

UNDERGRADUATE AMBASSADORS SCHEME



Encouraging a new generation of scientists
Providing key skills to undergraduates
Supplying role models for pupils
Giving support to teachers

1. OVERVIEW

The Undergraduate Ambassadors Scheme (UAS) works with universities to develop a module that provides Science, Technology, Engineering, Maths and Language undergraduates with an opportunity to gain academic credit by working as teaching assistants and acting as role-models in local schools. It is designed to encourage undergraduates to consider teaching as a career in the shortage subject areas whilst giving them valuable transferable skills developed in the classroom that they will be able to use in whatever career path they follow. It provides teachers with a knowledgeable and enthusiastic assistant who is able to offer practical help and engage pupils in science and mathematics. For universities it offers an opportunity to build further links with local schools and to boost long-term recruitment into the shortage areas of science, technology, engineering, maths and languages.

Based around a suggested module structure, the Scheme is adaptable to fit in with specific course requirements for individual university departments. Each undergraduate is paired with a science or mathematics teacher in a local school and works closely with them on one day every week (or equivalent) for a full semester of roughly 10 weeks. Ideally there will be some basic matching between undergraduates and teachers. The module is designed to operate across all age ranges of school pupil, from primary to sixth form.

UAS provides guidance on key aspects of the Scheme including administrative issues, placing the undergraduates in schools and training for the participating undergraduates. By providing a suggested outline for a course unit, (perhaps called 'Science Education and Communication' or similar), some associated materials and advice on matters such as recruiting schools, training etc., UAS hopes to encourage university departments all over the country to take part in the scheme.

UAS is supported by the Training and Development Agency for Schools (TDA). Undergraduates on UAS will automatically qualify as 'Science & Engineering Ambassadors' (SEAs) which encourages young working scientists to spend time in schools on a voluntary basis.

Where student tutoring schemes are already established within the university, UAS seeks to facilitate effective communication between existing schemes to ensure that it is not covering the same ground. It encourages participating departments to allow undergraduates already involved in a voluntary student tutoring scheme who wish to participate in UAS to do so without giving up their existing work.

2. UNDERGRADUATE SELECTION, TRAINING AND SUPPORT

UAS recommends that an interview system is used to select undergraduates for the Scheme, ensuring that those who take the module are the most committed to its aims and therefore can learn most from it. The number of placements available should be kept limited in order to help ensure these high standards of quality assurance, which in turn will also be of attraction to potential partner schools. It should be an essential element of the selection process to ask undergraduates to explain and demonstrate the reasons why they want to take this course. As part of the interview, the undergraduate should be asked to demonstrate their basic aptitude for working in a teaching environment and consideration should also be given to a brief but confidential reference from their department tutor. On the basis of these three elements, a student will be considered for one of the limited number of places available.

An initial day of training will provide the undergraduate with an introduction to working with children, conduct in the school environment, child protection issues and basic teaching methods. The

undergraduate will then be matched with a specific teacher at a school in the local area and will be given a chance to visit the school they will be working in before commencement of the module. The teacher will then act as a 'mentor' and assessor to the undergraduate during the course. They will offer guidance to the undergraduate during their weekly interaction and determine the level of responsibility and special projects given to them. The teacher will also be able to liaise with the university tutor whenever necessary.

The undergraduate will also be given an initial introduction to relevant elements of the National Curriculum and its associated terminology and the level of science teaching in which they will be participating. UAS can provide a suggested 'Undergraduate Handbook' which provides undergraduates with additional support, background reading, helpful suggestions and a list of useful contacts and resources

Each class will have only one undergraduate working with them but it is intended that there will be a minimum of two undergraduates assigned to each school so that they are able to support each other and share experiences. Responsibility for the delivery of adequate training plus implementation and availability of adequate guidance and resources will rest with the individual university departments. UAS provides guidance notes on training and suggestions on where to find qualified training personnel if required.

UAS advises departments to ensure, as far as possible, that teachers who accept an Undergraduate Ambassador into their classroom will be experienced and confident and in a strong position to pass on their expertise and transferable skills. It will be the responsibility of the university department to vet and select teachers. The selected teachers will decide the precise role of their undergraduate after discussing aims and goals with them at the start of the term. Thereafter, the teacher will act as the undergraduate's main source of guidance although the undergraduate will also be able to discuss their progress with the school's head of department and the university tutor. The university tutor will be the first point of contact for the undergraduate in the event of any problems but the undergraduate should also be asked to make sure they know who the school's child protection officer is.

3. COURSE CONTENT

UAS can offer guidance to universities on implementing a framework and support structure for placing undergraduates in schools along with suggestions on how they can provide training, recommendations of course content and guidance on resources. Specifically, UAS provides guidance documents on the following areas:

- 1) The Module Structure
- 2) The Assessment Methodology
- 3) Recruiting Undergraduates
- 4) Identifying Teachers and Working with Schools
- 5) Preparation and training for Undergraduates and Teachers
- 6) Support and Monitoring for Undergraduates

However, final responsibility for the methods and practices adopted to run the scheme and the nature and amount of information delivered to participating undergraduates and teachers rests with the department.

During the module, the undergraduate will be involved in the following broad areas of learning and tutoring:

Classroom observation and assistance: Initial contact with the teacher and pupils will be as a classroom assistant, watching how the teacher handles the class, the lesson structure, the level of science taught and offering practical support to the teacher in the 'lab'.

Teaching assistance: The teacher will assign the undergraduate actual teaching tasks which will vary depending on specific needs and the undergraduate's own ability as it develops over the term. This could include offering problem-solving coaching to a small group of higher ability pupils or taking the last ten minutes of the lesson for the whole class. As part of their course assessment the undergraduate will have to demonstrate an understanding of how the level of scientific knowledge of the pupils they are teaching fits in to their overall learning context in other subjects.

Special projects: The undergraduate will devise a special project on the basis of discussion with the teacher and their own assessment of what will interest the particular pupils they are working with. The undergraduate will have to show that they can analyse a specific teaching problem and devise and prepare appropriately targeted teaching materials, practical demonstrations and basic 'tests'.

Extra-curricula projects: The undergraduate may be supervised by the teacher in helping to run an out-of-timetable activity such as a lunchtime science club, special coaching periods for higher ability pupils or a trip to their university department. The undergraduate will have to demonstrate an ability to think laterally in order to formulate interesting ways to illustrate more difficult scientific concepts.

It should be stressed that, for their own protection and for insurance purposes, teachers and undergraduates will be informed that undergraduates should never be left alone with pupils and must always be supervised by a teacher. It will be the responsibility of the university tutor responsible for the course to ensure that undergraduates fully understand the importance of this principle.

4. LEARNING OUTCOMES

On completion of the module undergraduates will have gained substantial experience of working in a challenging and unpredictable working environment. They will also have gained a broad understanding of many of the key aspects of teaching science in schools. The specific and transferable skills they will have had an opportunity to attain include:

- Understanding the needs of individuals.
- Interpersonal skills when dealing with colleagues.
- Staff responsibilities and conduct.
- The ability to improvise.
- Giving (and taking) feedback.
- Organisational, prioritisation and negotiating skills.
- Handling difficult and potentially disruptive situations.
- Public speaking and communication skills.
- Team-working.
- Standard teaching methods.
- Preparation of lesson plans and teaching materials.

They will have gained experience of answering questions about their subject and will be able to assess and devise appropriate ways to communicate a difficult principle or concept. The undergraduates will develop their communication skills, both in a one to one situation and when speaking to an audience. They will also develop a better understanding of and confidence in their own degree subject.

5. ASSESSMENT

The university tutor will make the final assessment of the undergraduate based on the following elements:

- Undergraduate journal of their progress and development in working in the classroom environment
- Undergraduate presentation on their experience and Special Project given to their tutor and peers
- Teacher assessment of their planning and delivery of Special Projects
- Undergraduate end of course report on their Special Project with an evaluation of how well it worked and suggested improvements

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