

Practical Skills in Food Science, Nutrition and Dietetics

William Aspden, Fiona Caple, Rob Reed, Allan Jones, Jonathan Weyers

B C LOUIS E LO C N. CC LECC
Practical Skills in Food Science, Nutrition and Dietetics

Practical Skills in Food Science and Nutrition

Table of Contents

F	r۸	nt	C_{i}	١٧/	Δr
				11/1	

Practical Skills in Food Science, Nutrition and Dietetics

Contents

List of Boxes

Guided tour

Preface

List of abbreviations

Acknowledgements

Study and examination skills

- 1. The importance of transferable skills
- 2. Managing your time
- 3. Working with others
- 4. Taking notes from lectures and texts
- 5. Learning and revising
- 6. Curriculum options, assessment and exams
- 7. Preparing your curriculum vitae

Information technology and library resources

- 8. Finding and citing published information
- 9. Evaluating information
- 10. Using online resources
- 11. Using spreadsheets
- 12. Word processors, databases and other packages

Communicating information

- 13. Organising a poster display
- 14. Giving a spoken presentation
- 15. General aspects of scientific writing
- 16. Writing essays
- 17. Reporting practical and project work



Table of Contents

- 18. Writing literature surveys and reviews
- 19. Communicating with the public
- 20. Consultation skills

Fundamental laboratory and clinical techniques

- 21. Your approach to practical work
- 22. Health and safety
- 23. Legal and ethical requirements in food safety and nutrition
- 24. Basic laboratory procedures
- 25. Working with liquids
- 26. Principles of solution chemistry
- 27. Working with body fluids
- 28. pH and buffer solutions
- 29. Introduction to microscopy
- 30. Setting up and using a light microscope

The investigative approach

- 31. Making and recording measurements
- 32. SI units and their use
- 33. Scientific method and experimental design
- 34. Research project work

Analysis and presentation of data

- 35. Using graphs
- 36. Presenting data in tables
- 37. Hints for solving numerical problems
- 38. Descriptive statistics and survey
- 39. Choosing and using statistical tests

Dietary assessment and intervention

- 40. Nutritional recommendations and guidelines
- 41. Dietary assessment and analysis
- 42. Physical examination
- 43. Anthropometric and body composition measurements
- 44. Estimating energy requirements
- 45. Assaying biochemical markers of malnutrition
- 46. Testing for food allergies and intolerances



Table of Contents

- 47. Integrating nutritional assessment data
- 48. Sports nutrition

Analytical techniques in food science

- 49. Basic physico-chemical techniques for food analysis
- 50. Calibration and its application to quantitative analysis
- 51. Indirect calorimetry
- 52. Immunological methods
- 53. Spectroscopic techniques
- 54. Chromatography
- 55. Electrophoresis
- 56. Molecular biology techniques
- 57. Homogenisation and centrifugation

Analysing food components and properties

- 58. Analysis of biomolecules in food: fundamental principles
- 59. Assaying proteins, amino acids and enzymes
- 60. Assaying lipids
- 61. Assaying carbohydrates
- 62. Assaying nucleic acids and nucleotides
- 63. Assaying active phytochemicals in functional foods
- 64. Sensory analysis techniques
- 65. Product development and evaluation

Food microbiology and processing

- 66. Sterile technique and microbial culture
- 67. Isolating, identifying and naming microbes
- 68. Culture systems and growth measurements
- 69. Microbiological analysis of food
- 70. Food processing
- 71. Measuring the microbiological effectiveness of food processing

Index

Back Cover

