## CONTENTS

Preface vii

Acknowle	edgments xi	
1	Basic Principles of Resistance Training and Exercise Prescription  Basic Definitions 2 • Maximal Voluntary Muscle Actions 4 • Intensity 5 • Training Volume 7 • Rest Periods 7 • Velocity Specificity 9 • Muscle Action Specificity 9 • Muscle Group Specificity 9 • Energy Source Specificity 9 • Periodization 10 • Progressive Overload 10 • Safety Aspects 11 • Summary 14	1
	Types of Strength Training  Isometric Training 16 • Dynamic Constant External Resistance Training 24 •  Variable Resistance Training 34 • Isokinetic Training 37 • Eccentric  Training 45 • Considerations for All Types of Training 52 • Comparison of Training Types 54 • Summary 61	15
S Paragraphic Control of the Control	Physiological Adaptations to Resistance Training  Physiological Adaptations 64 • Bioenergetics 65 • Skeletal Muscle Fibers 74 •  Nervous System Adaptations 101 • Body Composition Changes 109 • Hormonal Systems in Resistance Exercise and Training 115 • Connective Tissue 131 • Cardiovascular Adaptations 134 • Summary 149	63
and the second s	Integrating Other Fitness Components  Compatibility of Exercise Programs 152 • Basics of Cardiorespiratory  Training 165 • Stretching and Flexibility 168 • Summary 176	151
To go go go an	Developing the Individualized Resistance Training Workout  Program Choices 179 • Needs Analysis 181 • Program Design 187 • Acute Program Variables 187 • Training Potential 206 • Setting Program Goals 209 • Summary 212	179

Section of the section will be	Resistance Training Systems and Techniques  Single-Set Systems 216 • Express Circuits 217 • Multiple-Set  Systems 217 • Exercise Order Systems 223 • Training Techniques Applicable to  Other Systems 226 • Specialized Systems and Techniques 233 • Summary 255	215
Francisco (1874) and promoted	Advanced Training Strategies  Periodization of Resistance Training 258 • Comparative Studies 267 •  Power Development 278 • Plyometrics 286 • Two Training Sessions in One Day 294 • Summary 295	257
reconstructive and a second	<b>Detraining</b> Types of Detraining 299 • Physiological Mechanisms of Strength Loss 312 • Effects of Muscle Action Type 315 • Detraining Effects on Bone 315 • Detraining the Bulked-Up Athlete 316 • Summary 318	297
1, d.	Women and Resistance Training  Physiological and Performance Differences Between Sexes 319 • Training in Women 329 • Women's Hormonal Responses to Resistance Training 334 • Menstrual Cycle 339 • Bone Density 342 • Knee Injuries 344 • General Needs Analysis 345 • Summary 347	319
TTO the second s	Children and Resistance Training  Training Adaptations 350 • Injury Concerns 356 • Program Considerations 360 •  Program Progression 362 • Sample Sessions 366 • Equipment Modification and Organizational Difficulties 367 • Program Philosophy 369 • Summary 369	349
Glossary	Resistance Training for Seniors  Hormonal Changes With Age and Resistance Training 372 • Body Composition Changes in Seniors 377 • Changes in Physical Performance With Age 382 • Resistance Training Adaptations in Seniors 388 • Developing a Resistance Training Program for Seniors 394 • Summary 400	371

Glossary 403 References 411 Index 493 About the Authors 507