

ACDA 4019/01

3rd October 2024

Action:

Apprentices Year 2 BEng, ALO

Information: Alford's – for Mr Thierry Pope, Lecturer ACDA 4019, Employers

**ADMINISTRATIVE INSTRUCTION – OME L6 FIELD VISIT TO ALFORD TECHNOLOGIES –
MONDAY 14th OCTOBER 2024 / MONDAY 18th NOVEMBER 2024**

References:

- A. OME Degree Apprenticeship Programme of Study 2024/25.
- B. ILG meeting minutes dated 26th June 2024.
- C. ILG meeting dated 25th September 2024.
- D. Broadmead Quarry Risk Assessment ARA-0001/Issue 7/14th December 2023
- E. UWTSD RA for Broadmead Range dated 9th September 2024.
- F. DSA02.OME Version 3.0 dated July 2024.

Table of Contents

Background.....	2
Aim.....	2
Location.....	2
Participation	2
Points of Contact.....	3
Transportation.....	3
Accommodation.....	4
Feeding.....	4
Dress	4
Personal Protective Equipment	4
Safety	4
Medical.....	4
Timings in Detail.....	4
The Activity (Outline Only).....	5
Media	5
Table 1: List of KSBs	2
Table 2: Groups for ACDA 4019 Delivery	3

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.** This module supports the following KSB's of the OME L4 programme, which can be found at Moodle link: <https://moodle.uwtssd.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

3. **Rationale.** This requirement is mandated by employers as part of apprentice OME 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 two specific dates - **Monday 14th October or Monday 18th November 2024**. This activity was approved by the ILG in June 2024 (Reference B), with finalised details presented on 25th September 2024 (Reference C).

Aim

4. This administrative instruction lays out essential criteria necessary to complete this activity as part of the OME L4 apprenticeship journey.

Location

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

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

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

Table 2: Groups for ACDA 4019 Delivery

14 th October 2024	18 th November 2024	Remarks
BLAKE AUCHTERLONIE	LUKE BROWN	Transport and accommodation may be required – advise Premier Inn Wells for evenings of 13 th October and 17 th November respectively. Location of Broadmead Quarry is: Broadmead Range, Stancombe Lane, Westbury-sub-Mendip, Wells, BA5 1HT Site detail: www.explosives.net/services
JAMES CAWTE	ARRON SIMPSON	
JOSEPH COMPTON	ADAM FOLEY	
IAN DODD	THEODORE DUNNING	
STEFAN JAREMA	TEGAN INGRAM	
EUAN KELLY	ARUN SHERLOCK	
EMMA LANE	JOSEPH RULA	
ALUN MORRIS	WILLIAM CRITCHLEY	
UWAIS PATEL	MAX DACE	
CASPAR THURSTON-SMITH	EMMA BIGGS	
HENRY WHITTINGTON	SPARE*	
MICHAEL SLOAN	SPARE*	
MATTHEW CLARIDGE	SPARE*	
SPARE*	SPARE*	

*spare slots to be allocated to OME HNC Year 2 cohort as a priority. ALO's to confirm names of those interested with employers and Dr Collett by NLT Thursday 10th October 2024. First come first served.

7. Apprentices shall be accompanied by 2 x UWTSD staff (Dr Gareth Collett and Dr Ewa Kazimierska¹). Dr Collett shall be staying in the Premier Inn the evening prior on both occasions.

8. Any apprentice failing to complete a **Fieldwork Participation Form (FPF)** by no later than Thursday 10th October 2024 **SHALL NOT** be permitted to attend. The link to the form is at Section 2 on the module Moodle page (and repeated here <https://moodle.uwtsd.ac.uk/mod/url/view.php?id=604059>)

9. The FPF form must be returned to 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

10. 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 References B & C.

¹ First Aider

Accommodation

11. 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 Table 2 for a recommended hotel, which is not far from Broadmead Quarry.

Feeding

12. 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

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

Personal Protective Equipment

14. Alford Technologies shall provide the necessary PPE for any activities requiring it as per Reference D.

Safety

15. **Broadmead Quarry.** Broadmead is a government-approved test site, with the appropriate RA in place (Reference D). 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.

16. **Risk Assessment.** UWTSD has completed a RA for the activity (see Reference E).

17. **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 D & F 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, or who demonstrates poor behaviour.

Medical

18. This is a live range, with the potential risk of exposure to blast and fragmentation. In accordance with References D & F, 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)

19. The activity is designed to support the learning objectives of module ACDA 4019 taught by Colonel (Retd) Ken Cross MBE – please see Programme of Study for further detail.

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

- Explosion Theory.** Apprentices will be briefed on the hazards associated with primary and secondary explosives.
- Practical demonstration of primary explosives and igniferous compositions.** They will observe the sensitivity of compositions such as lead azide and prepare safety fuze for use in igniferous explosive trains.
- 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.
- 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 detonation of those user-filled charges and the interpretation of results.

Media

21. 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). Stancombe Lane is a bit tight coming from the South East (again, off A371 Wells).





