

# *Contents*

Preface **ix**

Acknowledgments **xi**

---

## **PART I      General Concepts of Anatomy                          1**

---

<b>Chapter 1</b>	<b>Structures . . . . .</b>	<b>3</b>
	Bones . . . . .	4
	Joints . . . . .	9
	Muscles . . . . .	12
	Nerves . . . . .	15
	Blood Vessels . . . . .	16
	Other Tissues . . . . .	19
	Motor Unit . . . . .	19
<b>Chapter 2</b>	<b>Movement . . . . .</b>	<b>25</b>
	Anatomical Locations . . . . .	26
	Planes and Axes . . . . .	26
	Fundamental Movements . . . . .	28

---

## **PART II      Upper Extremity                                  33**

---

<b>Chapter 3</b>	<b>The Shoulder . . . . .</b>	<b>35</b>
	Bones of the Shoulder Girdle . . . . .	36
	Bones of the Shoulder Joint . . . . .	39
	Joints and Ligaments of the Shoulder Girdle . . . . .	40
	Ligaments of the Shoulder Joint . . . . .	42
	Other Ligaments of the Shoulder . . . . .	43
	Fundamental Movements and Muscles of the Shoulder Girdle . . . . .	44
	Fundamental Movements and Muscles of the Shoulder Joint . . . . .	48
	Combined Actions of the Shoulder Girdle and Shoulder Joint . . . . .	55

<b>Chapter 4</b>	<b>The Elbow and Forearm .....</b>	<b>61</b>
	Bones of the Elbow and Forearm .....	62
	Ligaments and Joints of the Elbow and Forearm .....	64
	Fundamental Movements and Muscles of the Elbow and Forearm .....	66
<b>Chapter 5</b>	<b>The Wrist and Hand .....</b>	<b>75</b>
	Bones of the Wrist and Hand .....	76
	Joints and Ligaments of the Wrist and Hand .....	77
	Movements of the Wrist and Hand .....	80
	Wrist and Extrinsic Hand Muscles .....	80
	Intrinsic Muscles of the Hand .....	86
	Muscles of the Thumb .....	88
<b>Chapter 6</b>	<b>Nerves and Blood Vessels of the Upper Extremity .....</b>	<b>95</b>
	Nerves of the Brachial Plexus .....	96
	Major Arteries of the Upper Extremity .....	101
	Major Veins of the Upper Extremity .....	104
<b>PART II</b>	<b>Summary Tables</b>	
	<b>Articulations of the Upper Extremity .....</b>	<b>108</b>
	<b>Upper-Extremity Muscles, Nerves, and Blood Supply .....</b>	<b>110</b>
<b>PART III</b>	<b><i>The Spinal Column, Pelvis, and Thorax</i></b>	<b>117</b>
<b>Chapter 7</b>	<b>The Spinal Column and Pelvis .....</b>	<b>119</b>
	Bones of the Spinal Column .....	122
	Ligaments of the Spinal Column .....	125
	Movements and Muscles of the Spinal Column .....	128
	Bones of the Pelvis .....	136
	Ligaments of the Pelvis .....	138
	Movements and Muscles of the Pelvis .....	139
<b>Chapter 8</b>	<b>The Thorax .....</b>	<b>145</b>
	Bones of the Thorax .....	146
	Joints and Ligaments of the Thorax .....	148
	Movements and Muscles of the Thorax .....	150

---

<b>Chapter 9</b>	<b>Nerves and Blood Vessels of the Spinal Column and Thorax . . . . .</b>	<b>157</b>
	Nerves of the Thorax and Trunk . . . . .	158
	Arteries of the Thorax and Trunk . . . . .	159
	Veins of the Thorax and Trunk . . . . .	161
<b>PART III</b>	<b>Summary Tables</b>	
	Articulations of the Spinal Column, Pelvis, and Thorax . . . . .	164
	Spinal Column and Thorax Muscles, Nerves, and Blood Supply . . . . .	166
<b>PART IV</b>	<b>Lower Extremity</b>	<b>171</b>
<b>Chapter 10</b>	<b>The Hip and Thigh . . . . .</b>	<b>173</b>
	Bones of the Hip Joint and Thigh . . . . .	174
	Ligaments of the Hip Joint . . . . .	176
	Fundamental Movements of the Hip Joint . . . . .	177
	Muscles of the Hip Joint and Upper Leg . . . . .	177
<b>Chapter 11</b>	<b>The Knee . . . . .</b>	<b>189</b>
	Bones of the Knee . . . . .	190
	Ligaments of the Knee . . . . .	194
	Menisci of the Knee . . . . .	197
	Movements of the Knee and Lower Leg . . . . .	198
	Muscles of the Knee and Lower Leg . . . . .	198
<b>Chapter 12</b>	<b>The Lower Leg, Ankle, and Foot . . . . .</b>	<b>207</b>
	Bones of the Lower Leg . . . . .	208
	Bones of the Foot . . . . .	209
	Ligaments and Joints of the Ankle and Foot . . . . .	212
	Movements of the Lower Leg, Ankle, and Foot . . . . .	217
	Muscles of the Lower Leg, Ankle, and Foot . . . . .	219
<b>Chapter 13</b>	<b>Nerves and Blood Vessels of the Lower Extremity . . . . .</b>	<b>231</b>
	Nerves of the Lumbosacral Plexus . . . . .	233
	Major Arteries of the Lower Extremity . . . . .	236
	Major Veins of the Lower Extremity . . . . .	240

**PART IV****Summary Tables**

<b>Articulations of the Lower Extremity .....</b>	<b>245</b>
<b>Lower-Extremity Muscles, Nerves, and Blood Supply .....</b>	<b>247</b>

Answers to End-of-Chapter Questions **253**

Suggested Readings **256**

Index **257**

About the Author **267**

Essentials of Interactive Functional Anatomy **268**