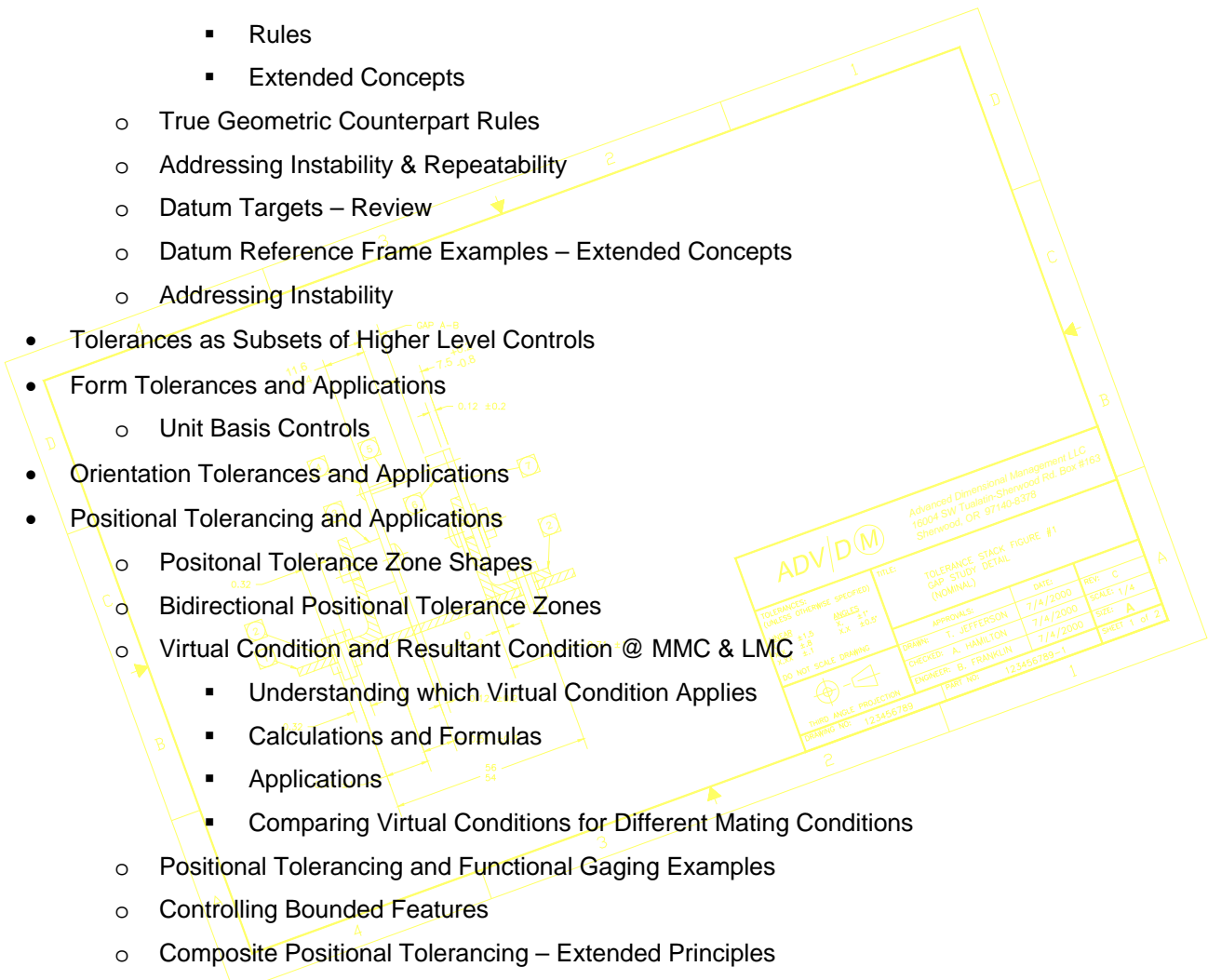


- Screw Threads, Splines and Gears as Datum Features
- Where the Datums are & Where the Datums can be
- Selecting Datum Features
 - Functional Considerations
 - Interfacial Considerations
 - Geometric Considerations
- Datum Feature Precedence
 - Rules
 - Extended Concepts
- True Geometric Counterpart Rules
- Addressing Instability & Repeatability
- Datum Targets – Review
- Datum Reference Frame Examples – Extended Concepts
- Addressing Instability
- Tolerances as Subsets of Higher Level Controls
- Form Tolerances and Applications
 - Unit Basis Controls
- Orientation Tolerances and Applications
- Positional Tolerancing and Applications
 - Positional Tolerance Zone Shapes
 - Bidirectional Positional Tolerance Zones
 - Virtual Condition and Resultant Condition @ MMC & LMC
 - Understanding which Virtual Condition Applies
 - Calculations and Formulas
 - Applications
 - Comparing Virtual Conditions for Different Mating Conditions
- Positional Tolerancing and Functional Gaging Examples
- Controlling Bounded Features
- Composite Positional Tolerancing – Extended Principles
- Composite vs. Multiple Single Segment
- Composite versus Position with Perpendicularity
- Material Condition Modifier Selection Criteria – Functional Considerations
- Projected Tolerance Zones – Extended Principles
 - Calculating Projection without Specifying a Projected Tolerance Zone
 - Effects and Proof: Position
 - Effects and Proof: Position with Perpendicularity



- Runout Tolerances and Applications
- Profile Tolerances and Applications
 - Composite Profile Examples
- Free State and Restrained Parts – Forces and Force Systems
 - Defaults in ASME Y14.5M-1994: Free State vs. Non-Rigid Parts
 - Definitions
 - Reasons for Restraint
 - Functional, Assembly and Installation Conditions
 - Defining Restraint Conditions
 - Restraint Variables
 - Restraint Notes
 - Part Geometry: Comparison of Free-State and Restraint – Implication on the Finished Part
 - Coordination with Inspection and Manufacturing
 - Datum Reference Frame Issues
 - Tolerance Zone Issues
 - Clamping vs. Manual Adjustment
 - Implications
- Default GD&T Systems
- Applications and Examples – Extended Principles (Extensive – More than half the class)
 - Functional Dimensioning and Tolerancing – Extended Principles
 - Dimensioning and Tolerancing Strategies for Mating Parts
 - Comparison of Alternate Approaches on Mating Parts
 - Etc.

