many ways, this process is like learning a musical instrument. You must go slowly at first, but over time and through practice, your pace picks up.

Another suggestion for honing your skills is to follow the course of the book but apply the steps to a different project. You might draw your own living space or design a new one. If you have a real-life design project that isn't too complex, that's even better. Your chances for success in learning AutoCAD or any computer program are greatly increased when you're highly motivated, and a real project of an appropriate size can be the perfect motivator.

Ready, Set…

When I started learning AutoCAD about 17 years ago, I was at first surprised how long I experienced a level of frustration that I never thought I was capable of feeling. When I finally got over the hump and began feeling that I could successfully draw with this program after all, I told myself that I would someday figure out a way to help others get past that initial frustration. That was the primary motivating force for my writing this book. I hope it works for you and that you too get some enjoyment while learning AutoCAD. As the title says, there is "no experience required," only an interest in the subject and a willingness to learn!