

EW-3000 Topical Outline

Each lecture is two hours of instruction

Lecture Group One - Chaff, Flare, and Expendable Decoys - 6 lectures

Topics Include: Chaff Radar Cross Section, Bloom Rate, Dispense Patterns and Timing, Single and Multi-Frequency Chaff Packets, Chaff and Flare Dispensers, Flare Aerodynamics, Flare Irradiance, Irradiance Patterns, Dispense Methods, Timing, Spectral Issues, Expendable Decoy Transmit Power, Activate Mechanisms, Antenna Patterns, Frequency Response, Expendable Decoy Aerodynamics, Battery Issues, The AN/ALE-40 Chaff and Flare Dispenser, The AN/ALE-47 Chaff and Flare Dispenser, Chaff, Flare, and Expendable simulations.

Lecture Group Two - Towed Decoys - 6 lectures

Topics include: Towed Decoy Basic Functions, Towed Reflector, Towed Antenna, Towed Repeater, Fiber Optic Towed Transmitter, Antenna Patterns, Repeater Gain, Transmitter Power, Tow Line Length, Retraction, Release Response Time, The AN/ALE-50 Decoy Subsystem, The AN/ALE-55 Subsystem, Towed Decoy simulations.

Lecture Group Three - Test and Evaluation - 6 lectures

Topics include: Air Force T&E Process, Method of Test, Test Objectives, Data Requirements, Instrumentation Requirements, Modeling and Simulation, Hardware-in-the-Loop T&E, Installed System T&E, Open Air Range T&E

Lecture Group Four - The Sparrow Missile System - 6 lectures

Topics include: System Block Diagram, Functional Description, Antenna System, Receiver System, Doppler Tracking, Angle Tracking, ECCM Subsystems, Dynamics

Lecture Group Five - Threat Weapon Systems - 12 lectures

Topics Include: ZSU-23/4 weapon system, SA-6 weapon system, SA-8 weapon system, SA-10/20 weapon system, SA-15 weapon system, MiG-29 weapon system