Course Highlights

T3D Quick Start
The iSys and Guide user interfaces
Theory and Background
Pre and Post –processing

Location
Our office at 3962 Brown Park Drive, Hilliard OH

Date
March 12, 2020

Purpose
Transmission3D™ is a finite element based geared system contact analysis package built on our contact solver Calyx™. It uses a suite of innovative modeling techniques to manage the computational load and accuracy requirements of good gear box analysis. A good understanding of these techniques is important for a user to make the best use of the program.

This is a one day short course to introduce you to the software capabilities, background and theory for 3-dimensional, multi-body gear contact analysis of complex gear systems. This course will present you with the steps involved in modeling a gear system, understanding boundary conditions and extracting the results from an analysis.

A simple reduction set and a simple planetary gear set will be used as examples to introduce concepts of Rotors, Connectors, and Contact Pairs. Special attention will be given to flexible-, rigid-and reference frame constraints, rigid body movements, deformations, Fourier interfaces, and how these differ from their counterparts in general purpose finite elements. Special emphasis will be given to concepts that are a common source of confusion for new users.

Who should attend?
We have a growing community of users, and we have been receiving requests to run a course for new users who have not had the opportunity to be trained in the usage of Transmission3D. If you are a new user, if you need a refresher, or if you are a potential user interested in learning more, this course is for you.

The course is of particular interest to engineers and technicians involved in the analysis, manufacture, and design specification or utilization of simple and complex gear systems. Industries that find this course helpful include the automotive, transportation, wind-energy, construction equipment, aircraft, appliance, general manufacturing, and all gear manufacturers.

Topics

T3D Quick Start
Reduction Set Model
Simple Planetary Model
User Interface basics
iSys
Guide
Command line/batch mode
Modeling with iSys
Rotor
Connectors
Contact Pairs
Theory & Background
Basic involute theory
Calyx Modeling Assumptions
Bodies & Reference Frame
Finite Element & Local Contact Models
Deformation & Rigid Body Motions
Fourier Interface
Shaft Constraints & Reference Frame Constraints
Pre and Post -processing
Bending Stress
Contact Pattern & Pressure
Fatigue: Alternating Stress and Goodman Diagram
Sub surface stress

General Information
Price is US$1,200 per person.
Plan to bring your own laptop computer. We will provide temporary licenses.
Advance registration is required and should be completed no later than February 16th, 2020.
Payment instructions (for major Credit card via PayPal) will be provided upon initial registration.
Applicants are usually accepted on a first come, first served basis to the limit of the course. Course payment must be completed by no later than February 16th, 2020. Cancellations must be made before February 2, 2020 in order to receive a refund.
Contact:
For technical questions: Dr. Sandeep Vijayakar sandeep@ansol.com.
For registration: Delores Orender delores.orender@ansol.com.

Course Instructor
Dr. Sandeep Vijayakar