Introduction to Finite Element Method

(Fall Semester, 2015)

Instructor : 이 해 성

Office : 35-408

Tel : 880-8388, e-mail:chslee@snu.ac.kr, web:http://strana.snu.ac.kr

T.A. : 김지현 (35-211, 880-8740)

Text : Class note by the instructor

Reference : 1. Concepts and Application of Finite Element Analysis 3rd Ed. by R. D. Cook

2. The Finite Element Method by T. J. Hughes

3. The Finite Element Method 4th Ed. by O. C. Zienkiewicz

Contents

1. Introduction to Numerical Solutions of Partial Differential Equation (1)
2. Approximation of functions - Discretization & Interpolation (1-2)
3. Error Minimization in One Dimensional Problems (2-4)
4. Elasticity Problems (5-6)
5. Discretization with Finite Elements (7-8)
6. Two-dimensional Elasticity Problems (9)
7. Isoparametric Formulation - Various Types of Finite Element (10-11)
8. Numerical Integration (12)
9. Convergence Criteria(13)
10. Miscellaneous Topics (13)
11. Problems with Higher Continuity requirement - Beam (14-15)
12. Mixed Formulation (15)

Evaluation
(to be adjusted as needed)

1. Mid-Term Exam. : 30 %   (Oct. 19)
2. Final Exam   : 40 %   (Dec. 14)
3. Home Works   : 30 %
4. Term Project   : to be announced if any.

Rules for Class

1. All grades including C, D, F are possible.
2. No homework will be accepted after due dates.
3. No cellular phone during class
4. Final grades are final.   Absolutely no chance to alter them by any excuse.