

The Unwritten
LAWS OF ENGINEERING

SECOND EDITION

with revisions and additions by
JAMES G. SKAKOON

and original by
W. J. KING



© 2019, ASME, Two Park Avenue, New York, NY 10016, USA (www.asme.org)

First edition, 2001.

Reprinted with corrections, 2004.

All rights reserved. Printed in the United States of America. Except as permitted under the United States Copyright Act of 1976, no part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of the publisher.

INFORMATION CONTAINED IN THIS WORK HAS BEEN OBTAINED BY THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS FROM SOURCES BELIEVED TO BE RELIABLE. HOWEVER, NEITHER ASME NOR ITS AUTHORS OR EDITORS GUARANTEE THE ACCURACY OR COMPLETENESS OF ANY INFORMATION PUBLISHED IN THIS WORK. NEITHER ASME NOR ITS AUTHORS AND EDITORS SHALL BE RESPONSIBLE FOR ANY ERRORS, OMISSIONS, OR DAMAGES ARISING OUT OF THE USE OF THIS INFORMATION. THE WORK IS PUBLISHED WITH THE UNDERSTANDING THAT ASME AND ITS AUTHORS AND EDITORS ARE SUPPLYING INFORMATION BUT ARE NOT ATTEMPTING TO RENDER ENGINEERING OR OTHER PROFESSIONAL SERVICES. IF SUCH ENGINEERING OR PROFESSIONAL SERVICES ARE REQUIRED, THE ASSISTANCE OF AN APPROPRIATE PROFESSIONAL SHOULD BE SOUGHT.

ASME shall *not be responsible for statements or opinions advanced in papers or . . . printed in its publications* (B7.1.3). Statement from the Bylaws.

For authorization to photocopy material for internal or personal use under those circumstances not falling within the fair use provisions of the Copyright Act, contact the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923, tel: 978-750-8400, www.copyright.com.

Requests for special permission or bulk reproduction should be addressed to the ASME Publishing Department, or submitted online at <http://tinyurl.com/p72hgfu>

ASME Press books are available at special quantity discounts to use as premiums or for use in corporate training programs. For more information, contact Special Sales at CustomerCare@asme.org

ISBN: 978-0-7918-6196-7

ePub ISBN: 978-0-7918-6197-4

PREFACE TO THE SECOND EDITION

The Unwritten Laws of Engineering was first published in 1944 as three articles in *Mechanical Engineering* magazine. They circulated as reprints for a while until the American Society of Mechanical Engineers eventually put them into a book, which has been in print in several editions ever since. A substantially updated version, which I co-authored, came out in 2001. A trade edition, *The Unwritten Laws of Business*, was published in 2007, and was intended for a wider audience, not just engineers—the book’s advice has universal appeal!

Many of the laws remain as relevant today as they were 75 years ago. Some of the changes in societal values, employment laws, and corporate structures that have occurred over the decades have been addressed in the newer editions. But all editions until now were heavily based on King’s articles, especially the writing style.

Because of their timeless nature, portions of this edition remain unaltered from the original. Nevertheless, some key additions and changes have been included for today’s engineers. Organizational structures, for example, are now more flexible than they once were, owing to the rise of multi-disciplinary project teams and to the “gig” economy. The very definition of an employee is now completely different from what it was in 1944.

The original writing style, charming as it once might have been, however, has become a conspicuous hindrance. Therefore, this edition is written in a style more familiar to today’s readers.

Styles change, but I hope this book’s message will still be relevant 75 years from now.

James G. Skakoon
March 2019

CONTENTS

| | |
|--|-----|
| PREFACE TO THE SECOND EDITION | iii |
| INTRODUCTION | 1 |
| PART I WHAT THE BEGINNER NEEDS TO LEARN AT ONCE | 3 |
| In Relation to the Work | 5 |
| In Relation to Your Supervisor | 11 |
| Regarding Relations with Colleagues and Outsiders | 14 |
| PART II RELATING CHIEFLY TO ENGINEERING MANAGERS | 19 |
| General Behavior and Technique | 21 |
| Managing Design and Development Projects | 28 |
| On Organizational Structures | 31 |
| What All Managers Owe Their Staff | 33 |
| PART III PROFESSIONAL AND PERSONAL CONSIDERATIONS | 39 |
| Laws of Character and Personality | 41 |
| Regarding Behavior in the Workplace | 47 |
| Regarding Career and Personal Development | 50 |
| CONCLUSION | 55 |
| BIBLIOGRAPHY | 57 |
| ABOUT THE AUTHOR | 59 |

INTRODUCTION

The originating author of this book, W. J. King, recognized that failings in personal and administrative conduct, rather than technical shortcomings, were the biggest obstacles to success in his engineering department. He and his associates got into more trouble violating rules of professional conduct than by breaking the well-documented laws of science.

But no guidelines for professional behavior appeared to have been written at the time, so King wrote some, collecting them into a scrapbook for use as a professional code by his department. That was the beginning of the laws presented here.

The laws in this book are organized into three chapters, each with a distinct theme. The first chapter highlights tips especially helpful for engineers just starting their careers, but useful for seasoned veterans as well. The second is aimed toward department managers and team leaders. It focuses on managing people and projects, but non-managers will gain valuable insight from the chapter into the challenges that confront their supervisors. The third is a look at personal issues such as career growth, personal development, and professional ethics.

These laws are more than theoretical. They are derived from the experience of King and his colleagues, and have been supplemented, confirmed, and updated by the experience of others. They apply, at least in part, to every organization.

Many laws are generalizations to which exceptions will occur in special circumstances. There is no substitute for good judgment, and vigorous initiatives may be needed in emergencies. Blindly adhering to rules and red tape is itself a breach of professional conduct.

However obvious and trite the laws appear, their violation is responsible for much of the frustration and embarrassment suffered by engineers everywhere. Even if you take little natural interest in these principles, you can further your career by contemplating them at least a little.

