

Contents

Preface ix

0. An Overview

0.1 Survey of Chapter 1	2
0.2 Survey of Chapter 2	6
0.3 Survey of Chapter 3	6
0.4 Survey of Chapter 4	7

1. Linear Differential and Integrodifferential Equations

1.0 The General Setting	15
1.1 Linear Ordinary Differential Equations	22
1.2 Periodic Solutions of Linear Differential Equations	65
1.3 Linear Volterra Equations	69
1.4 Periodic Solutions of Convolution Equations	87
1.5 Periodic Solutions of Nonconvolution Equations	100
1.6 Stability and Boundedness	117

2. History, Motivation, Examples

2.1 Classical Second-Order Equations	139
2.2 Problems with a Delay	149
2.3 Biology, Economics, and Epidemics	160
2.4 Sources of Models	163

3. Fixed-Point Theory

3.1 Compactness in Metric Spaces	164
3.2 Contraction Mappings	171
3.3 Existence Theorems for Linear Equations	175
3.4 Schauder's Fixed-Point Theorem	179
3.5 Existence Theorems for Nonlinear Equations	182

4. Limit Sets, Periodicity, and Stability

4.1 Ordinary Differential Equations	197
4.2 Equations with Bounded Delays	243
4.3 Volterra Equations with Infinite Delay	279
4.4 Stability of Systems with Unbounded Delays	309

References	325
------------	-----

Author Index	333
--------------	-----

Subject Index	336
---------------	-----