

FUNDAMENTALS OF FINITE ELEMENTS

MANE.6660 AND CIVL.6660

Notes List

The class notes and handouts will be located in

<https://www.scorec.rpi.edu/~shephard/FEM/class-handouts-notes/>

Course introduction – August 30, 2019

- FEM Fund course info.pdf
- Into-to-1D-second-order-pde.pdf

Chapter 1 material – September 6, 2019 through approx. September 17

- Appendix4.I.1.pdf
- Equivalence of S and W.pdf
- 1-2DOF-example.pdf
- MWR.pdf
- MWR-example.pdf
- global-local.pdf

Chapter 2 material – September 20 through ????

- Chapt-II-heat-transfer.pdf
- Chapt-II-elastostatics.pdf
- FE-Analysis-pseudo-code.pdf

We will do the first handout in Chapter 3 (will be included on test 1), but then have a lecture or so on FE Software – could be helpful for projects.

Chapter 3 material

- chapt3-C1-C3-conditions.pdf
- Lagrange-quad-shape-function.pdf
- Lagrange-tri-shape-function.pdf
- Mapping.pdf
- numerical-integration.pdf
- other-shape-functions.pdf
- isogeometric-elements

FE Software

- FE-Software-large-text.pdf
- ATPESC_2018_KolevShephard.pdf