معـهد الأمـير سلـــطان
لأبحاث التقنيات المتقدمة

Prince Sultan Advanced
Tech. Research Institute

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PSATRI

# ISR Systems and Operations Course

***(ATEP 07)*** *22 May. - 26 May. 2016*

Advanced Technology Education Program (ATEP)

Training Course Information:

# ISR Systems and Operations Course (ATEP 07)

22 May. - 26 May. 2016

## COURSE AIMS

The aim of the course is to enhance an understanding of Intelligence Surveillance and Reconnaissance (ISR) systems so that the knowledge may be used to support operations. The course will focus on the principles of ISR and build a solid foundation of knowledge, linking ISR to other elements of the operations of armed and security forces.

## PRE-REQUISITES

The course assumes no prior detailed knowledge on the subject, however the students should have an understanding of the operational and/or the intelligence domains of armed and security forces. Students should be proficient in the English language.

## COURSE DELIVERY

***Intelligence, Surveillance and Reconnaissance***

Maintaining intelligence proficiency and readiness is fundamental to conducting effective operations. In order to provide all levels of commanders and staff accurate and relevant data, information and intelligence, there are critical requirements for appropriately trained personnel assigned to Intelligence, Surveillance and Reconnaissance (ISR) operations. This requires having trained personnel that understand the various network systems, types of intelligence, and collection systems in addition to having trained command and functional staff to ensure that ISR missions are successful and assets are managed efficiently.

ISR is the capability that underpins all activity. In essence it is the ability to respond in real or near real time to emerging situations with the provision of targeted intelligence. This capability is becoming more and more relevant as the modern operational environment becomes more congested, chaotic and contested.

This document outlines a training solution that will equip personnel with the requisite knowledge and skills to actively contribute to operations through the provision of timely, accurate ISR derived intelligence.

## WHO SHOULD ATTEND

- Military Operational staff.
- Military Intelligence staff.
- Ministry of Interior (MOI) personnel.
- Users of ISR systems such as Unmanned Aerial Systems.
- Governmental agency personnel involved in Intelligence.
- Governmental personnel involved in Operations.
- Border Force Operations and Intelligence personnel
- Academics and developers of ISR systems



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## LEARNING OBJECTIVES

As a graduate of the course, the attendee will be capable of understanding the principles of tasking, planning, and executing ISR missions. In particular the graduate will have understanding in the following:

| TITLE | OBJECTIVES |
|---|---|
| INTELLIGENCE | The linking of Intelligence to ISR |
| WHY COLLECT INTELLIGENCE | An exploration as to why we need to collect: Linking Intelligence generation to Decision Advantage and Decision Makers |
| THE INTELLIGENCE CYCLE | The generations and purpose of Intelligence |
| ISR | An introduction of ISR and a capability, providing definitions and examples |
| SENSORS – PRACTICAL | A practical period to allow the students to understand the importance of sensors and sensor fusion |
| INTELLIGENCE REQUIREMENTS MANAGEMENT (IRM) | Introduction to IRM and how the activity links to the intelligence and ISR cycles |
| COLLECTION MANAGEIMENT | Introduction to CM and how the activity links to the intelligence and ISR cycles |
| ISR CASE STUDY | A practical example demonstrating the power of an integrated ISR System |
| CRITICAL THINKING | An introduction to critical thinking and how the 'art' can be linked to task analysis and ISR planning |
| CRITICAL THINKING APPLIED | An Instructor-led example of Critical Thinking |
| ISR AND OODA | OODA (Observe, Orientate, Decide, Act) is a well practiced military skill to understand decision making. As ISR supports the decision maker, it is key to understand how ISR supports this function |
| ISR AND KILL CHAINS | A killchain is a sequential process of events that occurs in every tactical event. ISR supports the killchain to varying degrees. The ISR operator needs to understand the support required at various stages of the kill chain |
| THE DECISION ADVANTAGE | This is the crux of the course as ISR is the method/activity to achieve decision advantage |
| DECISION ADVANTAGE CASE STUDY | A Case Study based on Border security and counter drug smuggling to demonstrate how Decision Advantage can be won and lost |
| THE OLYMPIC ISSUE - IDENTIFYING THE TASK | Instructor-led lesson using the subjects covered in the course so far and applying them to the London Olympics. In this lesson, the students will be introduced to the distillation of the tasks that the Olympic security committee were confronted by. |
| ISR EFFECTS PT1 | An introduction as to the type of effect achieved by ISR: EO, IR, SAR, MTI |
| ISR EFFECTS PT2 | An introduction as to the type of effect achieved by ISR: LIDAR, HSI, MSI, SWIR, SIGINT |
| INTRODUCTION TO THE 'INTS' | A brief introduction to HUMINT, GEOINT, MASINT |
| ISR TACTICS | An introduction as to how ISR effects can be planned to maximize capability: ISR is stronger than the sum of its parts |
| ISR BATTLESPACE | An explanation as to how ISR assets can be physically planned |
| ISR ORDERS | An introduction to ISR orders: Mission Type Orders, and ISR operational Planning |



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# Biographies

*Program Director*

## Sami M. Alhumaidi, Ph.D.

Dr. Sami Alhumaidi is currently the Managing Director of Prince Sultan Advanced Research Institute (PSATRI), an applied research institute at King Saud University (Riyadh, Saudi Arabia) established by the Ministry of Defense and jointly managed by KSU and the Royal Saudi Air Force. Dr. Alhumaidi has obtained his Ph.D. Degree in Electrical Engineering from Florida Institute of Technology in 1996 and his MSEE from the California State University, Northridge, CA, in 1993. He has numerous publications in the areas of radar and electronic warfare and serves on a number of national committees on electronic defense and unmanned aerial vehicles.

*Instructor*

## Ewen Stockbridge Sime

Ewen served for 23 years in the United Kingdom Royal Air Force. His roots lie within the Command and Control, Air Battlespace Management domain; and has served as a Mission Commander on various ISR platforms. Ewen spent 6 years with the AWACS Force and then as the Intelligence, Surveillance and Reconnaissance Desk Officer, worked with the Nimrod R1 (Signals Intelligence), Sentinel R1 (Ground Surveillance), the MQ-9 Reaper (full motion Video and SAR/GMTI) and other fixed and rotary ISR assets.

In addition, Ewen helped develop the Tactics, Techniques and Procedures for the RC-135 Rivet Joint (Signals Intelligence), and the UK MQ-9 and the employment of all UK ISR assets including ground based Exploitation Units (analysis forward, reachback and distributed). Ewen became the Officer responsible for ISR within the Royal Air Force; as such he was tasked with developing training, tactics and procedures for UK ISR which culminated in the ISR Playbook, the ISR Primer (UK Doctrine), advising NATO on Allied Joint Publication 2.7 (Joint ISR) and the acclaimed expert level, Qualified Weapons Instructor ISR Course.

Ewen served on many operations as an ISR Commander; being forward deployed (front line operations) and operating from an Air Operations Centre. Additionally, Ewen worked extensively in LAND ISTAR during deployed operations leading the employment of fixed observation and surveillance posts, counter insurgency ISR and Divisional Head Quarters ISR operations.



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Ewen was also tasked to assist in the Military contribution to the security plan for the London Olympics 2012. The results of the TTP development have now been adopted by the UK as standing procedures including at G8 Summit in 2015.

Ewen has been responsible for the design and development of the UK Military ISR synthetic training. The training audience ranged from young soldiers with very little experience as they prepared for overseas deployment to highly experienced ISR Operators and Commanders conducting their Weapons Officer training.

Ewen established his own company to focus on the ISR and UAS domain, which has attracted a diverse clientele ranging from large multi national military forces to small tactical non military Units.

## ISR Systems and Operations Course
## *Pre-registration Form*

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Rank / Job title : .....

Tel. : ..... Mobile : .....

Employer Name : .....

Employer Address : .....

E-Mail Address : .....

Employer Tel. : ..... Fax : .....

Course Name: **ISR Systems and Operations Course** Course Dates: **22 May. - 26 May. 2016**

Course Reference: **ATEP 07** Course Fees: **SAR 11,500**

I hereby certify that I would like to pre-register for the above course. I understand that to confirm my registration, I must complete the payment by 15 May 2016 otherwise my registration may be cancelled.

Name : .....

Signature : ..... Date : .....

| | |
|---|---|
| **Method of Payment** | **Account No.**: 2680741005<br>**Beneficiary Name:**<br>Prince Sultan Advanced Technology Research Institute<br>**Bank Name:** Samba<br>**Swift Code:** SAMBSARI<br>**IBAN Number :** SA5940000000002680741005 |

**Pre-registration:**
Send a completed Pre-registration form via email or Fax prior to **15 May 2016** to:
**atep.training@psatri.org.sa, Fax: +966 11 2742841**

**For further information,please visit or send email:**

**www.psatri.org.sa**

**atep.training@psatri.org.sa**

*King Saud University*
*P.O.Box: 800 Riyadh 11421*
*Kingdom of Saudi Arabia*
*Tel : +966 11 4695130*
*Fax : +966 11 4673350*

*Business Gate Branch,*
*Bldg. C-34, 2247*
*Airport Rd, Qurtubah,*
*Riyadh 13244-7730*
*Kingdom of Saudi Arabia*
*Tel : +966 11 2741323*
*Fax : +966 11 2742841*

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