

LEONARDO ACADEMY (LINCOLN)
COURSE PROSPECTUS



PROSPECTUS

Cyber Electromagnetic Activities Training

The Leonardo Academy (Lincoln) provides extensive academic and practical training in Cyber Electromagnetic Activities (CEMA) through the provision of courses and workshops that include the theory and applications of Cyber Operations, Electronic Warfare (EW) and EW Operational Support. CEMA related courses are outlined within this Prospectus.

Electronic Warfare Product Training

As the UK's largest provider of Electronic Warfare equipment, systems and integrated solutions, Leonardo provides product training to a range of UK and International customers to meet their specific needs.

Working closely with the Leonardo product team, the training team takes a consultative approach throughout to clearly understand the Customer's requirements in order to provide the most appropriate training solution. Details of specific product training courses are available on request.

End-to-end CEMA capability

By combining academic courses and workshops covering Cyber, EW and EWOS with product training, Leonardo Customers are able to benefit from training solutions that provide an end-to-end CEMA capability at a national level tailored to any (or all) Leonardo platforms.

Academic CEMA training is also able to support the product ranges of other platform manufacturers, providing a complete turn-key solution to national CEMA needs.



Welcome to
Leonardo Academy
(Lincoln)

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EW 002	Electronic Warfare Electro-Optics
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EWO 002	Electronic Warfare Mission Planning and Briefing Workshop
EWO 003	Electronic Warfare Mission Debriefing Workshop

Electronic Warfare Operational Support (EWOS)

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EWOS 002	Electronic Warfare Equipment Specific Databases
EWOS 003	Electronic Warfare Mission Data Generation
EWOS 004	Electronic Warfare Mission Data Test and Verification
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EWOS 006	EWOSC Management Workshop
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Electronic Warfare Tactics and Countermeasures (EWTCM)

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EWTCM 003	Advanced Electronic Warfare Threat Vulnerability Analysis and Countermeasures Development
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Electronic Warfare Intelligence (EWI)

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EWI 003	Electronic Warfare Database Management Systems
EWI 004	Function Analysis Workshop
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Cyber Security (CySec)

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CySec 003	Advanced – Cyber Incident Response and Hunting
CySec 004	Advanced – Cyber Digital Forensics Investigations
CySec 005	Advanced – Penetration Testing and Red Teaming
CySec 006	Enterprise and Tradecraft – Enterprise Tooling
CySec 007	Enterprise and Tradecraft – Wargaming

COURSE PROSPECTUS

ELECTRONIC WARFARE (EW)

Leonardo training is modularised and can be adapted to suit individual customer needs. Short courses or workshops can be created from parts of longer courses or workshops.

For example, a short workshop for senior managers to introduce the structure of EW and EW Operational Support (EWOS) can be adapted from elements from the EW001 Fundamentals Course, EW002 Electro-Optics Course and EWOS001 Introduction to Electronic Warfare Operational Support Organisation Course. This example is shown in the prospectus as EW003, but any combinations of training material are possible.

EW 001

ELECTRONIC WARFARE FUNDAMENTALS



15 Days
Course Length

Course Overview

This course provides students with an understanding of the principles of Electronic Warfare (EW), Electronic Warfare Operational Support (EWOS) and the production of mission data within an EW Centre (EWC). The course includes Electromagnetic (EM) wave, Radar and Electro Optic (EO) theory, Radar Parametric Analysis and EW principles.



12 Students
Maximum
Per Course

Intended Audience

This introductory course is suitable for personnel with a requirement to understand the fundamental principles related to EW.



Entry Criteria
None

Course Modules

- The theoretical principles and applications of sensors, weapon systems and EW equipment
- Electromagnetic (EM) wave theory
- Antenna theory, design and application
- The definitions used within divisions of EW
- The defining characteristics of emitter parametrics
- The principles and techniques used in Radar Systems
- The principles and techniques used in EM Spectrum Operations & Signal Processing
- The principles and techniques used in Electronic Attack, and Electronic Protection
- The purpose and use of Radar threat weapon system components
- The principles of carrying out Radar function analysis
- The concepts involved in the role of mission data production and testing

EW 002

ELECTRONIC WARFARE ELECTRO-OPTICS



10 Days
Course Length

Course Overview

This course is to provide students with an understanding of the application of Electronic Warfare in relation to Electro-Optics systems, including lasers.

It covers the principles of EO, specific EO systems used by the military and addresses the threats to military EO systems.



12 Students
Maximum
Per Course

Intended Audience

Personnel whose employment deals directly with military applications of EO.

Course Modules

- Sources of infrared signature
- EO detector types
- EO detector materials
- EO imaging and systems
- EO missile - target tracking
- EO ESM
- EO ECM
- EO Missile EPM



Entry Criteria
None

EW 003

ELECTRONIC WARFARE MANAGEMENT WORKSHOP



2 Days
Course Length

Course Overview

This workshop provides Electronic Warfare (EW) and EW Operational Support (EWOS) managers with an understanding of the principles of EW and EWOS. The workshop will provide an overview of the key components and management of the (EWOS) lifecycle.

Intended Audience

This workshop is suitable for EW and EWOS managers requiring a high-level overview of the principles and organisation of EW and EWOS activities.

Course Modules

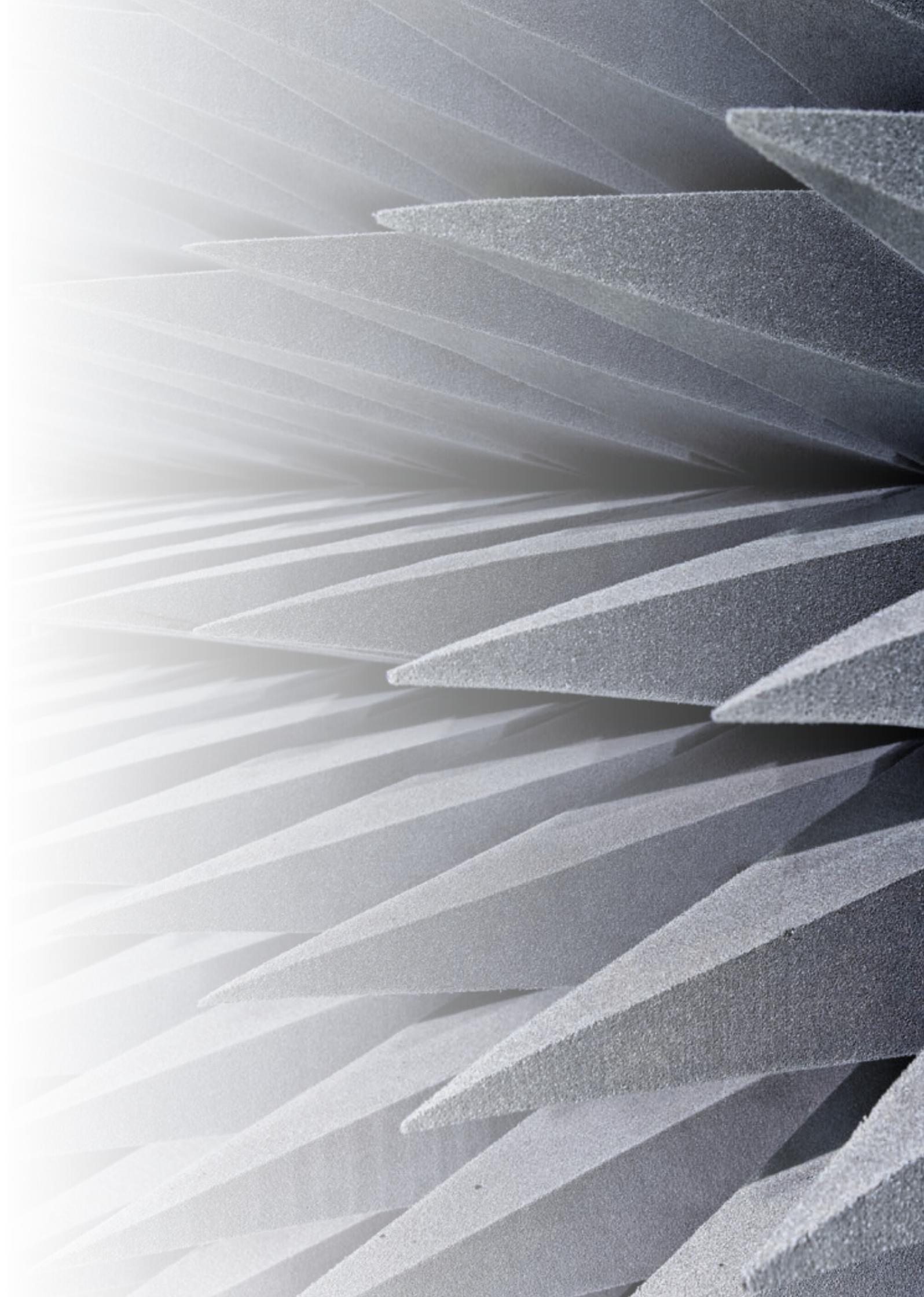
- Structure of EW
- RF and EO sensors and systems overview
- Threat overview
- The EWOS lifecycle
- The EWOS Organisation and EWOS skill sets
- Meeting operational requirements



12 Students
Maximum
Per Course



Entry Criteria
None



COURSE PROSPECTUS

ELECTRONIC WARFARE OPERATIONS (EWO)



EWO 001

OPERATIONAL ELECTRONIC WARFARE WORKSHOP



5 Days
Workshop Length

Workshop Overview

This workshop provides personnel from Air, Land or Naval operations with an appreciation of how Electronic Warfare (EW) in multi-force operations is supported by EW Operational Support (EWOS). The workshop discusses the structure behind mission data collection & analysis and the adaptation of data into passive and active EW (and related) systems. It covers how operational personnel can benefit from and help develop the EWOS lifecycle.



12 Students
Maximum
Per Workshop

Intended Audience

Operational personnel with a need to understand EWOS within an operational context.



Entry Criteria
None

Workshop Content

- Data requirements of operational EW
- Collection of data
- Operational application of EW data
- The role operations play in supporting the EWOS lifecycle
- Explore future EW technologies and impact on EW lifecycle

EWO 002

ELECTRONIC WARFARE MISSION PLANNING AND BRIEFING WORKSHOP



4 Days
Workshop Length

Workshop Overview

This workshop explains the requirements, content and scope of EW mission planning and briefing to front-line personnel engaged in operations. It includes both the role of EW in general missions and the planning and briefing of specific EW tactical missions.



12 Students
Maximum
Per Workshop

Intended Audience

Operational personnel newly employed within an EW Intelligence or operational environment.



Entry Criteria
EW 001 -
Electronic
Warfare
Fundamentals

Workshop Content

- The Intelligence Picture
- Intelligence gathering and sources of information
- EW situational awareness & Electronic Order of Battle
- The EW Threat and its relationship to Mission Planning
- Topography and Mission Profiling
- Mission Planning Tools
- Strategic vs Tactical view of the battlespace, and how they relate to Mission Planning & Briefing
- Platform-specific EW requirements and logistics
- EW Mission-specific data support
- The role & fidelity of EW information databases
- Mission Briefing structure & content overview



2 Days
Workshop Length

Workshop Overview

This workshop explains the requirements and content of EW mission debriefing to front-line personnel engaged in operations. It includes both debriefing the EW aspects of general missions in support of the EW Operational Support process and the debriefing of missions that have a specific EW role.



12 Students
Maximum
Per Workshop

Intended Audience

Operational personnel employed within an EW operational environment.

Workshop Modules

- Mission Reporting & Debriefing
- The Intelligence Picture
- The role of accurate & timely EW debriefing
- Tactical vs Strategic EW data collection
- Post-Mission Debrief Analysis & Reporting
- EW Feedback & Information Management



Entry Criteria
EWO 001

ELECTRONIC WARFARE OPERATIONAL SUPPORT (EWOS)



EWOS 001

COMPOSITION AND FUNCTIONS OF AN ELECTRONIC WARFARE OPERATIONAL SUPPORT ORGANISATION



4 Days
Course Length

Course Overview

This course provides students with the required knowledge to understand the composition, functions and day-to-day activities of a typical Electronic Warfare Operational Support (EWOS) organisation.



12 Students
Maximum
Per Course

Intended Audience

Building on the Electronic Warfare Fundamentals course, this course is aimed at personnel that require further knowledge of a typical EWOS organisation.

Course Content

- Departments within an EWOS Organisation
- EWOS skill-sets
- Development of an EW Database
- Sources of EW Data
- Parameter Limits and Ambiguities
- Business Continuity



Entry Criteria
EW 001

EWOS 002

ELECTRONIC WARFARE EQUIPMENT SPECIFIC DATABASES



5 Days
Course Length

Course Overview

This course provides the student with an understanding of the processes and procedures required to create and maintain a national database and an equipment-specific database.



12 Students
Maximum
Per Course

Intended Audience

Personnel that require greater awareness of this key component of the Electronic Warfare Operational Support lifecycle.

Course Content

- National EW Database
- Equipment-specific Database
 - Specification
 - Creation
 - Maintenance
 - Sub-Set Creation
- Equipment-specific Database Development



Entry Criteria
EW 001

(Recommend attendance on EWOS 001, an equivalent course or relevant experience)

EWOS 003

ELECTRONIC WARFARE MISSION DATA GENERATION



3 Days
Course Length

Course Overview

This course provides students with the necessary understanding of the procedures and processes that are employed as part of Mission Data (MD) file production.



12 Students
Maximum
Per Course

Intended Audience

Personnel involved in the production and maintenance of MD within an Electronic Warfare Operational Support environment.



Entry Criteria
EW 001
EWOS 002

(Recommend attendance on EWOS 001, an equivalent course or relevant experience)

Course Content

- MD Pre-requisites
- MD Processes - Inputs and Outputs
 - Specification
 - Build
 - Test
 - Support

EWOS 004

ELECTRONIC WARFARE MISSION DATA TEST AND VERIFICATION



5 Days
Course Length

Course Overview

This course provides students with the necessary knowledge to understand and implement Mission Data (MD) file testing as part of the MD production lifecycle.



12 Students
Maximum
Per Course

Intended Audience

Personnel involved in the production and maintenance of Mission Data in an Electronic Warfare Operational Support environment.



Entry Criteria
EW 001
EWOS 002
EWOS 003

(Recommend attendance on EWOS 001, an equivalent course or relevant experience)

Course Modules

- Test & Verification
- Impact of an Integrated EW System
- Test & Verification tools
- Introduction to Emitter Modelling
- Mission Data test methodology

EWOS 005

ELECTRONIC WARFARE POST-MISSION DATA ANALYSIS



4 Days
Course Length

Course Overview

This course will provide students with the necessary understanding of Post-Mission Analysis (PMA) procedures and processes.

Intended Audience

Personnel involved in the PMA within an Electronic Warfare Operational Support environment.



12 Students
Maximum
Per Course

Course Content

- PMA data
- PMA tools
- PMA methodologies
- Post-Mission tasks



Entry Criteria

EW 001
EW 002
EWOS 002
EWOS 003
EWOS 004

(Recommend attendance on EWOS 001, an equivalent course or relevant experience)

EWOS 006

EWOSC MANAGEMENT WORKSHOP



5 Days
Workshop Length

Workshop Overview

This workshop will provide the student with practical knowledge in the breadth and depth of EWOS, the EWOS lifecycle and Sovereign capability in support of a requirement to develop an Electronic Warfare capability.

Intended Audience

Personnel taking up management positions within an EWOS organisation.



12 Students
Maximum
Per Workshop

Workshop Modules

- Electronic Warfare Operational Support - Introduction
- The EWOS Lifecycle
- Managing the internal and external functions related to:
 - Establishment of required output
 - Establishment of required capacity
 - Establishment of roles and responsibilities within an EWOS Centre
 - Staff development and training
 - Workflow management and Quality Assurance
 - Mission Data requirement specifications
 - The Intelligence and Data Gathering Cycle
 - EW Knowledge Base (Database) Management: Collation/Analysis/Storage/Distribution
 - EW Mission Planning
 - Mission Data generation
 - Mission Data Testing & Verification
 - EW Tactics and Countermeasures Development
 - EW trials
 - Product compliance
 - EW Mission Replay and Debrief
 - Post mission/trials/testing analysis



Entry Criteria
None

EWOS 007

SOFTWARE IN THE LOOP TESTING WORKSHOP



10 Days
Workshop Length

Workshop Overview

This workshop covers the concepts and applications of Software in the Loop (SWIL) testing of Mission Dependent Data using proprietary tools.

Intended Audience

Personnel working within an EW Mission Data Test & Validation role.



12 Students
Maximum
Per Workshop

Workshop Modules

- The role of SWIL testing
- The capabilities and limitations to SWIL testing
- Emitter Testing & Platform Linking
- Mission Data & Operational Software compatibility testing
- Mission Data Emitter Parametric Data confirmation
- EW Mission Data Performance testing
- Verification of performance parameters
- Emitter Ambiguity Analysis & Confidence Levels
- Quality Assurance & Verification



Entry Criteria
EW 001

EWOS 008

HARDWARE IN THE LOOP TESTING WORKSHOP



5 Days
Workshop Length

Workshop Overview

This workshop covers the concepts and applications of HWIL testing of Mission Dependent Data using proprietary tools.

Intended Audience

Personnel working within a Mission Data Test & Validation role.



12 Students
Maximum
Per Workshop

Workshop Modules

- The role of HWIL testing
- HWIL testing advantages and limitations
- HWIL Rig overview
- Supported Configurations
- Rig Environment & supporting technologies
- Simulation programming
- Practical scenarios & target modelling



Entry Criteria
EW 001



2 Days
Workshop Length

Workshop Overview

This workshop covers the concepts and applications of the methods and equipment used in the testing of EW equipment prior to missions. The course includes the role of end-to-end mission survivability testing using proprietary software tools.



12 Students
Maximum
Per Workshop

Intended Audience

Operational and technical personnel involved in the programming or use of Flight Line Testing using the latest generation of Flight Line Testing equipment.



Entry Criteria
None

Workshop Content

- The purpose and application of end-to-end testing of platform detection systems
- The processes used to perform and record end-to-end testing of EW systems
- End-to-End equipment overview
- Calibration and Maintenance requirements
- Test design and methodologies
- End-to-End test data generation and accuracy
- Post-test reporting and documentation
- The future of testing of equipment readiness and its integration with mission readiness

COURSE PROSPECTUS

ELECTRONIC WARFARE TACTICS AND COUNTERMEASURES (EWTCM)





10 Days
Course Length

Course Overview

The Electronic Countermeasures (ECM) course will provide students with an understanding of ECM and Electronic Protective Measures (EPM). The course will provide personnel with in-depth knowledge and skills to understand and exploit ECM techniques.



12 Students
Maximum
Per Course

Intended Audience

Personnel involved in the production and maintenance of ECMs within an Electronic Warfare Operational Support organisation.

Course Content

- Electronic Warfare (EW) and Threats concepts
 - Missile guidance theory
 - IR detector head technologies
 - RF and IR EPM
- EW Noise Jamming
 - Specific noise techniques
 - Data requirements
- EW Deception Jamming
 - Specific deception techniques
 - Data requirements
- EW Expendables
 - Chaff, flares and active decoys
- EW defensive manoeuvring



Entry Criteria
EW 001
EW 002



20 Days
Course Length

Course Overview

This course offers students an essential foundation in the operational processes and procedures used in the generation of generic radar and infrared threat tactics and countermeasures.



12 Students
Maximum
Per Course

Intended Audience

Personnel involved in the production and test of EW tactics and countermeasures.

Course Content

- Introduction to TVACD
- The TVACD Process
- Example Radio Frequency (RF) TVACD
- Example Infrared TVACD
- TVACD exercise



Entry Criteria
EW 001
EW 002
EWTCM001

ADVANCED EW THREAT VULNERABILITY ANALYSIS AND COUNTERMEASURES DEVELOPMENT



60 Days
Course Length

Course Overview

This course provides students with a greater understanding in relation to processes, threat effector analysis, conceptual countermeasure development and verification methodologies required to carry out the role of a TVACD analyst.



12 Students
Maximum
Per Course

Intended Audience

Personnel involved in the production and test of EW tactics and countermeasures, primarily focussed towards personnel to be employed in a TVACD Analyst role.



Entry Criteria
EW 001
EW 002
EWTCM 002

Course Content

- Matlab/Simulink for TVACD
- Effector Systems Analysis
- Anti-Aircraft Artillery Ballistics
- Missile Propulsion Analysis
- Missile Aerodynamics Analysis
- Missile Control Analysis
- Warhead Analysis
- Detailed RF and IR System Analysis
- Countermeasures Development
- Theory of Modelling and Simulation
- Modelling RF and IR Countermeasures
- Verification of Countermeasures
- TVCAD Processes Design and Use

EW MODELLING AND SIMULATION WORKSHOP



20 Days
Workshop Length

Workshop Overview

This workshop is designed for TVACD specialists involved in the modelling of platforms, weapons and the general Electromagnetic (EM) environment.



6 Students
Maximum
Per Workshop

Intended Audience

Personnel with experience in TVACD who wish to enhance their Modelling and Simulation skills using proprietary TVACD modelling tools.



Entry Criteria
EWTCM 001
EWTCM 002
EWTCM 003

Workshop Content

- Introduction to Matlab and Simulink
- The use of Matlab for TVACD
- The use of Simulink for TVACD
- The use of Matlab for the calculation of TVACD data
- The design of task specific TVACD tools using Matlab and Simulink
- Introduction to Leonardo TVACD modelling tool, Tactical Engagement Simulation Software (TESS)
- The amendment of TESS source code to meet specific requirements
- Introduction to the design principles associated with effectors (i.e. warhead selection, propulsion selection etc.)
- Discussion on the early initial assessment of threat systems
- The selection process for propulsion, and the methodologies associated with analysis of propulsion systems, including a worked example for both a rocket and air breathing weapon systems
- The aerodynamics associated with guided weapons
- An introduction to the methods of missile control and the assessment of these systems
- Introduction to Anti-Aircraft Artillery (AAA) systems and the assessment of key parameters
- An introduction to the design and assessment of effector warheads
- The verification of countermeasures developed by modelling and simulation
- The use of EW ranges to validate countermeasures developed in modelling

EW TACTICS TECHNIQUES AND PROCEDURES WORKSHOP



3 Days
Workshop Length



12 Students
Maximum
Per Course



Entry Criteria
None

Workshop Overview

This workshop explores the scope of EW Tactics Techniques and Procedures to an introductory level of understanding of these concepts within EW.

Intended Audience

Personnel taking up positions in EWOS roles involving the formulation of Tactics, Techniques and Procedures

Workshop Content

- Understand general operations (Air, Sea and Land)
- Understand the general application of techniques in Air, Sea and Land operations including:
 - Chaff techniques
 - Flares techniques
 - Stealth techniques
 - Decoy techniques
 - Manoeuvre techniques
 - CEMA techniques
 - Electro-magnetic Pulse techniques.
- Understand the general application of tactics including:
 - Jamming tactics
 - Chaff tactics
 - Flare tactics
 - Manoeuvre tactics
- Understand the need for and application of procedures
 - The need for standard operating procedures
 - The derivation of procedures
 - Amending procedures
- The EWOS Cycle and its role in the establishment and development of tactics, techniques and procedures

COURSE PROSPECTUS

ELECTRONIC WARFARE INTELLIGENCE (EWI)





10 Days
Course Length

Course Overview

This course delivers an essential foundation in Electronic Intelligence (ELINT) operations and technology. The aim of the course is to provide students with concepts, techniques and tools for the generation of intelligence from intercepted emitter parameters.



12 Students
Maximum
Per Course

Intended Audience

Personnel involved in the field of ELINT and Intercept Analysis.



Entry Criteria
EW 001

Course Content

- Mathematics for analysis
- The completion of incomplete data
- Introduction to the Electronic Order of Battle
- Production of a generic data profile
- Threat library production and variations for mission data sets
- The application of data support to mission data production and to the Electronic Warfare programming process
- Emitter ambiguity analysis
- Electronic Warfare Support Measures receivers in the Mission Data (MD) detection process
- The production of MD documentation
- The production of a generic set of MD
- Testing MD
- Emitter and Pulse Analysis Tools
- The implications of future technology on data definition production and support



10 Days
Course Length

Course Overview

This course delivers training in the format and use of Electronic Intelligence (ELINT) tools. The aim of the course is to provide students with examples of techniques and tools used for the generation of intelligence from intercepted emitter parameters.



12 Students
Maximum
Per Course

Intended Audience

Personnel involved in the field of ELINT and Intercept Analysis.



Entry Criteria
EWI 001

Course Content

- Emitter and Pulse Analysis Tools
 - Types
 - Scope of use
 - Algorithmic capabilities
 - Intercept file formats
 - Manual and automatic operation
 - Single and batch emitter management
 - Plotting intercepts
 - Identifying intercepts
 - Benefits
- Performance Analysis Tools
 - Types
 - Weapon System
 - Weapon performance
 - EW Engagement Scenario

ELECTRONIC WARFARE DATABASE MANAGEMENT SYSTEMS



10 Days
Course Length

Course Overview

This course delivers training in the requirements of a national EW Data Management System. The aim of the course is to provide students with examples of the data relationships within EW, and from these, to understand the requirements and operation of a National EW database.



12 Students
Maximum
Per Course

Intended Audience

Personnel involved in the input and extraction of EW and EW related data for operational employment on systems and for intelligence activities.



Entry Criteria
EW 001
EW 002

Course Modules

- Role and structure of a National EW Database
- Scope of data required within an EW Database
- The role of the Equipment Specific Database (ESDB)
- Security of an EW Database
- Data provision including sources of data, closed and open source, classified and unclassified
- Data integrity including the management of the accuracy of data and the trustworthiness of data
- Support to the National EW Database
- Support from the National Intelligence collection assets
- Data input including baseline theatre library creation, threat and object associations, objects, weapons, emitters, platforms and countermeasures
- Air, Sea and Land platforms
- Geographical locations
- Other objects within the database
- Data including equipment specific emitter models, equipment specific countermeasures, testing data, models, scenarios and ambiguity analysis

EWI 004

FUNCTION ANALYSIS WORKSHOP



4 Days
Workshop Length

Workshop Overview

This workshop provides students with the skills required to estimate the function of an emitter from its general parameters.

Intended Audience

Personnel involved in mission data set production and verification, intercept analysts and those embarking on Electronic Intelligence duties.



12 Students
Maximum
Per Workshop

Workshop Content

- Introduction to Radar Function Analysis
- Choice of parameters
 - Frequency
 - Pulse Duration
 - PRI/PRF
 - Scan rate/type
 - Beamwidth
 - Power
- Parametric relationships
- Radar emitter types
 - Land based search radars
 - Shipborne search radars
 - Airborne search radars
 - Weapon system radars
- Determining radar emitter type from observed parameters



Entry Criteria
None

EWI 005

ANALYSIS OF RECORDED DATA WORKSHOP



2 Days
Workshop Length

Workshop Overview

This workshop provides training on proprietary tools to develop and practice Intercept Analysis skills, including measurement of emitter parametrics and modulations and the development of these into data for inclusion in an EW Data Management System.

Intended Audience

EW operators/analysts and programmers



12 Students
Maximum
Per Workshop

Workshop Modules

- Introduction and the need for Pulse Data Analysis
- Background Theory
 - PRI Agility
 - Pulse Width agility
 - RF Agility
 - Scan Pattern
 - Continuous Wave
- Graph Types
 - Time Chart
 - Histogram
 - Scatter
 - History



Entry Criteria
None



3 Days
Workshop Length

Workshop Overview

This short workshop explores the scope and viability of data available from open sources and the effects of applying Open Source Intelligence methodology to intelligence gathering.

Intended Audience

Personnel involved in planning and collection of data from open sources.



12 Students
Maximum
Per Workshop

Workshop Modules

- Introduction to Open Source Intelligence (OSINT)
 - Terms, application and characteristics
- Context within Intelligence
 - The Intelligence warfighting function
 - The Intelligence process
- Planning OSINT
 - Plan, focus, tasking and definition
- Preparing OSINT activities
 - Forums, documents, broadcasts, internet search, military open days
- Media Sources
 - Traditional and internet
- Internet Sources and search tools
 - Practical internet search sessions

Entry Criteria
None



3 Days
Workshop Length

Workshop Overview

This workshop explains and practices the skills of developing an Electronic Order of Battle (EOB).

Intended Audience

Personnel involved in high level determination of EOB scoping



12 Students
Maximum
Per Workshop

Workshop Modules

- Establishing the requirements of the EOB and defining its purpose
- Nature and uses of an EOB
- Role of the EW Database Management System(s)
 - Structure and types
- The EOB within a master EW database
 - Example EOB output
- EOB Structure
- Human-machine interface
- Populating an EOB
 - Planning data entry
 - Population methods
- Quality Control

Entry Criteria
A general
knowledge of EW



EWI 008

MISSION DATA REQUIREMENT SPECIFICATION WORKSHOP



5 Days
Workshop Length

Workshop Overview

This workshop explains, instructs and then practices the skills required in developing a requirement specification from an Electronic OOB.

Intended Audience

Personnel with tasking responsibilities for Mission Data requirements within an Operational environment or EW Operations Support Centre.



12 Students
Maximum
Per Workshop

Workshop Content

- Defining the need
- Defining the Mission: intended use, range and scope considerations
- The definition of rules of engagement and policy guidance
- EW Mission Data tasking agency liaison and data requirements
- MDS priority and schedule considerations
- Situational Awareness and generation of Operational Environment Requirements using tools and data from EW databases
- Generation of Platform/System lists and associated parameters
- Producing EW Mission Data Requirements, including the definition of non-cooperative & cooperative platforms
- EW Mission Data Priority Management & display table methodology
- Advising the MDS Test & Verification with the requirements for scenario testing
- Generation of User Briefing Guide documentation
- Briefing of Mission Data content and anticipated performance for the front-line users
- Quality Assurance, configuration control & compliance documentation



Entry Criteria

A basic knowledge of military operations is required.

EWI 009

COMMUNICATIONS INTELLIGENCE FOUNDATION



15 Days
Course Length

Course Overview

This course provides students with the knowledge to undertake Communications Intelligence (COMINT) roles and to understand its associated components. It reviews the fundamentals of COMINT, relating each topic to the broader and more complex requirements of the strategic and tactical Customer. The course identifies the different parts of the Electromagnetic Spectrum (EMS) and the associated communications utilised within, and identifies the types of transmission and suitable commercial solutions required for demodulation.

Intended Audience

Personnel that would like to understand the fundamental principles around COMINT.



12 Students
Maximum
Per Course

Course Content

- Introduction to COMINT
- Intelligence Feeds
- Spectrum Awareness
- Branches and Disciplines
- Radio Wave Theory
- Tri Service Operations
- Intelligence Production Tools
- Analysis and Fusion Management
- Introduction to Complex Signals
- Practical COMINT Demodulation



Entry Criteria
None

COMMUNICATIONS INTELLIGENCE ADVANCED



7 Days
Course Length

Course Overview

This Advanced Course focuses on the management of Communications Intelligence (COMINT) assets and the skills required to plan, deploy, sustain and recover assets. The course aims to develop management skills to enable students to understand key capabilities and select the correct asset for the correct task in either a static or mobile role.



12 Students
Maximum
Per Course

Intended Audience

Personnel that would like to build on the knowledge gained from the COMINT Foundation course.



Entry Criteria

- EWI 009

Course Content

- Review of underpinning knowledge
- Strategic Intelligence
- Multiple Asset Management
- Spectrum Awareness
- Branches and Disciplines
- Reporting Processes
- Syndicate exercises

CYBER SECURITY (CYSEC)



Leonardo has been the Cyber Defence Mission Partner for NATO since 2014.

Leonardo and its partners have developed a world class cyber training programme which takes students, with appropriate pre-requisite skills, to the level of Cyber Warrior, capable of operating in a high threat, highly challenging security environment.

The cyber training programme is broken into 3 parts, as follows:

- Cyber Baseline
- Cyber Advanced Specialism
- Enterprise & Tradecraft

CySec 001

BASELINE – CORE CYBER



12 Students
Maximum
Per Course

Course Overview

This course provides training on some of the core components that sit at the heart of cyber security. Predominantly practically based, this course will provide baseline knowledge and an opportunity to assess student's aptitude for some of the more specialist training to follow.

Intended Audience

Cyber Security Practitioners



Course Length

5 Days

2 Days

3 Days

5 Days

Course Modules

- **OSINT** – Areas covered within this topic include: digital footprints, social media, the dark web, advanced searching and legislation. This section will culminate in a 'Capture the Flag' exercise running throughout a training day
- **Encryption** – This topic will cover a number of areas in relation to encryption including: encoding, modern encryption methods and the application of encryption methods
- **Malware** – As part of this topic the student will be introduced to the malware families before moving on to low level malware analysis
- **Cyber Defence** – This topic covers areas including: incident containment, incident response, incident forensics and incident investigation.



Entry Criteria

Students are required to have an understanding of: Fundamentals of Computing, Data Storage and Memory, Network Architecture, TCP/IP V4/6, MS Windows, Linux, Sniffer/ Protocol Analyser tools, Virtualisation, WIFI, Bluetooth, Scripting, Databases, Web Application Skills and communication protocols.



10 Days
Course Length

Course Overview

This course introduces the student to some of the management and governance aspects in relation to cyber security.

Intended Audience

Cyber Security Practitioners



12 Students
Maximum
Per Course

Course Modules

- ISO 27001 Information Security Management System to include ISO 27001 implementation
- Lead Auditing - students will gain experience in planning, leading and reporting audits
- Governance, Generic Management & System Audit Process
- IA Architecture Fundamentals - covering the core types of IA models and the best way to validate architecture with clients, stakeholders and users.
- Security Architecture Concepts
- Information Assurance Methodologies
- Innovation and Service Improvement



Entry Criteria

- CySec 001

On completion of baseline courses, students will have the opportunity to move on to an advanced specialist course. Advanced courses available are as follows:

CySec 003

Advanced - Cyber Incident Response and Hunting

CySec 004

Advanced - Cyber Digital Forensics Investigations

CySec 005

Advanced - Penetration Testing and Red Teaming

On completion of advanced specialist courses, students will have the opportunity to move on to the final part of the programme. For this part students will develop and practice practical skills within representative environments, building on knowledge and skills gained from earlier courses:

CySec 006

Enterprise and Tradecraft - Enterprise Tooling

CySec 007

Enterprise and Tradecraft - Wargaming

COURSE PROSPECTUS





leonardocompany.com

For more information please email infomarketing@leonardocompany.com

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