English Heritage, Centre for Archaeology - Establishing an Internship

Who they are and what they are regarded for

The Centre for Archaeology (CfA) integrates archaeology and archaeological science in research projects, in providing advice, by monitoring work done for EH, by training and by dissemination and outreach. It designs and executes archaeological projects for EH, including the provision of a rapid-response capability for surveys, evaluations, watching briefs and excavations.

CfA is unique in the range of specialist archaeological disciplines covered by its staff members and others in university-based contract posts. All staff contribute to training and outreach, organising and participating in conferences and seminars, education events and National Archaeology Days. The results of their work are made available through the CfA Reports Series and a wide variety of specialist academic publications, guidance documents, and popular publications.

It is part of the Archaeology Department within English Heritage's Research and Standards Group and provides archaeological expertise and advice to English Heritage and others. The Archaeology Department consists of two divisions, Archaeological Strategy, and Survey. The CfA forms part of the Strategy Unit.

What it wanted to achieve

CfA has a particular interest in the development and continuity of specialist skills, nationally. As part of that, it wanted to create a structured internship programme defined against National Occupational Standards (NOS.) It envisaged a generic internship programme tailored to met the requirement of different specialist areas e.g. zooarchaeology, geophysics, and archaeobotany. This would provide a clear framework for all involved in the internships. For those who carried the responsibility for developing the skills it would provide a clear focus and prospective interns could obtain an outline “curriculum” for their internship.

The Review of Archaeological Science carried out by English Heritage in 2001 and consultation across the archaeological science sector identified the need for more “apprenticeships" or “internships”. There is a gap between people doing MScs and PhDs and the experience needed to become a recognised specialist in a particular area of archaeological science. The profession was saying there was a need to build on the skills….to provide intensive professional experience beyond the limited experience from University or through working in an archaeological unit. We need to fill the gap because intensive academic courses while they provide a good basis can't provide the hands-on experience needed to become proficient in dealing with material from a wide variety of different deposits and sites.
Manager, Environmental Studies Branch

The Outcome

The Centre for Archaeology has so far developed a curriculum for an internship in archaeological science specialising in the analysis of macroscopic plant remains (archaeobotany) or insect remains (archaeoentomology) based entirely on the Archaeology NOS and at the same time established a process by which other internships could be designed. The Internship will be at York University.

There is a long tradition at York in archaeoentomology and archaeobotany. They work extensively on water-logged deposits and often deal with rubbish residues derived from a multitude of sources which can be very challenging to interpret archaeologically. They are very good at identification, especially of vegetative materials. They have real expertise. We need to harvest their knowledge and ensure its continuity.
Manager, Environmental Studies Branch

The project has produced

- a clear and detailed curriculum for the internship
- a job description for use by the applicant and recruiters
- detailed information of what underpins the curriculum in terms of requirements and the context of the learning
- a process for developing future internships or training plans
- the basis of an accreditable Archaeology NVQ at level 4.

Discussion with York University and its archaeological specialists has been ongoing and all the practical arrangements are in place for the internship to begin.

The University of York plan to advertise the internship and recruit the intern to start as soon as possible. It is hoped that the Internship will eventually be credited with an Archaeology NVQ level 4 and the curriculum was developed with this in mind.

What did they do?

An archaeobotanist, currently managing the Environmental Studies Branch, a specialist at the Centre for Archaeology, was responsible for a process through which a first internship could begin in York for April/ May 2004.

After an exploration of ideas with IFA and other agencies and a specific planning session with IFA and organisational development specialists, Grant Associates, the Centre for Archaeology agreed a plan of action to establish a curriculum for internships in archaeological science.

My manager suggested that it would be a good idea to use the new standards for this – for looking at the jobs and deciding how best to take them forward…. I looked at these and felt that a National Vocational Qualification would add value to the whole process if it were possible.
Manager, Environmental Studies Branch

The Key stages were:

- establish the nature of the internship and consult with the York University scientists
- establish curriculum including generic and specialist skills
- identify the Units in the NOS that appear to be relevant and would constitute a level 4 NVQ
- discuss any issues that arise with the appropriate stakeholder e.g. English Heritage management, IFA, York University
- clarify training and development implications and establish a plan
- consult with those involved to agree the detail of the curriculum and the process of the internship
- recruit intern.

Week	Activity	Purpose
Week 1	Decision to pursue this project and project planning meeting	To establish project plan To clarify objectives and outcomes To identify stakeholders To clarify timescales
Week 2 onwards, more in weeks 9 and 10 , 14	Consult with York University scientists and colleagues within English Heritage	To establish an awareness of the input that th team needs to make to the internship
4-5	Establish the curriculum	To identify the generic and specialist skills and knowledge that make up this programme
7-8	Identify the performance standards using the NOS as a basis	To give detailed direction on the skills and knowledge required and indicate the levels of competence sought
10-11	Write a paragraph to explain what work will need to be undertaken to meet the requirement for each Unit	To clarify for the intern what is required of the and what they can expect To clarify the programme for those who are responsible for delivering it
12	Identify the different training needed to support the curriculum ie on-site *sitting by Nellie,* training courses or other means	To establish who needs to be involved and what arrangements need to be made
14-16	Meeting of those involved from York University, Centre for Archaeology, CHNTO and organisational development consultant. Final revisions to programme	To confirm that everyone is happy with the detail of the curriculum and feels it relevant to discuss NVQ issue, PDP ideas and practicalities of the intern working at the University
17 –24	Set up contract agreements develop a suitable PDP	Establish agreement on contract details and PDP
25	Write and place advertisement	To invite applications
26 -30	Recruitment and selection of intern	

Questions, Debates and Responses

Interpreting the standards

In general, the other sticky points were about interpretation….relating the standards to a specialist role rather than the role of a field archaeologist. Conducting Intrusive Investigations is a good example. From a specialis'ts perspective it's really about how to get material out of your samples rather than excavating. We needed to translate the standards so that they were relevant to the specialist's role. When I was mapping these out I'd phone up the University and ask is this feasible – e.g. involving more than one site and set of material, I'd

ask "does this still look feasible?" or "If I asked you to do this would you be up for it?"
Manager, Environmental Studies Branch

Implications of shaping it round a Level 4 Qualification
CfA decided to design the curriculum with the possibility of accrediting the internship with an NVQ level 4. This involved the need to meet certain requirements involving the achievement of compulsory and optional Units.

Rather than referencing what we were doing to NOS units we asked ourselves how do we use the NOS to make the programme better. We looked to see if we could put together something at Level 4 NVQ..
This threw up one problem; the compulsory and optional units. Some compulsory units were easy e.g. research and analyse for archaeological purposes is easy, it deals with just what we want to do. But Maintain Compliance with Archaeological requirements – seemed to be pointed towards an archaeological curator taking part in the planning process and writing briefs and specifications. This is not something that most specialists looking at material would do. But in a commercial unit, understanding the processes involved would give them a much better knowledge with which to argue the significance of their material.
What we came up with – after talking to IFA – was to have the intern spend time with one of English Heritage's Regional Advisers, and look at the casework
Manager, Environmental Studies Branch

Setting people up to collect evidence towards an NVQ
The desire to achieve accreditation for level 4 NVQ really focuses the mind on good development planning and recording of achievement. The need to collect evidence of competence ensures that the programme will have to be a practical one with lots of hands on experience and involvement.
Grant Associates

Stakeholders thoughts on this project and its results

Extending the expertise - Head of CfA Archaeological Sciences
The internship ought to provide the intern with the experience under their belt to perform professionally on their own, if the market allows, or to take part in a bigger organisation. We are modelling the internships with this in mind…. eleven months of intensive experience with professionals, so they become professional in their own right and they can set themselves up and train others…they need to be able to stand on their feet – in a discipline which is thinly spread.

Thinking more broadly because of the NOS - Manager, Environmental Studies Branch

I guess it was 1 -2 weeks work. Once we got through the obstacles, it became much more exciting to see what we could do. There was a lot of enthusiasm that we could do something quite useful and transfer it to other situations…we could use this as a model for internships in other Universities. Without the standards we would never have thought of having the intern shadowing the Regional Advisers – then you think, what a really good idea! We probably would not have concentrated so much on the personal development, like communication skills, work programmes, and presentation skills. Before this, the contextual skills of self-management and time management would normally have been thought of as a host institution's problem; now we see it as a joint responsibility.

For the Profession - IFA Head of Training and Standards

The English Heritage Centre for Archaeology's application of the NOS to the development of a curriculum for internships is an extremely significant step for professional archaeology. The skills-gap between graduation and employment has long been recognised as potentially the most serious training problem in archaeology, and the development of a model that can bridge this gap is very welcome. Here, as the Centre for Archaeology have recognised that the kind of skills needed in the workplace are not purely abstractly scientific and analytical, but also those needed in dealing with the real situations of casework, will make the interns extremely well-equipped for their future working lives with a wide range of potential employers. The model that has now been created has scope to be rolled out and applied in the creation of skills-focussed internships or apprenticeships across the profession.

Use the work that has already been done - Grant Associates, Organisational Development Specialists

This project is a great example of how much simpler the National Occupational Standards can make a job that needs to be done. How much longer it would have taken to clearly define and articulate all the aspects of the work, skills, knowledge that the Intern will develop, is a daunting question… The NOS have provided a shortcut to writing the curriculum from scratch and also given clarity and structure to the development programme from the outset.

Comprehensible and relevant standards- English Heritage Research Fellow, Department of Archaeology, University of York

The standards added a whole different language to what one thinks about in having assistants…..what used to happen, for instance, in a Research Council brief was a process that was largely a matter of luck.

As things go it was remarkably jargon-free. It didn't seem opaque.

Next Steps

A second internship in magnetics and archaeology, involving both scientific dating and prospecting, is under consideration at the CfA, and there are plans to develop one in the analysis of animal bones (zooarchaeology) also based at CfA.

We are keen to broaden the scope of the internships and have plans to develop a second internship on the same basis as this one. The process that Gill has gone through to establish this curriculum is one that lends itself to establishing a curriculum, or training plan, and so part of the work has already been done and I hope that others can use this as a way forward.
Head of CfA Archaeological Sciences

Tools and Products

Produced as part of this project and available for you to use

- **Job Description and Curriculum for Science Internship at York University**
- **Project Process Map for establishing the Job Description and Curriculum for Science Internship.**
- **A Personal Development Planner and Learning Log**

Job Description and Curriculum for Science Internship at York University

Purpose

To provide an environmental archaeologist with the skills and experience needed to carry out assessment, analysis and research on plant macroscopic or insect remains on a range of deposits across a minimum of two sites, and to a high standard under the pressures associated with contract work.

What it will involve

Undertake the analysis and interpretation of either plant macrofossils or insect remains (but developing an awareness of the full range of potential evidence) from a minimum of two different sites, and prepare and submit reports on these investigations. The analyses will be carried out to meet agreed research objectives, following a defined methodology and within an agreed timetable determined in conjunction with the internship supervisor. In addition the intern will gain experience of project management and curatorial issues, and will liaise with the EH Regional Science Advisor.

Skills required

Suitable candidates are likely to have a higher degree in a relevant subject. They may have carried out research to PhD level on some aspects, but in a limited area or on a restricted set of material or type of site. Alternatively suitable candidates may have undertaken a MSc and worked as an environmental supervisor/ technician on research projects or for a commercial organisation, or have equivalent relevant postgraduate experience. They will be in a position where they need to gain hands-on experience of analysis of plant macroscopic remains or insect remains in order to further their progression towards specialist status. The candidate will be computer literate and able to adapt to new systems and software packages.

Skills to be acquired during the internship

- Ability to provide advice on environmental archaeology sampling programmes as part of archaeological investigations
- Ability to carry out evaluation, assessment and analysis according to an agreed work programme using appropriate methods
- Ability to present the results of this work clearly and with the appropriate level of detail
- Experience to know when to ask for help

Products

Submission of two reports for publication or other dissemination
Oral presentation to a non-professional audience at an appropriate forum
Give paper at a conference or seminar on their experience of the internship
Personal development plan/appraisal document

Units to be completed

- AC1: Research and analyse information for archaeological purposes
- AK1: Maintain compliance with archaeological requirements
- AK2: Contribute to advances in the body of knowledge and archaeological practice
- AK3: Develop your own resources and protect the interest of others
- AB2: Propose and agree project methods
- AC4: Conduct intrusive investigations

- AD1: Undertake analysis and interpretation
- AE1: Characterise the archaeological resource
- AJ9: Reduce risks to health and safety

Curriculum - Work to be undertaken to meet the requirement for each Unit

Compulsory Units

AC1: Research and analyse information for archaeological purposes
As part of the internship the intern will identify and gather information on previous work undertaken that relates to their projects. This may involve all or some of the following:

- consultation of archive records or material from previous work at a site or closely related site
- interrogation of bibliographic databases in order to obtain information on other environmental work carried out in local area / region as well as information on comparable assemblages of material and /or archaeology
- consultation and retrieval of publications from libraries in accordance with the host institution's rules
- requests for any recent work carried out by researchers in the same area. Where unpublished results are obtained from fellow researchers, due acknowledgement will be given in any reports produced.

The intern will also learn how to apply and follow standard methodologies for their work and how to present data gathered during their analysis in an appropriate manner. This may include all or some of the following:

- use of reference collections and application of published identification criteria
- use of statistics
- synthesis of data from other sources such as sites of the same period or within the local area/ region
- qualitative and quantitative comparison of results from contexts or sites relevant to the project

The intern will produce written reports on the results of each their analyses. These will:
- Present the results of their work clearly and accurately, and according to the requirement of the project manager/ publisher and intended audience
- Qualify the results of their work where the data are insufficient or unreliable
- Acknowledge appropriately all sources of information and protect confidential information where required.

The reports produced will be refereed both by the internship supervisor and English Heritage Centre for Archaeology staff or external referees as appropriate. The intern will respond and edit their work in response to comments and suggestions received during the internship period.

AK1 Maintain compliance with archaeological requirements
Most specialists working for archaeological units or within national government heritage agencies do not have responsibility for ensuring that works affecting archaeological sites are undertaken in compliance with relevant legislation and regulations and so this unit is not of direct relevance. However, by gaining an understanding of the issues, legislation and procedures involved, with particular reference to archaeological science, the intern will be better equipped to work within the commercial environment.

The EH Regional Science Advisors advise local authority archaeologists on PPG16-related work, including compliance with briefs and specifications, and devising mitigation strategies. In order to

give the intern an understanding of the issues, legislation and procedures involved the internship will shadow the relevant EH Regional Science Advisor (Ian Panter) for a minimum of five days during their internship and follow two contrasting cases through the PPG16 process, recorded in the Personal Development Plan.

The intern will also be expected to gain a thorough knowledge of English Heritage Guidance on Environmental Archaeology by the end of the internship.

AK2 Contribute to advances in the body of knowledge and archaeological practice
By the end of the internship the intern should be able to demonstrate that they have a clear understanding of the level of current knowledge and future priorities or areas of research in relation to the projects they have undertaken.

This may involve all or some of the following:

- Understanding the current state of knowledge in the region and what type of site, or material recovered from a particular site, would be of national, regional or local importance
- Understanding the implications of their analytical results in the context of other lines of investigation
- Need for new identification criteria
- Need for refinement or definition of new ecological and function groups
- Assessing the need for, and justifying, further research or data

As part of the internship the intern will give an oral presentation of their work at an appropriate forum, taking into account the audience's level of knowledge. In addition, as a result of the internship the intern should have gained an understanding of the way in which their work can be used to broaden the public's understanding of the historic environment.

During the internship the intern will also assist their supervisor in demonstrating to students and providing appropriate assistance and direction to any students or archaeological practitioners they come into contact with during their work.

AK3 Develop your own resources and protect the interest of others
A personal development plan /job plan will be produced in conjunction with the internship supervisor within two weeks of the start of the internship. This will be regularly reviewed during the internship by the intern and the supervisor and will include self-assessment by the intern of what they have learnt and how they feel they are developing their skills, including time management, communication, delegation (where appropriate) and the way they plan and organise their work. The intern should also gain an understanding of appropriate professional conduct in relation to their work.

At the end of the internship the intern will write a short assessment of their experience of the internship, and will make an oral presentation to a professional audience. English Heritage (Centre for Archaeology) and the host institution will provide support and advice for the intern regarding their future career development.

Option3 –investigation units

AB2 Propose and agree project methods
In fulfillment of this unit the intern will prepare in conjunction with their supervisor two proposals for undertaking the environmental archaeology on a project for a client. This might be a proposal to carry out analytical work on a body of material from a developer-funded project or an English Heritage project. They should be able to provide a schedule of investigation and to quantify the

resources required to carry out that investigation. By the close of the internship the intern should have gained a full understanding of the requirements for assessment and analysis in line with English Heritage and IFA guidance.

AC4 Conduct intrusive investigations
In terms of a specialist working on environmental material, the completion of this unit is taken to be the conduct of an analysis of the environmental material retrieved from excavations. The intern will work on material from at least two sites. They will devise an appropriate method of investigation on this material in conjunction with the internship supervisor and carry it out.

This will involve:

- Deciding on the number of samples to be analysed and justifying their selection (e.g. by previous assessment/work)
- Defining an appropriate methodology of investigation and undertaking work to that methodology
- Recording data and verifying those data
- Carrying out the investigation such that the requirements of other specialists are met, and liaising with those specialists concerning their requirements
- Proper use and maintenance of laboratory space and equipment, and reference collections

AD1 Undertake analysis and interpretation
This forms the largest component of the work. The intern will undertake the analysis and interpretation of material from at least two different sites and prepare and submit reports on this work for publication, and/or inclusion in the Centre for Archaeology report series. The analyses will be carried out to agreed research objectives, following a defined methodology, and within an agreed timetable determined in conjunction with the internship supervisor.

AE1 Characterise the archaeological resource
In fulfillment of this unit the intern will undertake the assessment of material from an archaeological project. For the first project for which an assessment is appropriate, the internship supervisor will undertake the assessment, demonstrating the purpose of assessment, the methodology required, and the criteria and methods used to judge the significance and potential of the material (resource). For a second project, the intern will carry out assessment with advice from the internship supervisor as required.

AJ9 Reduce risks to health and safety
It is important that the intern gains an understanding of health and safety procedures. They need to be able to undertake risk assessments for sampling in the field, and for laboratory work, including due regard for other people. As part of the internship, the intern will review the risk assessment of their work environment at the host institution and carry out a risk assessment for at least one field visit. The intern should also have gained an understanding of monitoring procedures within the host institution.

Project Process Map for establishing the Job Description and Curriculum for Science Internship.

This process can be adapted for writing a curriculum or training targets, using the NOS, in any context.

Project Planning

- establish clear objectives
- identify those whose help is needed for the project
- identify key stakeholders
- identify barriers
- clarify any authority/agreement that needs to be sought
- set realistic timescales and deadlines
- set regular review points.

Establish the focus of training

An individual or a small working group to establish the outcomes you wish to achieve i.e. in outline, what skills and knowledge you would want someone who goes through this training programme to have acquired.

Look at the NOS and strip out Units that appear to be relevant to your desired outcomes.

- allow time for familiarisation with the NOS
- allow for debate and discussion and thinking time. This is a necessary part of the process
- use Unit and Element titles to guide this initial sift
- keep an open mind when looking at the NOS – there may be skills and knowledge that you had not considered, but are desirable and relevant to your needs.

Look closer at the detail of the standards

- confirm that the NOS you have identified are relevant and meet your needs by looking at the detail within them
- if considering NVQ accreditation, ensure that all the requirements can be met
- allow time for debate and discussion
- select the NOS Units and Standards that are relevant.

Circulate for wider consultation amongst stakeholders

- to invite comment
- agree content
- allow time for people to consider what you are presenting
- depending on the numbers involved in the consultation you may need to explain the process you have been through and the outcomes at a brief event.

Agree content and plan for training delivery

If appropriate, recruit to the training programme

A Personal Development Planner and Learning Log

As part of the development programme for the intern English Heritage and York University are currently looking at a PDP format that will support the focused ad structured planning and recording of learning.

Here we offer you a useful and practical example of a Personal Development Planner and Learning Log produced and used by the IFA. The PDP and Log proformas along with instructions on how to use them effectively can be found on cpdschme.pdf Asif could you please add a link here to this file also attached . thankyou