

## Errata

### Programming the Finite Element Method

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4<sup>th</sup> edition

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1. Equation (2.141) on p.51 should be  $\iint \frac{\partial N_i}{\partial x} N_j dx dy$
2. In equations (3.22) we should have  $\{\mathbf{R}\}_{k+1} = \{\mathbf{R}\}_k - \alpha_k \{\mathbf{Q}\}_k$  and  $\{\mathbf{P}\}_{k+1} = \{\mathbf{R}\}_{k+1} + \beta_k \{\mathbf{P}\}_k$
3. Equation (3.108) on p.98 should be  $\iint \frac{\partial N_i}{\partial x} N_j dx dy$
4. Solution to question 23 on p.162 should state “(analytical 175.2)”
5. Question 13 on p. 221 should include the size of the element, hence  
“...loaded node of the square element of side length 2 shown in Figure 5.48.”
6. In equation (6.26) on p.232 the strain increment term under the integral should be  $\{\delta\boldsymbol{\varepsilon}^{vp}\}^i$   
not  $\{\Delta\boldsymbol{\varepsilon}^{vp}\}^i$ .
7. Equation (6.28) on p.233 should be  $\{\Delta\boldsymbol{\sigma}\} = [\mathbf{D}^{pl}] \{\Delta\boldsymbol{\varepsilon}\}$
8. Top line of p.251 should state, “Chapter 5 (Program 5.4)”
9. Solutions at the bottom of p.354 should be  
(Ans:  $T_A = 38.89$ ,  $T_B = 11.11$ ,  $T_C = T_D = 25.00$ )
10. Figure 8.22 on p.388, the derivative terms at the top and bottom of the column should be  
 $\frac{\partial\phi}{\partial y} = \frac{v}{c_y}\phi$  and  $\frac{\partial\phi}{\partial y} = \frac{v}{c_y}$
11. p.499, Correction to Figure 11.18, 4<sup>th</sup> line should read  
"Replace  $\{\mathbf{U}_1\}$  by  $\{\mathbf{U}_0\} + \Delta t \{\dot{\mathbf{U}}_0\} + 0.5\Delta t^2 \{\ddot{\mathbf{U}}_0\}$ "
12. In the data file near the top of p.549, aa, bb and cc should all be 0.05 (not 0.5)
13. p.540, Caption to Figure 12.21 should state Program 12.4
14. p.565. Bold print describing Program 12.10 should state, “**Compare Program 11.7.**”

