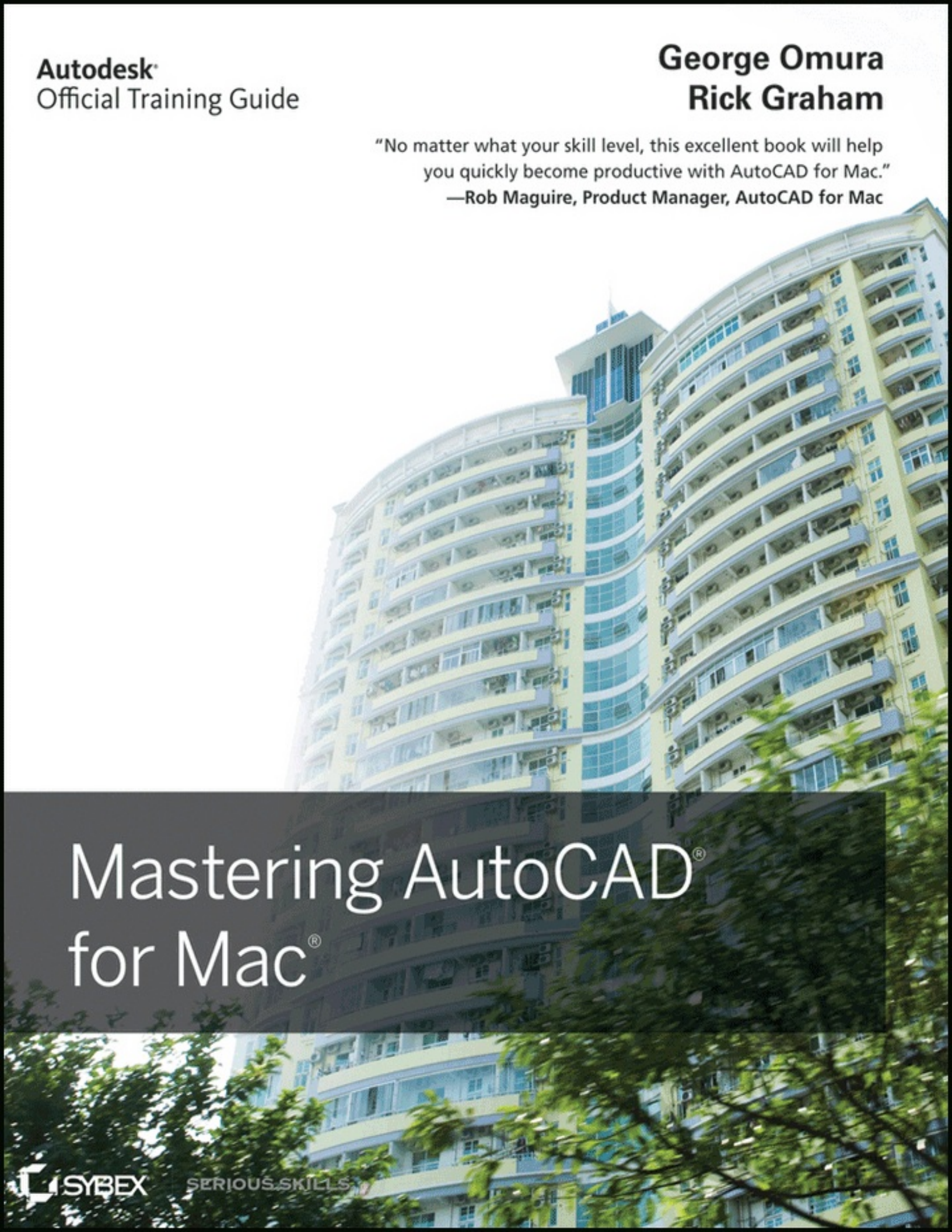


Autodesk®
Official Training Guide

George Omura
Rick Graham

"No matter what your skill level, this excellent book will help you quickly become productive with AutoCAD for Mac."

—Rob Maguire, Product Manager, AutoCAD for Mac



Mastering AutoCAD® for Mac®

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SERIOUS SKILLS

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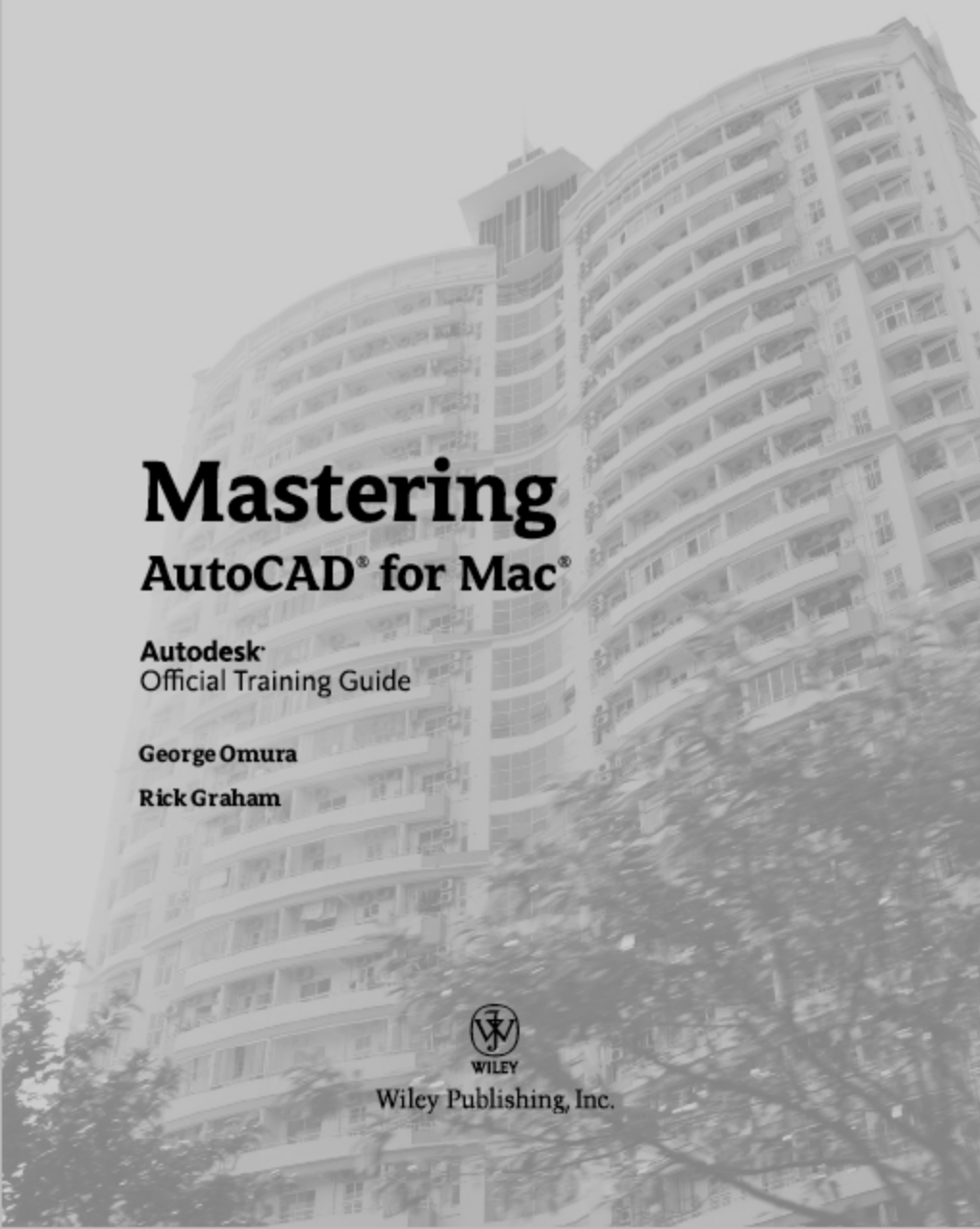
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Official Training Guide

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Best regards,

A handwritten signature in black ink, appearing to read 'Neil Edde', with a stylized, cursive script.

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Vice President and Publisher
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*To the memory of Barry Elbasani, 1941–2010: founding
member of ELS Architecture and Urban Design—George
Omura*

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And finally, a big thank-you goes to Rick Graham for making such a huge contribution to this book as coauthor.

—George Omura

Thanks to my wonderful wife Melony, for putting up without me during the preparation of this book. Thanks to George

Omura for a fine series of books and allowing me to be a part of this. Thanks to the AutoCAD for Mac team for all the work you've done to make this the product it is today. And last, thanks to Willem Knibbe and all the folks who work behind the scenes at Sybex to make sure what is published is the absolute best.

—Rick Graham

About the Authors

George Omura is a licensed architect, Autodesk authorized author, and CAD specialist with more than 20 years of experience in AutoCAD and over 30 years of experience in architecture. He has worked on design projects ranging from resort hotels to metropolitan transit systems. George has written numerous other AutoCAD books for Sybex, including *Introducing AutoCAD 2010*, *Mastering AutoCAD 2011* and *AutoCAD LT 2011*, and *Introducing AutoCAD 2009*.

Richard (Rick) Graham is a CAD/IT manager at James R. Holley & Associates, Inc. He has been using and supporting users of AutoCAD and other Autodesk products for over 20 years. Rick has multidiscipline experience, from architecture to civil engineering. He is currently serving as president of his local AUGI chapter and has presented various topics. He coauthored *Introducing AutoCAD Civil 3D 2010* and is involved with several blogs, including his latest, www.macacad.com. He has been using the Mac OS for many years and has long felt that the marriage between Mac and AutoCAD would happen again. Oh, happy days!

Foreword

Developing AutoCAD for Mac has been a great opportunity for Autodesk to deliver something our customers have been requesting for almost 20 years. To meet the high expectations of our customers, Autodesk had to deliver a high-quality customer experience, tailored not only for the traditional AutoCAD user, but one for the native Mac OS user as well. We needed a product that was the best of both worlds.

I was fortunate to help deliver the best of both worlds in my role as product manager for AutoCAD for Mac. After learning AutoCAD in Mechanical Engineering school and at UC Berkeley, I began working for Autodesk immediately in the QA department, and quickly transitioned to a software development role on the AutoCAD team for six years. Following a break from Autodesk, I returned to school and graduated at the top of my class with a dual Master's degree in Business Administration and Information Systems. I was in the unique position of being able to understand our technical customers, push the limits of software development, and justify the business motivation to do so. AutoCAD for Mac was the perfect project for me.

AutoCAD for Mac first and foremost is AutoCAD. We needed to make it native, so change from the Windows version was inevitable; however, we knew none of the changes could alter the customer's impression that "this is AutoCAD." After countless research sessions, customer interviews, and some numerical analysis of commands and functions used, we had our initial scope. Next we had to understand the essence of what makes a Mac program truly native. To help us understand this, Autodesk recruited the largest pool of beta testers in the history of the company. These customers helped us guide the development of the

product so that we kept the right balance of AutoCAD and Mac-native experiences.

George Omura and Rick Graham were among our most active beta testers and helped us craft the product, address issues, and understand and articulate our customers' needs. Both have had many years of AutoCAD experience under their belts, which allows them to understand both users who are new to AutoCAD, as well as those that have used it for many years. No matter what your skill level, this excellent book will help you quickly become productive with AutoCAD for Mac.

Finally, to our many users, I'd like to say that we are eternally grateful for the opportunity to provide such a great product and benefit from your constant feedback. I wish you all good luck with the product, and the AutoCAD for Mac team will eagerly await your feedback on the discussion forums.

Thank you,

*—Rob Maguire Product Manager, AutoCAD for Mac Platform
Solutions and Emerging Business Division Autodesk, Inc.*

Introduction

Welcome to *Mastering AutoCAD for Mac*. As many readers of the original *Mastering AutoCAD* have already discovered, this book is a unique blend of tutorial and reference that includes everything you need to get started and stay ahead with AutoCAD.

How to Use This Book

Rather than just showing you how each command works, this book shows you AutoCAD for Mac in the context of meaningful activities. You'll learn how to use commands while working on an actual project and progressing toward a goal. This book also provides a foundation on which you can build your own methods for using AutoCAD and become an AutoCAD expert. For this reason, I haven't covered every single command or every permutation of a command response. You should think of this book as a way to get a detailed look at AutoCAD as it's used on a real project. As you follow the exercises, I encourage you to also explore AutoCAD on your own, applying the techniques you learn to your own work.

Both experienced and beginning AutoCAD users will find this book useful. If you aren't an experienced user, the way to get the most out of this book is to approach it as a tutorial—chapter by chapter, at least for the first two parts of the book. You'll find that each chapter builds on the skills and information you learned in the previous one. To help you navigate, the exercises are shown in numbered steps. To address the needs of all readers worldwide, the exercises provide both Imperial (feet/inches) and metric measurements.

After you've mastered the material in Parts 1 and 2, you can follow your interests and explore other parts of the book in whatever order you choose. Part 3 takes you to a more advanced skill level. There you'll learn more about storing and sharing drawing data and how to create more complex drawings. If you're interested in 3D, check out Part 4.

You can also use this book as a ready reference for your day-to-day problems and questions about commands. Optional exercises at the end of each chapter will help you review and look at different ways to apply the information you've learned. Experienced users will also find this book a handy reference tool.

Getting Information Fast

In each chapter, you'll find extensive tips and discussions in the form of sidebars set off from the main text. These provide a wealth of information I have gathered over years of using AutoCAD on a variety of projects in different office environments. You may want to browse through the book and read these boxes just to get an idea of how they might be useful to you.

Another quick reference you'll find yourself using often is Appendix D, "System Variables and Dimension Styles," included on the companion website, www.sybex.com/go/masteringautocadmac. It contains descriptions of all the dimension settings with comments on their uses. If you experience any problems, you can consult the section "When Things Go Wrong" in Appendix C, "Hardware and Software Tips," also included on the companion website.

The Mastering Series

The Mastering series from Sybex provides outstanding instruction for readers with intermediate and advanced skills, in the form of top-notch training and development for those already working in their field and clear, serious education for those aspiring to become pros. Every Mastering book includes the following:

- Real-World Scenarios, ranging from case studies to practical information you can use now, that show how the tool, technique, or knowledge presented is applied in actual practice
- Skill-based instruction, with chapters organized around real tasks rather than abstract concepts or subjects
- Self-review test questions, so you can be certain you're equipped to do the job right

What to Expect

Mastering AutoCAD for Mac is divided into four parts, each representing a milestone in your progress toward becoming an expert AutoCAD user. Here is a description of those parts and what they will show you.

Part 1: The Basics

As with any major endeavor, you must begin by tackling small, manageable tasks. In this first part, you'll become familiar with the way AutoCAD looks and feels.

Chapter 1, "Exploring the AutoCAD Interface," shows you how to get around in AutoCAD.

Chapter 2, "Creating Your First Drawing," details how to start and exit the program and how to respond to AutoCAD commands.

Chapter 3, "Setting Up and Using AutoCAD's Drafting Tools," tells you how to set up a work area, edit objects, and lay out a drawing.

Chapter 4, “Organizing Objects with Blocks and Groups,” explores some tools unique to CAD: symbols, blocks, and layers. As you’re introduced to AutoCAD, you’ll also get a chance to make some drawings that you can use later in the book and perhaps even in future projects of your own. Chapter 5, “Keeping Track of Layers and Blocks,” shows you how to use layers to keep similar information together and object properties such as linetypes to organize things visually.

Part 2: Mastering Intermediate Skills

After you have the basics down, you’ll begin to explore some of AutoCAD’s more subtle qualities.

Chapter 6, “Editing and Reusing Data to Work Efficiently,” tells you how to reuse drawing setup information and parts of an existing drawing.

Chapter 7, “Mastering Viewing Tools, Hatches, and External References,” details how to use viewing tools and hatches and how to assemble and edit a large drawing file.

Chapter 8, “Introducing Printing and Layouts,” shows you how to get your drawing onto hard copy.

Chapter 9, “Adding Text to Drawings,” tells you how to annotate your drawing and edit your notes.

Chapter 10, “Using Fields and Tables,” shows you how to add spreadsheet functionality to your drawings.

Chapter 11, “Using Dimensions,” gives you practice in using automatic dimensioning (another unique CAD capability).

Part 3: Mastering Advanced Skills

At this point, you’ll be on the verge of becoming a real AutoCAD expert. Part 3 is designed to help you polish your existing skills and give you a few new ones.

Chapter 12, “Using Attributes,” tells you how to attach information to drawing objects and how to export that information to database and spreadsheet files.

Chapter 13, “Copying Existing Drawings into AutoCAD,” details techniques for transferring paper drawings to AutoCAD.

Chapter 14, “Advanced Editing and Organizing,” is where you’ll complete the apartment building tutorial. During this process you’ll learn how to integrate what you’ve learned so far and gain some tips on working in groups.

Chapter 15, “Laying Out Your Printer Output,” shows you the tools that let you display your drawing in an organized fashion.

Chapter 16, “Making ‘Smart’ Drawings with Parametric Tools,” introduces you to parametric drawing. This feature lets you quickly modify a drawing by changing a few parameters.

Chapter 17, “Drawing Curves,” gives you an in-depth look at some special drawing objects, such as splines and fitted curves.

Chapter 18, “Getting and Exchanging Data from Drawings,” is where you’ll practice getting information about a drawing and learn how AutoCAD can interact with other applications, such as spreadsheets and page-layout programs. You’ll also learn how to copy and paste data.

Part 4: 3D Modeling and Imaging

Although 2D drafting is AutoCAD’s workhorse application, AutoCAD’s 3D capabilities give you a chance to expand your ideas and look at them in a new light.

Chapter 19, “Creating 3D Drawings,” covers AutoCAD’s basic features for creating three-dimensional drawings.

Chapter 20, “Using Advanced 3D Features,” introduces you to some of the program’s more powerful 3D capabilities.