

Contents**Part 1**

1	Engineering materials	1
2	Properties of materials	6
3	Hand tools and workshop equipment	13
4	The joining of metals by mechanical methods	22
5	The joining of metals by soldering and welding	27
6	The casting of metals	33
7	The heat treatment of metals	38
8	The forging of metals	45
9	Hot and cold bulk deformation processes	51
10	The transmission of power	57
11	Gears and gearing	64
12	Screws, keys, splines and cotters	71
13	Engineering inspection.....	78
14	Sheet metal cutting and blanking	83
15	Sheet metal bending and forming processes	90
16	The lathe and single point cutting tools	97
17	Drilling, milling and broaching	105
18	Surface finishing processes	115
19	The manufacture of plastic goods	121
20	Numerically controlled machines	127
21	The automobile engine	132
22	The manufacturing enterprise	141
23	The computer control of manufacturing systems	148
24	The control of manufacturing costs	154
	Answers to exercises	161

Part 2

Introduction to part 2	212
1. Text 1 - Basics of Robots	213
2. Text 2 - A visit to an industrial fair	217

VIII

Vocabulary 1 Englisch/Deutsch	222
Vocabulary 2 Deutsch/Englisch	232
Index	242
Appendix I List of materials	246
Appendix II List of tools	248
Appendix III List of measuring devices and instruments	248