

ACDA 4019/01

05 July 2025

Action:

Year 2 BEng Apprentices	Hd AU	ALO	QinetiQ	AWE
Roxel	DSTL	DNV	BAe Systems	DNO

Information:

Alfords – Mr Thierry Pope

ILG

**ADMINISTRATIVE INSTRUCTION – OME L6 FIELD VISIT TO ALFORD TECHNOLOGIES –
MONDAY 6th OCTOBER, 13th OCTOBER AND 17th NOVEMBER 2025**



References:

- A. OME Degree Apprenticeship Programme of Study 2025/26.
- B. ILG meeting minutes dated 14th April 2025.
- C. Broadmead Quarry Risk Assessment ARA-0001/Issue 7/14th December 2023
- D. UWTSD RA for Broadmead Range dated 9th September 2024.
- E. DSA03 OME Part 3 Ranges dated 7 July 2020.

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Background

1. **Module Requirement.** As part of the Principles of Ordnance, Munitions and Explosives module (ACDA 4019), apprentices are required to ***evaluate and apply the concepts and principles of explosives to design a suitable explosives train and reliably initiate OME devices safely and correctly*** (Reference A). Successful completion of this module requires the apprentice to understand the concepts of blast, fragmentation, directed energy and kinetic energy.
2. **KSB's.** ACDA 4019 supports the following KSB's of the OME L4 programme, which can be found at Moodle link: <https://moodle.uwtsd.ac.uk/course/view.php?id=8021> Section 3. In summary, Table 1 lists the KSB that the range event is focused towards:

Table 1: List of KSBs

Knowledge	4, 5, 6, 8, 10, 39 - 43
Skills	4 – 6, 10, 39 - 45
Behaviours	1 - 8

Attendance at the range allows students to evidence these KSB within their portfolios of evidence.

3. **Rationale.** The range activity is a vital part of apprentice learning progression. UWTSd does not own a live range facility to conduct such an activity in-house and is therefore supported by the sector. Alford Technologies has been contracted to deliver this UNDERSTAND EXPLOSIVES package on behalf of UWTSd on three specific dates relative to this administrative instruction - **Monday 6th October, Monday 13th October and Monday 17th November 2025.** This range activity was approved by the ILG in April 2025 (Reference B).

Aim

4. This administrative instruction lays out essential criteria necessary to complete this activity as part of the OME L6 apprenticeship journey.

Location

5. The activity shall take place at Broadmead Quarry, commencing at 0900 hrs. Broadmead Quarry is situated outside Wells, Somerset. The address for the range is as follows:

**Broadmead Range
Stancombe Lane
Westbury-Sub-Mendip
Wells
Somerset
BA5 1HT**

Site detail: www.explosives.net/services

Precise details of the location, and how to get there, are included at Appendix 1. ***If you have a SatNav or Google Maps, please follow the postcode provided above. It will get you there!***

Participation

6. BEng and HNC OME apprentices from Year 2 are expected to attend this live range day. The cohort is split into 3 groups as shown in Table 2 below:

Table 2: Groups for ACDA 4019 Delivery

First name	Surname	Employer	Date to Attend Range	Employer Contact Name
Victoria	Scally	DNO (Coulport)	Monday 6 th October 2025	Gemma Shearer
Thomas	Lumsden	DNO (Coulport)	Monday 6 th October 2025	Gemma Shearer
Andrew	Campbell	DNO (Coulport)	Monday 6 th October 2025	Gemma Shearer
Lucius	Galloway	DNO (Coulport)	Monday 6 th October 2025	Gemma Shearer
Jack	Twaddle	DNO (Coulport)	Monday 6 th October 2025	Gemma Shearer
Cameron	Lane	DNO (Bristol)	Monday 6 th October 2025	Holly Gaull
Callum	Doherty	DNO (Bristol)	Monday 6 th October 2025	Holly Gaull
Conor	Nolan	DNO (Bristol)	Monday 6 th October 2025	Holly Gaull
Ellie	Martin	DNO (Bristol)	Monday 6 th October 2025	Holly Gaull
Idora	Musa	DNO (Bristol)	Monday 6 th October 2025	Holly Gaull
Nathan	Rowe	BAE Systems	Monday 13 th October 2025	Andrew Batley
Shaun	Malone	QinetiQ	Monday 13 th October 2025	Joe Lyons
Elias	James	BAE Systems	Monday 13 th October 2025	Josh Martin
Rory	Bowen	BAE Systems	Monday 13 th October 2025	Josh Martin
Bethan	Davies-Jones	BAE Systems	Monday 13 th October 2025	Josh Martin
Jack	Frampton	QinetiQ	Monday 13 th October 2025	Colin Adams
Kieran	Howells	BAE Systems	Monday 13 th October 2025	Josh Martin
Eryn	Legg	BAE Systems	Monday 13 th October 2025	Josh Martin
Charlotte	McCombe	QinetiQ	Monday 13 th October 2025	Kris Bhudoye
Pippa	Shay	DNV	Monday 17 th November 2025	Lee Ellis
Emily	Penman	DNV	Monday 17 th November 2025	Lee Ellis
Joseph	Nelhams	AWE	Monday 17 th November 2025	Shaun Dooley
Lee	Maxwell	AWE	Monday 17 th November 2025	Shaun Dooley
James	Burton	DE&S	Monday 17 th November 2025	William John
Thomas	Cresswell	DE&S	Monday 17 th November 2025	William John
George	Butcher	DE&S	Monday 17 th November 2025	William John

Note: Transport and accommodation is under employer arrangements – advise Premier Inn Wells for evenings of 5th October, 12th October and 16th November 2025 respectively. Employers named above may attend if they so wish.

7. Apprentices shall be accompanied by 2 x UWTSD staff on each range day (split between Dr Gareth Collett, Mrs Emily Hunt, Dr Ewa Kazimierska, Dr Jenni Steen, Mr Carl Thomas, and Mr Matt Wicker).

8. Any apprentice failing to complete a **Fieldwork Participation Form** (FPF) by no later than Monday 29th September 2025 **SHALL NOT** be permitted to attend. The link to the form will be loaded on to Moodle by end August 2025 and must be returned to Dr Mark Broadhead m.broadhead@uwtsd.ac.uk

Points of Contact

- Dr Gareth Collett – activity coordinator – g.collett@uwtsd.ac.uk
- Dr Mark Broadhead – activity administrator – m.broadhead@uwtsd.ac.uk
- Alford Technologies - Mr Thierry Pope – Thierry.pope@explosives.net

Transportation

9. **Transport is NOT provided by UWTSD.** Apprentices are expected to travel to the location under employer arrangements and associated insurances. This has been briefed to employers at Reference B, and will be re-iterated at the ILG on 3rd September 2025.

Accommodation

10. **Accommodation is NOT provided by UWTSD.** Given the location of Broadmead Quarry, apprentices may wish to find accommodation in Wells the evening prior to the activity. Again, this would be under employer arrangements. Please see notes below Table 2 for a recommended hotel, which is not far from Broadmead Quarry.

Feeding

11. Apprentices are in receipt of subsistence allowance whilst learning at UWTSD. However, as part of the contract, Alford Technologies shall be providing lunch for those attending the activity.

Dress

12. Broadmead Quarry is an outdoor range facility. Apprentices are to ensure that they dress appropriately for outdoor activity in the Winter – expect cold inclement weather. Stout shoes, a jumper, waterproof coat and head covering are essential.

Personal Protective Equipment

13. Alford Technologies shall provide the necessary PPE for any activities as per Reference C.

Safety

14. **Broadmead Quarry.** Broadmead is a government-approved test site, with the appropriate RA in place (Reference C). Employers and agencies of the MOD regularly use Broadmead Quarry as part of ‘*business as usual*’ T&E. For example, the End Point Assessment for Level 4 HNC is held at Broadmead Quarry.

15. **Risk Assessment.** UWTSD has completed a RA for the activity (see Reference D). However, given the location, if the forecast states extreme icy or snowy weather, a decision to cancel will be made by UWTSD and communicated by Dr Collett.

16. **Safety Brief.** Alford Technologies shall provide a **MANDATORY** range safety brief **to all apprentices and UWTSD staff** upon arrival. This brief shall cover all explosion related activities of the day - References C & E apply. Apprentices arriving late and missing the safety brief **SHALL NOT** be allowed to participate. It is also the discretion of the facility Safety Officer (Mr Thierry Pope) to refuse participation of any apprentice who is late, who demonstrates poor behaviour, or who poses a safety risk.

Medical

17. This is a live range, with the potential risk of exposure to blast and fragmentation. In accordance with References C & E, trauma first responders and trauma kits are present on the site throughout the activity.

Timings in Detail

- 0900 hrs – apprentices and staff arrive at Broadmead Quarry.
- 0900 – 0930 hrs – familiarisation of quarry and mandatory safety brief.
- 0930 – 1230 hrs – Introduction to primary and secondary explosives and preparation of user-filled charges.
- 1230 – 1300 hrs – lunch
- 1300 – 1600 hrs – demonstrations of blast, fragmentation, directed energy and kinetic energy using user-filled charges.
- 1600 hrs – apprentices free to depart for UWTSD.

The Activity (Outline Only)

18. The activity is designed to support the learning objectives of module ACDA 4019 taught by Dr Gareth Collett CBE – please see Programme of Study for further detail.

19. The activity will comprise 4 specific elements, thereby allowing apprentices to develop their KSB:

- a. **Explosion Theory.** Apprentices will be briefed on the hazards associated with high and low explosives.
- b. **Practical demonstration of primary explosives and igniferous compositions.** They will observe the sensitivity of compositions such as lead azide (LA), tri-acetone-tri-peroxide (TATP) and penta-erythritol tetra-nitrate (PETN), and prepare safety fuze for use in igniferous explosive trains.
- c. **Preparation of user-filled charges.** Apprentices shall be taught how to prepare several commercial off-the-shelf user-filled charges for blast, fragmentation, directed energy and kinetic energy demonstrations.
- d. **The Effects of Blast, Fragmentation, Directed Energy and Kinetic Energy against Representative Targets.** Apprentices shall be given the opportunity to site their user-filled charges against a sequence of representative targets. They will be responsible for the safety control and detonation of those user-filled charges and the interpretation of results.

Media

20. Apprentices are allowed to take photographs during the activities.



G P COLLETT CBE CEng PhD FIEpE

Appendix

1. Directions to Broadmead Quarry.

Maps showing location of Broadmead Quarry

Broadmead Quarry is annotated with the blue circle on the OS maps.

Use the postcode **BA5 1HT** for your SatNav, or Google Maps etc. Preferred route by Alford's is to use Broad Road coming from North (off B3135) or from South West (off A371). Kites Croft and Stancombe Lane are very tight and not advised.





