Section 1: Pharmacognosy 101
1. Background to pharmacognosy
2. Traditional medicine
3. Plant anatomy and physiology
4. Plant constituents: carbohydrates, oils, resins, balsams, and plant hormones
5. Plant crude drugs

Section 2: Plant metabolites: their chemistry
6. Evolutionary perspectives on the role of plant secondary metabolites
7. Glycosides
8. Alkaloids
9. Tannins
10. Terpenoids
11. Other plant metabolites
12. Vitamins

Section 3: Plant metabolites: their effects
13. Chemotherapeutics
14. Bioactive plant molecules, sources, and mechanisms of action in the treatment of cardiovascular diseases
15. Plant metabolites for treating diseases
16. Psychoactive drugs

Section 4: Metabolites from other sources
17. Marine metabolites: oceans of opportunity
18. Animal metabolites: from amphibians, reptiles, Aves/birds, and invertebrates
19. Fungal metabolites: a focus on endophytes

Section 5: Crude drugs from animals
20. Fats
21. Waxes

Section 6: Basic animal anatomy and physiology
22. Basic animal anatomy and physiology
23. Proteins
24. Pharmacokinetics
25. Pharmacodynamics— a pharmacognosy perspective
26. Drug metabolism

Section 7: Technological applications using biological systems
27. Biotechnology: principles and applications

Section 8 Current trends in pharmacognosy research
28. Nuclear magnetic resonance spectroscopy in drug discovery
29. Metabolomics approach in pharmacognosy
30. Novel targets in drug discovery
31. Nanotechnology: creating, manipulating, and observing nanostructured systems in biology and medicine
32. Ethical aspects of working with local communities and their biological resources
33. Factors to consider in development of nutraceutical and dietary supplements
34. The global regulatory framework for medicinal plants