

Table of Contents

Chapter 1

Why Study Thermodynamics? 1

Chapter 2

The Structure of Thermodynamics 17

Chapter 3

The Laws of Thermodynamics 31

Chapter 4

Thermodynamic Variables and Relations 53

Chapter 5

Equilibrium in Thermodynamic Systems 107

Chapter 6

Statistical Thermodynamics 129

Chapter 7

Unary Heterogeneous Systems 163

Chapter 8

Multicomponent Homogeneous Nonreacting Systems:
Solutions 197

Chapter 9

Multicomponent Heterogeneous Systems 249

Chapter 10

Thermodynamics of Phase Diagrams 285

Chapter 11

Multicomponent Multiphase Reacting Systems 349

Chapter 12

Capillarity Effects in Thermodynamics 409

Chapter 13

Defects in Crystals 465

Chapter 14	
Equilibrium in Continuous Systems: Thermodynamic Effects of External Fields.....	495
Chapter 15	
Electrochemistry	523
APPENDICES	
Appendix A	
Fundamental Physical Constants and Conversion Factors	559
Appendix B	
Properties of Selected Elements	561
Appendix C	
Phase Transformations for the Elements	563
Appendix D	
Properties of Some Random Solutions	565
Appendix E	
Properties of Selected Compounds.....	567
Appendix F	
Interfacial Energies of Selected Elements	569
Appendix G	
Electrochemical Series	571
Appendix H	
The Carnot Cycle	573
Appendix I	
Answers to Homework Problems	579
Index	591