Lecture Syllabus

fall, 2018

Structural Analysis & Applications

Lecturer : Hong-Gun Park (880-7055, Building 39-431 parkhg@snu.ac.kr)

Teaching Assistant : 권종훈 (880-7053, Building 39, Structural system laboratory)

Lecture time : Mon & Wed. 11:00 – 12:15, Room 39-427

Text Book : Matrix Structural Analysis 2nd edition,

William McGuire, Richard H. Gallagher, Ronald D. Ziemian

John Wiley & Sons, Inc.

Summary of Textbook : handouts from email

Lecture contents : concept of stiffness matrix analysis for line element structures such as trusses and moment frames.

Introduction to Matrix Analysis

Technique for Matrix calculations

Linear analysis of trusses

Linear analysis of moment frames

Variational Principles (Energy method)

Geometric nonlinear analysis of truss and frame

Material Nonlinear analysis

Solution of linear algebraic equations

Solution of nonlinear equilibrium equations

Computer program for truss and frame analysis

Evaluation :

Homework & Projects : 40 %

Mid-term test : 30 %

Final test : 30 %

Deadline for submission of homework : within one week

Projects : computer programming for structural analysis using software matlab