
Contents

Lectures

1. Some basic concepts of engineering analysis _____	1-1
2. Analysis of continuous systems; differential and variational formulations _____	2-1
3. Formulation of the displacement-based finite element method ____	3-1
4. Generalized coordinate finite element models _____	4-1
5. Implementation of methods in computer programs; examples SAP, ADINA _____	5-1
6. Formulation and calculation of isoparametric models _____	6-1
7. Formulation of structural elements _____	7-1
8. Numerical integrations, modeling considerations _____	8-1
9. Solution of finite element equilibrium equations in static analysis _____	9-1
10. Solution of finite element equilibrium equations in dynamic analysis _____	10-1
11. Mode superposition analysis; time history _____	11-1
12. Solution methods for calculations of frequencies and mode shapes _____	12-1

MIT OpenCourseWare
<http://ocw.mit.edu>

Resource: Finite Element Procedures for Solids and Structures
Klaus-Jürgen Bathe

The following may not correspond to a particular course on MIT OpenCourseWare, but has been provided by the author as an individual learning resource.

For information about citing these materials or our Terms of Use, visit: <http://ocw.mit.edu/terms>.