1. Introduction
   * NDT Introduction
   * A Brief History Of Liquid Penetrant

2. Basic Principles of Liquid Penetrant Inspection
   * Why penetrant testing is used and works
   * What penetrant testing is used on and reveals
   * Visual Acuity

3. Basic Steps of Liquid Penetrant Processing
   * Parts Preparation
   * Application Of Penetrant
   * Removal Of Excess Penetrant
   * Application Of Developer
   * Inspection
   * Post Cleaning

4. Types of Penetrants Currently Used
   * Commonly Used Penetrant Materials
   * Some “Special” Penetrant Materials
   * Precautions Regarding Penetrant Materials
   * Safety Precautions Involved With Different Materials And Applications
   * Inspection Environments: Requirements For Fluorescent Inspection, Requirements For Color Contrast Inspection, Requirements For Dual Mode Inspection.
   * Post Cleaning

5. Penetrant Testing Materials
   * Classification of Penetrant Materials
     o Type 1 – Fluorescent
     o Type 2 – Visible
   * Method Classification of Penetrants
     o Method A - Water Wash
     o Method B - Post Emulsifiable (Lipophilic)
     o Method C - Solvent Removable
     o Method D - Post Emulsifiable (Hydrophilic)
   * Removability For Each Method (Emulsifiers & Solvents) Developers (Forms)
   * Developers (Forms)
   * Parts Preparation
6. Methods & Techniques
   * Selection of Penetrant Technique
   * Penetrant Application & Dwell Time
   * Penetrant Removal Process
   * Use And Selection Of Developers
   * Advantages & Disadvantages

7. Inspection, Interpretation & Evaluation
   * Defined
   * Responsibilities Involved With Each
   * Use Of Codes And Standards
   * Interpretation Of Indications
   * Report Writing And Documentation

8. System Controls
   * Equipment
     o Penetrants
     o Emulsifiers
     o Developers
     o Cleaners

9. Laboratory Exercises
   * System Maintenance and Operational Checks
   * Technique Development and Applications
   * Parts Processing
   * Interpretation and Evaluation

10. Inspection Procedures & Standards
    * Understanding And Interpreting Specifications, Standards
    * Following Written Procedures
    * General Documentation Procedures and Record Keeping

11. Material Processes
    * Inherent Discontinuities
    * Processing Discontinuities
      o Primary
      o Secondary
    * In Service Discontinuities

12. Liquid Penetrant Test Equipment & Accessories
    * Portable, Stationary Units and Set Up
    * Blacklight and Electro-Magnetic Spectrum
    * Pressure and Temperature Controls
* Performance Checks and Requirements
* Specialized Penetrant Equipment and Chemicals
* Choice Of Method and Technique Development