ESRD LIVE WEB-BASED TRAINING OPTIONS - 2020

STRESSCHECK BASIC TRAINING PLUS LINEAR ELASTICITY

$1,590 (1 STUDENT), $2,385 (2 STUDENTS)

The Web-based Basic Training plus Linear Elasticity class is a 5-day course designed to familiarize the student with the StressCheck graphical user interface and provide an introduction to the p-version finite element method (p-FEM). The student will obtain a basic knowledge of 2D and 3D model construction techniques, learn how to execute a linear solutions and perform a wide range of post-processing operations. Students will receive lectures and hands-on tutorials covering the fundamental concepts of the p-FEM that include meshing, applying boundary conditions and quality assurance procedures. ***Basic training is a prerequisite to any advanced training workshops.***

NOTE: *Training Manuals will be provided as PDF's. It is recommended that the manuals are printed for each student.*

- *Key Topics:*
  - *P-version FEA, convergence, errors of idealization and discretization*
  - *Basics of StressCheck, GUI layout, solver, pre- and post-processing*
  - *Parametric modeling guidelines, meshing and boundary conditions*
  - *Importing and modifying CAD files*
  - *Basics of multi-body contact setup and post-processing*
  - *CAE Handbook*
- *Daily Schedule:*
  - *Day 1 – Monday* ***Introduction to StressCheck***
    - *~2 hours of Interactive Web-based Lectures*
    - *2 Exercises corresponding with Interactive Lectures*
    - *1 hour of Introductory Presentations*
  - *Day 2 – Tuesday* ***Model Creation***
    - *~2.5 hours of Interactive Web-based Lectures*
    - *2 Exercises corresponding with Interactive Lectures*
    - *~½ hour of Practical Tips for StressCheck Usage*
  - *Day 3 – Wednesday* ***Advanced Modeling***
    - *1.5 hours of Web-based Lectures and Demonstrations*
    - *~1.5 hours of Interactive Web-based Lectures*
    - *2 Exercises corresponding with Interactive Lectures*
  - *Day 4 – Thursday* ***Complex Analyses***
    - *~3 hours of Interactive Web-based Lectures*
    - *2 Exercises corresponding with Interactive Lectures*
  - *Day 5 – Friday* ***Training Wrap-up***
    - *1 hour of Web-based to review the week.*

STRESSCHECK ADVANCED TRAINING IN FRACTURE MECHANICS

$795 (1 STUDENT), $1,390 (2 STUDENTS)

The 3-day Web-based Advanced Fracture Mechanics course has a lecture presenting an overview on capabilities and functionality in Fracture Mechanics. In this class the student will develop a comprehensive understanding of the Fracture Mechanics pre- and post-processing capabilities for performing detail analyses for cracked structures.

***NOTE:** Training Manuals will be provided as PDF's. It is recommended that the manuals are printed for each student.*

- *Key Topics:*
  - *Linear elastic fracture mechanics (LEFM), contour integral method, J-integral*
  - *Modeling and meshing cracks in StressCheck, best practices in 2D/3D*
  - *Boundary layer meshing*
  - *Extracting stress intensity factors (SIFs)*
  - *Advanced fracture mechanics analysis*
- *Daily Schedule:*
  - *Day 1 - Monday*
    - *1 hour of Web-based Lectures*
    - *~1 hour of student/instructor working Exercises*
    - *~1-2 hours of student working Exercises*
  - *Day 2 - Tuesday*
    - *1 hour of Web-based Lectures*
    - *~1 hour of student/instructor working Exercises*
    - *~1-2 hours of student working Exercises*
  - *Day 3 – Wednesday*
    - *1 hour of Web-based Lectures*
    - *~1 hour of student/instructor working Exercises*
    - *~2-3 hours of student working Exercises*

STRESSCHECK ADVANCED TRAINING IN NONLINEAR ANALYSIS

$795 (1 STUDENT), $1,390 (2 STUDENTS)

The 3-day Web-based Advanced Nonlinear Analysis course has a lecture presenting an overview on capabilities and functionality in Nonlinear Analysis. In this class the student will develop a comprehensive understanding of the Nonlinear Analysis pre-, solution and post-processing capabilities for performing detail analyses for structures undergoing plasticity and/or large deformation.

***NOTE:** Training Manuals will be provided as PDF's. It is recommended that the manuals are printed for each student.*

- *Key Topics:*
  - *Deformation and incremental plasticity theories, geometric nonlinear theory*
  - *Elastic-plastic material definitions and assignments*
  - *Material and general nonlinear analyses*
  - *Fastener element, link element and fastened structural connections in 2D*
  - *Advanced nonlinear analysis*
- *Daily Schedule:*
  - *Day 1 - Monday*
    - *1 hour of Web-based Lectures*
    - *~1 hour of student/instructor working Exercises*
    - *~1-2 hours of student working Exercises*
  - *Day 2 - Tuesday*
    - *1 hour of Web-based Lectures*
    - *~1 hour of student/instructor working Exercises*
    - *~1-2 hours of student working Exercises*
  - *Day 3 – Wednesday*
    - *1 hour of Web-based Lectures*
    - *~1 hour of student/instructor working Exercises*
    - *~2-3 hours of student working Exercises*

STRESSCHECK ADVANCED TRAINING IN COMPOSITES ANALYSIS

$795 (1 STUDENT), $1,390 (2 STUDENTS)

The 3-day Web-based Advanced Composites course has a lecture presenting an overview on capabilities and functionality in StressCheck Composites. In this class the student will develop a comprehensive understanding of the StressCheck Composites GUI features and pre- and post-processing capabilities for performing detailed analyses of composite structures.

***NOTE:** Training Manuals will be provided as PDF's. It is recommended that the manuals are printed for each student.*

- *Key Topics:*
  - *Meshing of laminated composite structures*
  - *Laminated composite material definition and assignment*
  - *Automatic lamination builder, ply by ply modeling*
  - *Post-processing of laminated composites*
  - *Advanced laminated composites analysis*
- *Daily Schedule:*
  - *Day 1 - Monday*
    - *1 hour of Web-based Lectures*
    - *~1 hour of student/instructor working Exercises*
    - *~1-2 hours of student working Exercises*
  - *Day 2 - Tuesday*
    - *1 hour of Web-based Lectures*
    - *~1 hour of student/instructor working Exercises*
    - *~1-2 hours of student working Exercises*
  - *Day 3 – Wednesday*
    - *1 hour of Web-based Lectures*
    - *~1 hour of student/instructor working Exercises*
    - *~2-3 hours of student working Exercises*

STRESSCHECK ADVANCED TRAINING IN RESIDUAL STRESSES

$795 (1 STUDENT), $1,390 (2 STUDENTS)

The 2-day Web-based Advanced Residual Stress course has a lecture presenting an overview on capabilities and functionality in StressCheck bulk residual stress (BRS) and subsurface residual stress (SRS) modules. In this class the student will develop a comprehensive understanding of StressCheck's GUI features and analysis capabilities for performing analysis with these modules.

***NOTE:** Training Manuals will be provided as PDF's. It is recommended that the manuals are printed for each student.*

- *Key Topics:*
  - *Specification of subsurface stress and eigenstrain profiles.*
  - *Prediction of deformation due to surface treatments.*
  - *Importation and assignment of bulk residual stress.*
  - *Prediction of deformation and residual stress redistribution after machining.*
- *Daily Schedule:*
  - *Day 1 - Monday*
    - *1 hour of Web-based Lectures*
    - *~1 hour of student/instructor working Exercises*
    - *~1-2 hours of student working Exercises*
  - *Day 2 - Tuesday*
    - *1 hour of Web-based Lectures*
    - *~1 hour of student/instructor working Exercises*
    - *~1-2 hours of student working Exercises*