

Table of Contents

Preface	V
1. The Standard Galerkin Method	1
2. Methods Based on More General Approximations of the Elliptic Problem	23
3. Nonsmooth Data Error Estimates	35
4. More General Parabolic Equations	51
5. Maximum-Norm Stability and Error Estimates	63
6. Negative Norm Estimates and Superconvergence	81
7. Single Step Fully Discrete Schemes for the Homogeneous Equation	95
8. Single Step Methods and Rational Approximations of Semigroups	111
9. Single Step Fully Discrete Schemes for the Inhomogeneous Equation	127
10. Multistep Backward Difference Methods	145
11. Incomplete Iterative Solution of the Algebraic Systems at the Time Levels	163
12. The Discontinuous Galerkin Time Stepping Method	181
13. A Nonlinear Problem	209
14. Semilinear Parabolic Equations	223
15. The Method of Lumped Masses	239

16. The H^1 and H^{-1} Methods	253
17. A Mixed Method	267
18. A Singular Problem	279
References	289
Index	301

