

GET UP TO SPEED FAST ON WEAPON SYSTEMS TECHNOLOGY

2010 Weapon Systems Training Program

Smart/Precision Weapons

Weaponing

Systems Engineering

Improvised Explosive Devices

Custom Programs

Smart/Precision Weapons

Instructor: Mr. Robert Fitzgibbon

This 2½ day course is updated annually. It provides a general understanding of smart/precision weapons and related technologies. This course is aimed at providing general knowledge about smart/precision weapons technology and is a source of current information on selected US and foreign weapons, to include system description, concept of employment, performance characteristics, effectiveness and program status.

The objective of this course is to inform materiel and combat developers, systems analysts, scientists, engineers, managers and business developers about smart/precision weapons, to include:

- State of the art of representative smart weapons systems
- Employment concepts
- Smart weapons related systems, subsystems, & technologies
- Technology trends

Security Classification

The course is UNCLASSIFIED but is designated For Official Use Only (FOUO) and Export Controlled. Attendance is limited to US citizens only.

Open Registration: \$1575 per person
On-site option available

Improvised Explosive Device (IED) and Rocket Propelled Grenade (RPG)

Instructor: Mr. Robert Fitzgibbon and Mr. Matt Tunstall

This 2½ day short course provides an introduction to the nature of the Improvised Explosive Device (IED) and Rocket Propelled Grenade (RPG) threats and measures currently being employed to counter them. These weapons are among the principle ones being deployed by insurgents against US and allied forces in Iraq and Afghanistan. The course provides the historical context of their development and use, details of construction, methods of deployment, and background information pertaining to munitions and explosives. Active and defensive technological and tactical countermeasures are presented, including lessons learned in the current conflicts in Iraq and Afghanistan. Certain developmental and currently deployed countermeasure systems are discussed. A survey is given of cross border and international sources of components, and related technologies, as well as a look at trends and possible future developments.

The objective of this course is to inform materiel and combat developers, systems analysts, scientists, engineers,

managers, and business developers about IED and RPG threats and countermeasures.

Topics include:

- IED elements and construction
- IED operational deployment and effectiveness
- Identification/Sensors
- State of the art of representative US and foreign countermeasures systems
- Tactical countermeasures
- Personnel Protection/Armor
- Technology trends
- Development of RPGs
- Principal threat RPGs
- RPG countermeasures

Security Classification

The course is UNCLASSIFIED but is designated For Official Use Only (FOUO) and Export Controlled. Attendance is limited to US citizens only.

Open Registration: \$1200 per person
On-site option available

Customized Course Development

WSTIAC develops targeted training programs on specialized technologies based on customers' specific mission needs and requirements. WSTIAC will:

- Perform research and conduct discussions with technology Subject Matter Experts to identify, formulate and structure the information to be included in the course.
- Survey organizations with relevant technology experience, including DoD program offices and certain contractors.
- Prepare new presentation materials in the form of power point slides and videos.
- Prepare and deliver a course binder for each student containing course materials presented.
- Select elements of existing WSTIAC courses as appropriate and integrate them with the new material.
- Present the combined materials as a short course (usual duration: 2-3 days) at the customer's site.

Build • Your • Knowledge

Systems Engineering For Product Life Cycle Management Series

Instructor: Mr. David Tyler

Systems Engineering for Product Life Cycle Management

This intensive 3 day course provides a comprehensive overview of the discipline of Systems Engineering and how it is applied over the life cycle of a product. Systems Engineering is the integration of several engineering fields into an efficient and effective process for the overall technical management of programs and development of systems and equipment.

Specialty Engineering for Product Life Cycle Management

This 3 day course provides an overview of Specialty Engineering as it relates to system effectiveness and affordability. It is traditionally associated with the 'ilities' of the system design process such as maintainability, reliability, affordability, supportability, testability, availability, and producibility. It is a series of designated engineering "disciplines" organized around various design attributes of the system under development, through cross function product teams that utilize the systems engineering process.

Maintenance Engineering for Product Life Cycle Management

This 3 day course covers maintenance engineering design methods, maintainability predictions, analysis, testing and demonstration, and operational systems engineering principles and applications. Maintenance Engineering

is integrated with other specialty engineering fields such as reliability, logistics, human factors, and systems engineering. The course contains several real world case study examples for practical applications of methods and techniques taught throughout the course.

Supply Chain Design and Logistics Operational Management

This 3 day course presents the theory and practice of the core functions of the enterprise that impacts the supply chain management and operational logistic support of fielded systems. The course provides a basic understanding of strategy, organizational structure and behavior for an "integrated sustainment enterprise network" based upon its design and operations.

Performance Based Logistics (PBL) for Operational Management

This 3 day course presents the theory and practice of developing and maintaining a PBL enterprise. The course provides a basic understanding of strategy, organizational structure and behavior for an "integrated sustainment enterprise network" based upon its design and operations with regard to PBL requirements.

Security Classification

The Systems Engineering Series courses are UNCLASSIFIED.

Open Registration: \$1400 per person, per course

On-site option available

About Our Instructors

Dr. Morris Driels is a Professor of Mechanical Engineering at the US Naval Postgraduate School (NPS) in Monterey, California. He has worked with the JTCG/ME on a variety of topics in support of the JMEM's for a number of years. He has taught a quarter long weaponeering course at NPS for three years and has published a textbook on the subject.

Mr. Robert Fitzgibbon is a Principal Electrical Engineer with Alion Science & Technology who has 27 years in system analysis and design. He has actively worked ECM, RF and RWR programs as well as hardware modernization efforts.

Mr. David Tyler is a Senior Acquisition and Systems Engineering expert. He has more than 30 years in the field across a wide range of DoD, DoE, NASA and commercial programs. He has developed systems engineering plans for a wide array of government and commercial organizations. Mr. Tyler has written over 50 papers on these and related topics. He is a member of the Logistics Management Community at DAU.

Mr. Matt Tunstall is a Senior Mechanical Engineer with Alion. He holds an M.S. in Mechanical Engineering from the University of Alabama in Huntsville. He has actively supported numerous weapons systems studies and served as a member of the Systems Engineering Integration Team (SEIT) for EAADS. He is the project manager and technical lead for WSTIAC's indirect fire smart munitions system effectiveness simulation, GENESIS.

Build • Your • Knowledge

Weaponneering

Instructor: Dr. Morris Driels

This 2½ day course is based on a very successful graduate-level Weaponneering course developed by Professor Driels and taught at the Naval Postgraduate School, Monterey, CA. The course provides an overview of the fundamentals of the weaponneering process and its application to air-to-surface and surface-to-surface engagements. The course explains the analytical basis of current weaponneering tools known as the Joint Munitions Effectiveness Manuals (JMEM's) produced by the Joint Technical Coordinating Group for Munitions Effectiveness (JTTCG/ME). The JMEM's are used by all services to plan offensive missions and allow the planners to predict the effectiveness of selected weapon systems against a variety of targets.

Part I covers the basic tools and methods used in weaponneering:

- The weaponneering process
- Elementary statistical methods
- Weapon trajectory
- Delivery accuracy of guided & unguided munitions
- Target vulnerability assessment

Part II covers the weaponneering process for air-launched weapons against ground targets:

- Single weapons directed against point & area targets
- Stick deliveries (point & area targets)
- Projectiles (guns & rockets); cluster munitions; weaponneering for specific targets: bridges, buildings, etc.
- Collateral damage modeling

Part III covers the weaponneering process for ground engagements:

- Indirect fire systems – artillery & mortars
- Direct fire systems – infantry & armored vehicles
- Mines – land & sea

Security Classification

This course is UNCLASSIFIED but is designated Export Controlled. Attendance is limited to US citizens only.

Open Registration: \$1700 per person
On-site option available

Supplemental Information:

Dates and locations for open training programs can be found at:
<http://wstiac.alionscience.com/training>

On-site options available for all courses:

Contact us for pricing

Methods of payment:

Payment must be made via credit card (Master Card, VISA, or American Express), SF182, or electronic funds transfer.

Handout Material:

Each student will receive a comprehensive notebook which contains the material presented during the course. In case of the Weaponneering course a textbook and course notes are provided.

Training in Technologies Critical to the Warfighter

WSTIAC offers courses in technologies critical to the weapon system community under our DoD charter.

For more information, contact:

Mary Priore

315.339.7135

mpriore@alionscience.com

<http://wstiac.alionscience.com/training>

About WSTIAC:

The Weapon Systems Technology Information Analysis Center (WSTIAC) is a Department of Defense Information Analysis Center. We conduct engineering, analytical and experimental tasks on a wide variety of topics related to weapons technology and systems. WSTIAC collects, analyzes, synthesizes and disseminates information related to weapon components, systems and platforms.

To learn more visit <http://wstiac.alionscience.com>

Questions?

For more information, please contact:

Mary Priore

315.339.7135

mpriore@alionscience.com

<http://wstiac.alionscience.com/training>

WSTIAC is a DoD Information Analysis Center sponsored by the Defense Technical Information Center (DTIC).