University of St Andrews

ID4001 Communication and Teaching in Science Condensed Handbook for Mentor Teachers 2024-25

15 credit module, ie 150 hours of work for the average student at this level, ie averaging 10 hours a week including Orientation Week, Weeks 1-11 of semester, revision week, and exam weeks.

Module Coordinator
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Please see information on the ID4001 - Communication and Teaching in Science webpage and for students additional information and marks/feedback on MySaint/Moodle

uas undergraduate ambassadors scheme

Contents

1. INTRODUCTION & SCHEDULES

Thank you to mentor teachers and their schools for hosting one or more ID4001 students September to November 2024. This handbook for teachers is a heavily edited version of the student handbook, which itself is visible to you on the open module website at the address noted on the front page. This edited handbook for mentor teachers is in response to a suggestion via a student rep at the 2023 Student Staff Consultative Committee.

The module is run by the University of St Andrews in collaboration with local schools. I am the module coordinator, and you are welcome to contact me with any queries, concerns, or suggestions. Each student on the module also has input from a members of staff in their academic school here, known as the departmental representative. In most cases this is the person who organised the placement with your school. They are also available to answer any queries, and they are the people who best know the relevant placement student.

Dr Bruce Sinclair, School of Physics and Astronomy
Module Coordinator for ID4001

1.1 Summary of module aims and outcomes

Module aims - for the student

By taking part in this module students will have the opportunity to apply their subject knowledge in a very different way to what they have experienced in most other modules at St Andrews. They will be working alongside teachers and other educational professionals to learn how to communicate their subject to pupils with a range of learning abilities. They will need to understand how to do this, how to address the varied needs of others and how to reflect on their own progress and to adapt accordingly. They will also need to gain a high level of understanding of current educational issues. This is a very different type of module. It will be challenging and will require students to take note of their environment and to work in a mature and professional manner. The extent to which they learn from this experience, and express their knowledge and understanding in the various assessments will provide them with a module grade that is associated with the formal learning outcomes (below). The experiences that they gain are expected to serve them well for future employment, whatever career pathway they choose to take.

The specific and transferable skills they should be able to gain include:

- Public speaking and communication skills
- Organisational and interpersonal skills
- Time management skills
- Team-working skills
- Working in a challenging and unpredictable environment
- Professional conduct
- Addressing the needs of individuals
- Taking the initiative and problem solving
- The ability to improvise
- Providing constructive feedback, receiving and acting on formative feedback
- Handling difficult and potentially disruptive situations
- Experience of teaching methods
- Explaining science

1.2 Roles and Responsibilities: Partnership – School – Student - University

Students have a responsibility to their placement school and to their mentor teacher. There is also a responsibility to the University in terms of the need to submit and have assessed work on a well-conducted set of educational activities.

Students should:

- Ensure that they understand and act within the placement school's rules and regulations in all areas, and specifically including Confidentiality, Responsibilities, Child-protection, Appropriate use of Social Media, Inter-personal Relationships, and Health and Safety.
- Ensure that they understand and act within the University's rules and regulations in all areas, specifically including both Child Protection and Placement policies.
- Be aware of, and act upon, the material in the University's generic risk assessment that is given in the module handbook, and any relevant risk assessments in their placement school.
- Be proactive in working with their departmental rep and their mentor teacher to create a risk assessment for any activity that would require a specific additional risk assessment.
- Work in a team and/or as an individual as appropriate towards achieving the module goals in a timely manner, taking note of the module calendar and its deadlines as published later in this booklet.
- Work with their mentor teacher and their University departmental representative to plan and deliver and reflect upon an appropriate set of educational experiences for their pupils.
- Ensure that they understand in depth the science related to their work.
- Be applying their academic knowledge to their work and showing initiative.
- Be recording their work appropriately, and submitting work to be assessed by the specified deadlines.
- Reflect on their experiences, and use this in their preparation for future work in the school.
- Ask to have information re-confirmed if they are not sure.
- Define boundaries and responsibilities with their teacher mentor.
- Ensure that their timekeeping is good, and that they undertake at least the minimum amount of time in the placement school required for the module.
- Arrive in good time for each school visit, and inform the placement school immediately if they are unable to attend, or are likely to be delayed
- Be aware that by accepting a place on the module that there will be some sharing of relevant academic and contact information about them between the University and the placement school.
- Be aware of their rights to a safe workplace environment, and be aware of local safety regulations
- Be aware of their rights to be treated in accordance with applicable legislation for the workplace
- Be aware that they should never be left alone with a pupil or pupils

Teacher Mentors should:-

- Discuss with the student how the student should work to assist with and learn from the teaching activities, and with the student plan a series of activities that will provide experiences suitable for this module.
- Ensure that appropriate arrangements are in place for the student to work safely and productively.
- Support the student in their project work, including discussions and constructive feedback.
- Provide opportunities that range from the student observing classes at the start of the module, through a role similar to that of a classroom assistant, to a supervised teaching session (or equivalent) towards the end of the module where the student has had significant input to the planning of the session. We ask that students are provided with opportunities to lead between one and three hours of lessons.
- Liaise with the University course team in the case of any problems, or if advice is needed with regard to the University requirements etc.
- Ensure that students are not left alone with school pupils.

- Fill in and return the mid-semester report.
- Fill in and return the assessment proforma at the end of the placement.

The University Departmental Representative should

- Be available as a point of contact and advice and information for the student and teacher mentor, particularly with regard to the University's expectations of the placement
- Provide tutorial support to the student subject group
- Assess student work fairly
- Liaise with the module coordinator

The Module Coordinator should

- Manage and administer the module
- Be available for discussion with students on the module
- Oversee the organisation of the placements
- Report the module grades to the relevant Examiners' Meeting and University systems

1.4 Calendar for ID4001

Please would students read this carefully, and note it in their personal planners, as students are expected to act on what is here without any further prompting. If necessary, please would students remind academic staff or mentor teachers of things that should be happening. If mentor teachers, students, or departmental reps are aware of things not progressing as shown here, please alert the module coordinator, Bruce Sinclair, as soon as possible.

Table 1- Module Schedule

Time	Summary of activity	Ideal Development Path
Pre-summer	Students contact mentor teachers where possible to discuss how things may work next session; this may include a visit to the school.	Students and teachers discuss way ahead
Summer	Students reading about education issues and consider them.	Consideration of ideas & evidence in the literature
By or in Orientation Week, Week beginning 9 September	In Contact with School Students must be in contact with their mentor teacher to arrange their first visit. This first visit should ideally be before or within Orientation Week. This visit (or prior communication) should include discussion on dress code, wishes and requirements of the host school, timetable of visits, and classes to be involved. It may be appropriate to have initial discussions on possible Special Project topics.	Students gain appreciation of the expectations of their placement provider. Mentor teachers plan for observation and teaching inputs from the student.
13 Sept	Induction Event Friday 13th Sept 2024, 1.30 pm – 5.00 pm, J F Allen (Physics) Building Theatre B with external and internal speakers. **This is compulsory for students**; teachers are welcome. Sessions with talks and/or activities led by teachers, former students, Dundee's Education Studies staff, and local academic staff.	Students use this event to build on their summer reading to ready them for the observation in their placements.
Week One wb 16 Sept	Observation Session in the Classroom This or Orientation Week ought normally to be when you have your first experience in the school classroom, observing one or more classes in action. Begin talking to your mentor teacher about your special project. Discuss with your mentor teacher what active role(s) you may have in the classroom next week. Remember to complete the Observation Log sheet for your first visit and start your reflective journal. Remember to get your teacher-mentor to sign your Attendance Log as evidence of your accumulating hours. **Group tutorial 1 this week-** to be arranged by your departmental rep. Discussion of education paper(s) specified by your rep, discussion of items from induction, discussion of placements.	Aim for your first full visit to school, which is meant to be an observation session, where you note what happens in the classroom, reflect on this, and discuss with your mentor teacher afterwards. Discuss classroom assistant role for next week.

Time	Summary of activity	Ideal Development Path
Week Two wb 23 Sept	Classroom Experience You should now be attending your school on a weekly basis at times arranged between you and your mentor teacher. Remember to sign-in as you enter the school. Write-up your daily log sheet for each visit / session you participate in at your placement school as soon as possible after it happens, adding this to your reflective journal. Your experiences matter for your final report, and by the time week 11 comes it is unlikely you will remember much about what happened in week one. **Mid-semester feedback**- Students should give the mid-semester feedback form to their mentor teacher and ask them to fill this in to get to the relevant dep rep directly or via student by Friday of next week.	In this and the next few weeks you should aim to be in the role of a classroom assistant, albeit "in training". This may be assisting with labs or investigations, special input to small groups of pupils, etc.
Week Three wb 30 Sep	Finalise discussing the aims of your **Special Project** in negotiation with your teacher-mentor. **Group tutorial 2** this week or next, organised with your departmental rep. This tutorial should focus on lessons learnt so far, and a discussion of preparation for the project proposal submission. Mid-semester feedback Teachers should have provided their mid-semester feedback by Friday of this week. Students should submit the mid-semester feedback form with teacher and student comments on it to their departmental rep by Friday of this week. If any issues are flagged up they should be dealt with at the tutorial or privately, as far as possible by the end of week four. If any issues are flagged up by the mentor teacher they should where possible be explored and action taken by the end of week six.	Discuss with your mentor teacher what you both wish you to do for your special project. Discuss preparation of the proposal with your mentor teacher and with your dep rep. Students should be taking some responsibility in a classroom assistant role
Week Four wb 7 Oct	Reading and preparations if not on a school visit. Friday 11 Oct 13:00 is the deadline for submission of your Special Project Proposal to MySaint, using the proforma provided.	Holiday for Dundee and Fife state schools
Week Five wb 14 Oct	Reading and preparations if not on a school visit. "Lesson" Practice and Feedback Students are asked to prepare a five minute activity of the type they may later use in their school placements, and to run this for a group of ID4001 students. Peer feedback to be provided at the session, which is intended to be run with students from different University schools. Coordinator will ask students to select from a series of times. **Tutorial 3** this week - to be arranged by your departmental rep. The main topic to be covered is feedback associated with the proposal submissions. This may be done as a group discussion or as individual "surgery" appointments with the departmental rep. Some feedback to come in the tutorial, and then written feedback by the end of the week in which the tutorial is held – marks may be much later. Student and tutor may work to do a skills audit at this stage. This week and next, Prepare a five minute presentation for week 7 tutorial	Holiday for Dundee and Fife state schools

Time	Summary of activity	Ideal Development Path
Week Six wb 21 Oct Ind. Learn. Wk	If a school placement visit is possible, that would be useful. Students please consider if they are on target in their work. Discuss with Dep Rep and Teacher mentor if they consider that they are not. Last week and this week, prepare a five minute presentation for next week's tutorial	University Independent Learning Week
Week Seven wb 28 Oct	**Group tutorial 4 –** to be arranged by your departmental rep. Each student gives a five minute presentation on a relevant topic, video recorded, with intention of self, peer, and tutor feedback. This short talk should be in the same sort of style that is requested for the formal presentation at the end of the module. The chosen topic should normally be something of the type that might be featured as part of the final presentation. This talk does not contribute directly to marks, but the formative feedback should be very useful. Practice in creating formative feedback should be useful to your teaching progress. **Tutorial and Peer Support** Students are invited to ask their departmental reps for consultation on issues to do with this module as the semester progresses. Students are encouraged to communicate with their peers, including in other disciplines, to learn useful practice from each other.	It may be helpful for students to lead part of a lesson as preparation for their special project this week or next
Week Eight wb 4 Nov	Remember to write-up your daily log sheet for each visit / session you participate in at your placement school as soon as possible after it happens, adding this to your reflective journal. This will be important to your reflective learning, and in preparing for your presentation and final report. You may wish to discuss aspects of these log sheets with your mentor teacher and/or your departmental rep.	Students should be taking increased responsibility in the classroom.
Week Nine wb 11 Nov		Over the placement we would like to see students leading between one and three hours of lessons.
Week Ten wb 18 Nov	**Group tutorial 5** Student – Dep-rep meeting in this week, as a tutorial group or a series of one-to-one meetings as determined by earlier discussions. This tutorial meeting is primarily for students to ask questions about remaining aspects of the module.	Likely week for the main part of the special project
Week Eleven wb 25 Nov	You must have completed your placement, including your special project, by the end of this week - after this week your hours will not be counted. Ask your mentor teacher for their final signatures on your time log, and give the completed log to your departmental rep by Friday this week. Teacher-Mentors' Assessment Forms should be returned directly to the University by Friday 6 December please.	Final visit to the classroom, finish evaluation of special project work
Week Twelve, Revision Week, wb 2 Dec	**Oral Presentations this week**; delivered at the University	

Time	Summary of activity	Ideal Development Path
Week 13 Exam week wb 9 Dec		
Week 14 Exam week wb 16 Dec	Deadline for submitting your End of Module Report to MySaint is Friday of this week at 17.00. Feedback will be provided on MySaint before the start of semester two.	

Note – the University staff realise that students will necessarily have different experiences in different schools. That is inevitable in any placement activity of this type. However, we wish all students to have a useful educational experience, and we ask mentor teachers and students to aim towards the suggestions above. This includes 25-30 hours of placement time in the school, 1 to 3 hours of the student being the lead person in lessons, and the special project being something that the student can "make their own", albeit under the guidance of the mentor teacher. Students are encouraged to discuss any concerns with their mentor teacher and their departmental representative.

1.5 Induction session for ID4001 and ID4002, Friday September 14th 2024

J F Allen Building (Physics) lecture theatre B. Details (including location) subject to change and/or to be confirmed.

Table 2 - Induction Event Schedule

Time	Activity
13:30	Registration opens in the foyer.
13:50	Welcome and introductions – Eric Stoddart and Bruce Sinclair, coordinators
13:55	"Experiencing the Placement." - former ID4001 students
14:10	*For those in secondary schools* - The current philosophy of teaching in many Scottish Schools, as seen in "Curriculum for Excellence". Presentation by David Porter, University of Dundee Division of Education and Society. *Theatre B* *For those in primary schools* – Primary school teaching. Session led by Nikki Doig, University of Dundee Division of Education and Society. *Room 301*
~14:45	Discussion with speaker
14:55	Break – juice boxes available in main concourse
15:10	What is 'reflecting on what happened'? Previous students and ID4001/2 staff will comment on this, and take questions as a panel. • David Porter (see above) – 'The teacher as a reflective practitioner'. • Eric Stoddard– 'Reflecting'. • Bruce Sinclair – comments on reflection, recording and feed forward in ID4001/2. • Comments on their experience of reflecting, recording, making a difference to their teaching, and getting it in to the oral presentation and the final report. • Panel answering questions about the module from this year's students, including dep reps • Reflecting on the Induction Event so far – led by Eric Stoddart.
15:45	Students are asked to meet in placement school groups and exchange contact details if they wish. Q&A discussions with dep reps and former students, plus hopefully some teachers. There will be signs within the theatre to show where different (sets of) schools should gather.
16:05	Presentation on Learning and Teaching, Theatre B Chloe Long, Chemistry teacher at Meldrum Academy Opportunity for visiting teachers and module staff to meet, room 301
16:45	Final words, then likely election of class reps. End by 17.00.

The JF Allen (Physics and Astronomy) building is on the North Haugh site of the University, which is off the A91 on the NW edge of St Andrews. The main entrance to the building is on its south west face.
If you come in that entrance, carry straight on past theatre A along the corridor. Part way along, on the left, is the entrance to room 233. At the end of the corridor there is an intersection, with a corridor going off to the left and stairs going off up to the right, and the door to theatre B is then to your right and behind

2. CONTACT DETAILS

2.1 University Staff Involved in the Module

Module Coordinator	Dr Bruce Sinclair, School of Physics and Astronomy, University of St Andrews St Andrews, KY16 9SS b.d.sinclair@st-andrews.ac.uk, 01334 463118
Head of Virtual School	Dr Anne Smith, Associate Dean Curriculum – Science, Deans' Office, College Gate, University of St Andrews, assocdeansci-curr@st-andrews.ac.uk, 01334 46 3368

Administrative responsibilities such as Academic Misconduct Officer and Exams Officer are taken by the people with those roles in the Coordinator's School.

Biology Dep Rep:	Dr David Hughes, School of Biology, University of St Andrews, djh25@st-andrews.ac.uk, 01334 467197
Chemistry Dep. Rep.	Dr Brian Chalmers, School of Chemistry, University of St Andrews, KY16 9ST bac8@st-andrews.ac.uk, 01334 463785
Comp. Science Dep Rep	Not for 2024-25
Geol/Geog. Dep. Rep:	Prof Adrian Finch, School of Earth and Environmental Sciences, University of St Andrews, Fife KY16 9TS , aaf1@st-andrews.ac.uk, 01334 462384
Maths & Stats Dep Rep:	Dr Aidan Naughton, School of Mathematics & Statistics, University of St Andrews, Fife, KY16 9SS, an18@st-anrdrews.ac.uk
Phys/Astro Dep Rep:	Dr Bruce Sinclair, as above
Psychology dep rep:	Dr Paula Miles, School of Psychology and Neuroscience, University of St Andrews, KY16 9JP, pjm11@st-andrews.ac.uk, 01334 462089

2.2 Placement School Staff

Each student will be assigned to a teacher mentor with whom they may spend much of their placement. Some schools have also identified a "Link Teacher" who will act as a coordinator between the placement school and the University. Students may wish to note here or elsewhere contact details for these people, the phone number for their placement school office, etc.

Mentor Teacher

Placement School Office

Link Teacher

3. OVERVIEW OF THE MODULE

Much of this section is addressed as if to placement students.

3.1 How to use the module handbook

This Handbook is intended to give you an overview of how the module will run and to help you prepare for the challenges ahead. It contains important information about the organisation of the module, the assessments, marking systems and deadlines. It also contains information that will help you with your placement in the classroom. Read it carefully and use it as a reference throughout the duration of this module. In this handbook you will find copies of the forms that you are asked to sign during the induction session, including those on pupil confidentiality. As an ambassador, it is important to remember that you are entering a working environment that has its own rules and procedures. Make sure you are aware of the guidelines in place at the placement school and ask your teacher mentor if you are unsure of any issues that affect your safety or that of any pupil with whom you are working.

3.2 What will you achieve by taking this module?

The Communication and Teaching in Science module will reward you with academic credit for working as a 'student-tutor' with teachers in local schools and will help you to develop some valuable transferable skills. You may already know about 'student tutoring' schemes that work on a voluntary basis. Most of these run very successfully without giving academic credit for taking part, but do provide immense satisfaction to the truly committed undergraduates who get involved. This module is different in that you are rewarded with credits towards your degree for the work you do in the classroom. You are an ambassador for the University and a positive role model to school pupils. You are different from a teacher or a parent. This additional perspective is one of the most important things that you bring to your role. The pupils will enjoy sharing your enthusiasm for your subject and this is an excellent opportunity for you to let them what it is like to be a student in your subject.

Note, however, that you are not a qualified teacher and there is no intention that you should be seen in any way as substituting for a teacher. You are there to learn from your mentor teachers. Your work in the classroom should always be supervised by a teacher.

3.3 How does the module work?

The module will involve:

- Being paired with a teacher mentor at your host school who will work with you to identify your aims and objectives for the term, and support your work in the host school
- Attendance at an induction session in Orientation Week giving you an introduction to the fundamentals of working with children and conduct in the school environment
- Attending presentations/discussions with outside speakers with experience of the modern classroom.
- Spending 25 hours of pupil contact time in the classroom (including observation) developing your role within the classroom. The absolute minimum is 20 hours and there is a recommended maximum of 30 hours. You keep a reflective journal to allow you to keep track of your learning and plans.
- Design and completion of a Special Project
- A series of tutorials with your departmental representative at the University
- Student-initiated consultations with their departmental rep
- Completion of four assessed elements - special project proposal, end of module report, teacher's assessment and assessed talk

Please note that most of the learning on this module comes from your experience in the placement school. The induction event, your summer and subsequent reading, and the contents of this handbook aim to give you useful background, but you are in your placement school to learn as well as to teach. We add to that learning experience with the evening seminars, and the directed reading for, and discussion in, tutorials. But a major part of your learning and preparation is what you observe, discuss, plan, and try out in your placement school, coupled with reflection on all of this.

3.4 Role of the teacher mentor

At the start of the module the teacher mentor will:

- Communicate with the relevant University departmental representative directly or through the student to discuss ways in which the teacher can make most effective use of the undergraduate student and help them to achieve their objectives
- Meet with the undergraduate student before, or at, the start of the module to discuss their aims and objectives, their role and what will be expected of them, and to outline the areas of teaching to be covered during the autumn term. The undergraduate student should contact the teacher directly to arrange a convenient time for this meeting
- Agree with the undergraduate student a suitable time for their school visits as soon as school and University timetables are available

During the module:

- The teacher should be a source of guidance and advice to the undergraduate student, and it is expected that the teacher will provide some level of briefing to the undergraduate about each lesson. This briefing could occur at the end of the preceding lesson, during a phone call or through email. Throughout the term, the teacher should provide feedback to the undergraduate student on areas of the work that are going well and where improvements could be made and how. The teacher should also provide advice to the undergraduate with respect to the planning and implementation of the special project.
- Please provide a mid-placement report for view by both student and departmental representative. This is not any form of grading sheet, but is meant to be formative feedback to the student and useful information for the departmental representative.
- The University departmental representative may wish to be present at one of the undergraduate student's visits in the latter part of the module to gain some insight into the student's experience at the school in order to aid the assessment process. Where this is the case, they will contact the teacher mentor in advance directly or via the student to agree a convenient time.

After the module:

- At the end of the module, the teacher mentor will be asked to complete a brief assessment of the undergraduate's performance and progress during the term. This is a 'tick-box' form with space allocated for comments. It is provided later in this handbook. This assessment constitutes 25% of the total mark given to the undergraduate for this module. The mark will be moderated by the module coordinator and departmental representatives to ensure parity of standards.

4. THE STUDENT'S TIME IN THE CLASSROOM

Much of this session is addressed as if to the student.

4.1 Overview

You should arrange a visit or Teams call to the school that you have been assigned to, prior to starting your work in the classroom, so that you can meet your mentor teacher and discuss which classes you will work with and how you might organise your time in the school. You should aim for a minimum of 25 hours in the classroom (including observation time), though the absolute minimum is 20. We would not normally advise students to spend significantly more than 30 hours in the classroom. Your visits should be spaced across several weeks to allow you to learn from and reflect on each experience. The day and time of the school placement will be decided on an individual basis to match the timetable of you and the teacher and it is your responsibility to organise the timetable and to alert the teacher in the event of any problems. It is important that once you have agreed to take part in the school's work at particular times, your timekeeping is excellent. If you are unable to keep the agreed time, for example due to illness, you must make every effort to communicate with the host school immediately. You will be able to review progress and discuss your work with your department representative at the University, both through timetabled tutorial sessions and during their office hours.

Your role in the classroom/laboratory should progress through the semester from initial observation sessions to constructive support of the teacher. It is expected that students will progress to leading part, if not all, of a lesson under the supervision of the class teacher by the end of the module. You should expect to become more involved in school activities possibly by working with small groups of pupils on specific topics or activities, or in setting up practicals and demonstrations. As you gain experience and confidence, you may be asked to take a more responsible role such as using equipment to demonstrate a principle or phenomenon, by helping in extracurricular activities such as Science Club and presenting a talk about undergraduate experiences.

Throughout the module, the level of interaction with the pupils must be agreed with the teacher and should at all times be under the teacher's direction. You will be expected to plan your own role in each lesson and to discuss your plans with the teacher mentor. Although your plans will not be formally assessed, they are often needed in order to ensure good outcomes to your teaching sessions, and they will be a useful source of information for your end of module report and for tutorial discussions with your departmental representative.
An example of a lesson plan is provided in this handbook.

You will be required to plan, prepare and implement a Special Project. The choice of the project should be made following discussion with the teacher and with the departmental representative. This project should allow the student to develop their ideas gained through the placement, and should not normally be "just" following an existing lesson plan from the school. The special project should be targeted, where possible, at a specific concept or activity for which there is a perceived need in the school. You are required to submit a proposal for the special project, and your University departmental representative will provide comments on this. Further information about the special project is given in the next section.

4.2 The Reflective Journal - keeping notes and using the log sheets

You are required to keep a reflective journal of your experiences in the school and what you learn from them. This is part of good professional practice, and will also be useful for you developing your skills and recognizing your progress and determining your "next steps". In addition, this reflective journal is important for informing your report and talk at the end of the module. Your reflective journal is not directly assessed for part of the module grade, but its use should greatly enhance what you get out of the

module in experience and in marks in the formally assessed work. You may hear the parts of your reflective journal referred to as a log book.

Your first day on placement is focused on the observation of the teacher's interaction with pupils and how topics and concepts are introduced and developed. Use the **Observation Log Sheet** (copy in final section of this handbook online) or similar template to record your first observation session in the classroom. If possible, specific situations should be discussed with the teacher. You should later reflect on what you have found out, perhaps note what you have read on related topics in the literature, and note on the sheet what you have learnt and what actions you plan to take on the basis of this learning.

Each subsequent visit should be documented and summarised in a set of **Daily Log Sheets** (copy in final section of this handbook online) or similar templates. You should complete one for each visit to the school. It is not expected that the teacher will read these log sheets unless you wish them to, but you might find it helpful to refer to your log sheet entries when you meet with your teacher mentor. University staff will need evidence that you have regularly updated your Log Book and you will need these notes for your written report. You should make time after each school visit to reflect on what has happened. What went well and why? What did not go so well, and what might you do on a future occasion to try to get greater success? What have you learnt from that school visit? This should be recorded on these sheets, which should come together to form your reflective journal.

Each time you visit the school you must record the visit on the **Attendance log sheet** (available at end of this handbook online) and ask your teacher mentor to initial each entry to confirm your attendance. This sheet is a formal record of the hours that you have spent in the school and it will be used to determine whether or not you have completed the minimum contact hours required for this module.

Bring your reflective journal to the tutorial sessions so that you can refer to your notes. The reflective journal should also include a copy of the Observation log sheet, the signed copy of the Attendance log sheet and a copy of the Special project log sheet.

4.3 Advice on using the Reflective Journal / Log Book

The purpose of the reflective journal is to provide you with a structured approach to your visits to the school and to allow you to map your own progress and improvement during the course of your placement. Aim to demonstrate how your skills have developed over the period of the placement. Use our learning outcomes as guidance for completing the daily log sheet. Please do not feel as if you have to complete each section each time - they may not always all be relevant to that particular visit. You might also like to reflect on the subject-specific knowledge that you are required to use and how your understanding of it has been challenged or changed in dealing with school pupils. As an element of the module you can use it to determine the extent to which you have made progress within each of the learning outcomes, whether you have developed an understanding of the school environment, and whether you have approached the work in a structured and systematic manner. You should provide examples of achievement or progress and identify how you might improve on a weakness in a particular area.

- Refer to the example completed logsheet in this handbook to help you use an appropriate content style and layout.
- Be selective in what you choose to write about. You are not expected to report everything you do in the classroom, but you are expected to select the experiences that you can write about in a reflective/evaluative way. Remember that you will be using your log book to select and describe particular experiences during the module, in order to improve your skills from one session to the next, and to refer to as you write your final report and prepare your talk.
- Do not merely describe what you did. Each example of your work should follow the process of what you did, why you did it, and what happened as a result. Importantly, you should reflect on how the activity went. You should comment on what went well and why, and where appropriate also include

suggestions of how you might improve things next time. Think: What, Why, How and Result. Comparisons of your experience or observations with the literature may also be useful.
- You should aim to link each situation or example of your work with the specific assessment criteria outlined in the assessment briefing.
- Do not be vague in writing up your evidence. Sing your own praises and don't be afraid to say 'I did this', 'I decided to do that'. Do not write passively as though anyone could have done what you are writing about.
- The 'Observation Log sheet' is intended to give you the opportunity to observe teacher/pupil interactions and classroom techniques that will help you to analyse and develop your own competence. You only need to complete one of these- at your first observation session within the classroom. However, use it as a guide to your development during the school placement.=
- The 'Special Project Log sheet' is intended to provide you with a structured approach to the planning and implementation of your special project. You might find it useful to show this to your teacher mentor as you discuss the project and its implementation.

Reflective practice and reflective writing will be covered in the module's Induction Afternoon. There are various resources out there on reflective writing that may be of use. These include the University of Nottingham reflective writing resource and the University of Reading reflecting learning resource.

4.4 The Special Project

A "Special Project" is undertaken by students towards the end of the project, after consultation with their mentor teacher, and following feedback from their departmental representative on a "Proposal" for the special project.

The Special Project should be seen as a climax to your placement within the school, allowing you to practise some of the skills you have learned. The choice of the project must be agreed with the teacher mentor and may follow a suggestion from the teacher, an original idea of the student, or originate elsewhere. It must be more than just following a lesson plan provided by the school. The University department representative may be consulted about the topic. As part of the planning process the student is required to submit a project proposal for discussion with the departmental representative in advance of the special project, and the departmental representative will provide feedback on this document. It is acceptable and expected that the special project details will change as a result of feedback to the student. It may also be that things happening in the placement school mean that the special project has to be very different to what was in the proposal. The student should be able to deliver the project in the classroom or with a group of pupils before the end of the module, subject to approval by the teacher mentor.

Some suggestions for special projects include:- a novel method of presentation appropriate to the topic, a particular experimental demonstration or a pupil activity, the preparation of special materials, an extracurricular activity (e.g., helping to run or set up an after-school club or arranging a visit to the student's University department). The nature of the project and materials must be discussed fully with the teacher and agreed with them, and through the work associated with the "proposal" for your special project also with your University departmental representative**.** The special project must involve you leading pupil learning for their benefit, and it must not be primarily an educational research project. Safety issues must be addressed, including for the use of equipment, fieldwork, etc, and the teacher's advice should be carefully followed. The University department may require a University risk assessment, as may the host school.

Delivery of the special project is not assessed independently of your other work but it will be a component of your teacher mentor's assessment of the your performance in the classroom and it will be the subject of your oral presentation. In addition, you will use elements of the project in the written report that is assessed within the University; and the project proposal itself carries part of the module marks.

Examples of some special projects

- Organising a team to take part in the National Team Mathematics Challenge.
- Use of geometry software package "Super Logo" for S2 pupils.
- Lung dissection for special-needs students.
- Supporting understanding of trigonometry with lower attainment S5 pupils.
- Undertaking activities in probability with S1 pupils looking at the "Monty Hall problem".
- Investigating learning styles differences in chemistry between S1 and S4.
- Supporting top set pupils in a coursework project on Copper.
- Giving presentations on the student experience at University in a Widening Participation school.
- Development of starters in rocks and weathering using PowerPoint and the interactive whiteboard.
- Running a visit for pupils to come into the University to do experiments in radioactivity.
- Introducing primary school pupils to a programming language
- A world-wide web of opportunity – development of an html and css based image gallery
- Designing a field trip for S5 students to look at slope analysis and slope stability
- Taking a class to collect beach sand samples along a transect of the West Sands and bringing them to the University for grain size analysis
- The use of 'clickers' to run an interactive quiz lesson with S1 and S2 pupils.
- Working with a Science Centre to design a presentation on energy for S2 pupils; take pupils to the Centre and evaluate the outcomes.

More detailed descriptions of some special projects:-

Mark – BSc Physics (from the UAS)

Mark chose to do his special project with a class of 'top set' Key Stage 3 pupils and two Year 12 pupils. He devised theoretical and practical lessons introducing concepts of energy conservation, mechanics and material properties, which were based on squash balls. The students began by looking at actual quality control tests carried out by the World Squash Federation to ensure that all squash balls passed the 'bounce' test. Working in teams, the Key Stage 3 pupils were given squash balls and asked to plan and conduct an experiment to investigate the effect of different temperatures on the rebound height of the balls, showing which ones would pass the bounce test. With his Year 12 pupils, Mark spent a couple of lessons covering the theory of Thermal Physics before moving onto the same practical quality control experiment as the KS3 pupils but asking them to carry out a suitable error analysis, look at what factors caused the change in energy and to calculate the loss of potential energy and the maximum kinetic energy of the ball. With both groups Mark was pleased to have introduced a new way of approaching the subject which both encouraged team work and enabled him to test their understanding of the theory he had taught them in an interesting and practical way.

Michelle – BSc Environmental Science (from the UAS)

Michelle decided to work with her Year 9 class on the topic of Acid Rain. In doing so she was trialling a new element of the GCSE for the school – the IAS (Investigative Skills Assessment). This involved pupils collecting their own data in a practical lesson and then doing a 45-minute written test in the classroom under exam conditions.

The practical Michelle chose to do was a simple one growing cress in Petri dishes. Watering the cress using water with different pH levels to simulate different levels of acid rain, the pupils measured how tall the cress grew. The pupils were very conscientious about the experiment, coming in on non-science days to water their cress. They used the results to plot graphs and to identify trends.
As a result of the experiment the pupils produced posters which were used as classroom displays.

Jane – MPhys Physics (from St Andrews, though name changed)

Jane worked in one of the local secondary schools, and through her placement experienced lessons in all year groups. The school wished to promote science to S1 pupils, and Jane was aware of some science outreach work going on at the University. She and her mentor teacher negotiated with the senior management team at the school to organise a day where every one of the S1 classes could experience a set of hands-on exhibits on the topic of light being used in applications to science and medicine. Jane also trained S6 pupils that she had been working with earlier to be demonstrators to the S1 pupils.

As each class came in to the exhibits through the day she introduced what was happening before supervising (and assisting with) the hands-on activities hosted by the S6 pupils. She then ran an interactive "what have we learned" discussion at the end of the class period. She worked with the school to evaluate the effectiveness of this special day, and presented this to the University in her talk and her project report.

John – Computer Science (from St Andrews, though name changed)

John worked in a primary school with P6 pupils. He first observed a number of lessons, and got used to the sorts of learning opportunities that were being provided. Following discussion with the class teacher, John developed his own lessons aimed at introducing the pupils to programming ideas, going beyond the ICT that might have been expected, and motivating study in Computer Science. A secondary aim was to assist in the development of pupils' multiplication skills by incorporating this into computer games to be developed

He introduced the "Scratch" platform to allow pupils to program, and encouraged the pupils to use their creativity in designing characters to "live" on the screen. He used a variety of teaching techniques and feedback from the pupils to help the project. Every pair of pupils succeeded in creating a game with some form of extra personalization or extension beyond the original goals.

Jane – BSc Psychology (from St Andrews, though name changed)

Jane did her special project with a composite class of Primary 6/7 pupils in an Additional Support Needs class. The topic was taken from the Curriculum for Excellence (Scottish primary schools, science) and negotiated with the class teacher. The aim of the project was to introduce the concept of germs to the children and provide them with a basic understanding that germs are small and can be easily spread. After an assessment of the children's literacy skills, she chose an interactive approach, as children's learning style would benefit more from a 'hands on' approach. The basis of the project was a simple experiment to demonstrate the concept of germs clearly. It involved the use of baby oil and glitter (to represent the germs) and the task involved touching various objects to show the spread of germs. From this core idea, she integrated other areas of the curriculum; e.g. understanding the importance of using a tissue when sneezing (health and well-being), and the production of a poster explaining ways to prevent spread of germs. Jane evaluated the sessions as successful in achieving the set aims, and in introducing Co-operative Learning (C.L); children working together as a group, and all playing a role to help each other's learning. This was identified in Jane's research as an effective method for learning in children with Additional Support Needs.

Jo – BSc Maths (from St Andrews, though name changed)

After discussing ideas with their teacher-mentor Jo decided to do their special project with their S1 class on the topic of "Exploring Pi". The project was designed to tie in with two particular aspects of the Curriculum

for Excellence: helping children to become "successful learners, confident individuals, responsible citizens and effective contributors" as well as investigating "the relationships between the radius, diameter, circumference and area of a circle".

After a thorough review of the literature relating to this stage of learning Jo decided to use elements of active learning, collaborative learning and dialogic learning in their project. Jo divided their lesson up into: introduction and basic definitions; class forms groups to measure circular objects of various sizes; students analyse their measurements; class discussion; recap to conclude the lesson. Amongst the advantages of this approach were: the class honed their motor skills through measuring diameters and circumferences, improved their social skills through group work, learned how to record and analyse data as well as discussing their ideas where Jo used the scaffolding technique to build upon their previous knowledge. Jo evaluated the lesson through a class test and feedback form and noted areas which could be refined for future lessons.

Chris – Earth & Environmental Sciences (from St Andrews, though name changed)

Chris worked in a primary school with P6 and P7 pupils. The teacher was keen to develop some new Earth science resources for the class and geological time was the first one to be tackled. Pupils made large cards that represented Earth history and the geological time periods. The pupils used paints and other materials to represent time and geological events and then they hung the cards from a string across the classroom, with the distance between the cards scaled to represent geological time. They were so beautifully made, and so visually informative, that they were still in the classroom years later).

Another activity that the teacher wanted to develop was a field trip. Searching for fossils is something that most young people like doing, but developing a field trip whose objective is to interpret what rocks represent is more challenging. Chris designed some activities which focussed on the pupils making particular observations which would lead them to a specific conclusion. Chris also designed a risk assessment so that the pupils understood the importance of safety and recognising hazards. The weather was very good for the trip, and the pupils really enjoyed it – as important though, was that the pupils really stayed very focussed on making observations and didn't get distracted because they were well prepared for what they needed to achieve and understood what to look for, even though the geology was actually quite complicated. The teacher has since run the trip on her own and felt confident about doing so.

6. ASSESSMENT ITEMS

This section gives more detailed information on the assessment requirements and marking schemes for each of the assessment items. Please also read the information on assessment of ID4001 students in the earlier sections, where these assessment items are put into context.

6.1 Project Proposal

Students are required to submit to their departmental representative a project proposal document by the deadline stated in the module calendar. Please see the section in this handbook on the special project for more information.

The topic of your proposed project should be discussed with your mentor teacher well before submitting the proposal document. While most students will proceed to carry out the special project as described in the proposal, in some cases we realise that things may conspire to require a change of emphasis or even a complete change in topic before the project work comes to happen.

Your proposal should be written using the proforma provided below for this purpose. It should consist of up to four A4 sides including up to 1500 words detailing what you plan to do, why you plan to do it, how you wish it to happen, and how you plan to evaluate the session. It may be appropriate to include a draft lesson plan in this document. Diagrams and pictures are welcomed where appropriate. There should be some references to relevant literature in the form of books and/or journals, and possibly to ID4001 seminar or tutorial material.

Feedback on this work from your dep rep and your mentor teacher should be useful to you in taking these plans forward.

A later section of this handbook contains general advice on scientific writing, which may be useful to review before constructing your proposal document. You may also find the information in the marking schedule to be of use. There is deliberately limited guidance on structure of the text to be included under the section headings given, as there are many ways in which this could be sensibly done.

The proposal assignment

- encourages students to plan ahead for the special project, using relevant literature and seminar materials
- provides experience in formal scientific writing and provides formative feedback on this that can feed forward to the end-of-semester report writing
- provides an opportunity for your dep rep to give advice on your ideas for the special project
- provides another opportunity for your mentor teacher to give advice on the special project
- provides a small amount of the module marks

The Proposal form and marking sheet in Word format are available from the ID4001 - Communication and Teaching in Science webpage.

6.2 Assessed Talk – on the topic of your special project

The presentation topic should be your special project, and should demonstrate your achievements in the following intended learning outcomes:

a. an understanding of some of the key issues associated with communicating and teaching to school pupils;
b. ability to communicate effectively;
c. knowledge of teaching methods and how to apply them;
d. ability to plan, prepare and complete a project that employs high level of organisational skills and takes appropriate account of the learning needs of the pupils and educational value to the school.

The subject matter should contain sufficient information about the planning and implementation of your Special Project to enable the assessors to determine your success in achieving (d) but you should also design your talk to include material relevant to points a-c. You should refer to your experiences, advice from your mentor teacher, and the educational literature as appropriate. You must state what was done in the school previously, and be clear about what you developed in your project. You should comment on how you evaluated the outcomes of your work. Your slides should support your speaking, and you should consider how these slides may be experienced by your audience, bearing in mind for example that some people have better eyesight than others.

The talk should be 15 minutes long, and will be followed by a question and answer session. The audience is made up of other students on the module, departmental representative(s), and may include other staff members. An example of the marking sheet is shown below. Students are asked to contribute to the question session for each talk, and to give constructive feedback to their peers.

Assessment by students provides formative feedback for the speaker. Assessment by staff members provides both formative and summative feedback. The usual process for assessment by staff is as follows:-

- The two or more staff markers fill in their version of the marking form.
- These markers meet to compare comments and marks with each other for each candidate.
- These markers agree a final mark for each presentation.
- One of the markers for each student takes the lead in creating a single feedback document as feedback to the candidate.

Your slides should be uploaded in advance of your talk to MySaint in .ppt or .pdf format for possible later inspection by examiners.

Failure to give a presentation at the stated time will result in the loss of the marks for this aspect of the module. (The normal regulations on allowances for illness etc still apply). Failure to submit your slides to MySaint by the required time, and/or failure to provide any requested slides to the session organizer by the stated time will be penalised at a rate given in selection C in the University's Policy on Coursework Deadlines, ie an initial penalty on the 20-point scale of 3 marks, and then a further 1 mark per additional 8-hour period or part thereof.

In line with University policy, it is intended that an audio recording of each presentation will be made, and this may be accessed by the External Examiner or other staff involved with the module.

The marking sheet in Word format is available on the ID4001 - Communication and Teaching in Science webpage.

6.3 End of Module Report – what you have learned from the placement

You are required to submit a 2000-word written report on the school placement, using information from your reflective log sheets, the literature, and other sources. This should be submitted via MySaint by the stated deadline. This work is worth 35% of the module credit and is normally assessed by two tutors, probably not including your departmental representative.

The report is intended to allow you to evaluate critically your own progress and experiences during the module and to determine whether or not you have achieved the targets (including those you set for yourself at the beginning of the module). The report is intended to provide evidence of the skills and understanding you have gained from your school placement. The report is also a test of your written communication skills (those who have English as a second language, and those who experience dyslexia and related conditions, are recommended to discuss the report writing with the relevant advisers in the University).

The ID4001 final report is probably not like most of the other essays or reports you have written during your time at university. The aim of this report is to show what you have learned about communicating science to school pupils. It is not simply about showing you understand the literature, it is also about showing how you learned from and used it on your placement along with your own observations and any advice received. It is personal and dependent on your experiences at your placement school.

In your report you should provide:

a. The cover sheet with the requested information filled in
b. A clear statement of the aims you set out to achieve during your school placement.
c. A description and critical evaluation of your success in meeting those targets and how progress was achieved. While you may well include aspects of your Special Project here, there is no requirement to do so. The report allows you to address your learning across the whole placement.
d. Evidence of acquiring understanding of the school environment and educational issues of the social, political or psychological factors, which affect learning within the young people that you see in the classroom. Note that relevant use of literature is required here- but may also be usefully incorporated into section c.

You may focus on the social context within which the school must operate e.g. an area of high unemployment and low progression to Higher Education.
You may prefer to discuss national curriculum-reform such as the Curriculum for Excellence e.g. consideration of mechanisms for policy implementation.
You may gain understanding of special individual learning needs (e.g. dyslexia or children with emotional problems) and choose to discuss the interventions deployed for specific psychological problems.
We note that your work in the school should be of benefit to the pupils and to your own education. You are not expected or permitted to design and implement an education research project where you do "experiments" on your pupils.
Within the word limit you cannot comprehensively discuss all relevant factors, therefore discuss those of particular relevance or interest to yourself.

For most participants, discussion of sections b and c above forms at least half of the report. A report that does a good job at exploring parts of the educational literature, but without any significant information coming from the student's school experience, will get a low mark. Equally, a report that is a diary of a student's time in school with no evaluation of their work and no connection to the literature will get a low mark. There should be critical analysis of what you have achieved, what you have learnt, and how this was informed by the educational literature and your teacher mentor and school experience. Please also consult the marking schedule.

Markers will not look for three topic headings drawn from the items above, as these items overlap

somewhat. Use whatever subheadings seem appropriate, but please do use subheadings, which provide your reader with a sense of structure in your finished report.

For success, convince us that you were more than a passive observer. Display understanding of how, within defined contexts, successful communication can be achieved and perhaps how people can motivate others. Aim to be critical and analytical - don't just take information 'at face value'.

As an element of reflection on your work is requested, it is entirely reasonable to use "I" in appropriately formal ways, particularly when you are reflecting on your experience or when you are describing what you have decided to do and why.

We ask that you focus on the issues that may affect communication and student learning. Show the progress that you made and when - use language to indicate relative times: initially, during, before, after. Show that you learned from your mentor teacher - use language to indicate how you gained information: observed, received advice, was directed to, enquired about. Show that you learned from the seminars and literature, including educational resources for teachers, and pedagogic research & studies. Correctly cite and reference your sources, and where appropriate show the range of views in the literature, rather than just choose one report that happens to agree with what you chose to do. Analyse and be critical of information, consider comparing information received from observations, advice, seminars, and the literature. Show how you incorporated the advice and techniques into your project or classroom delivery. Reflect on your progress - What was successful and what was less successful. Why? What would you do differently next time and why?

Confidentiality is important; you must not include pupil or teacher names in the report. While it is reasonable to compare the ways in which different teachers interact with classes, we recommend that you avoid any comments that could be seen as your "judgement" on a particular staff member.

The cover sheet and marking sheet are available in Word format at the ID4001 - Communication and Teaching in Science webpage

6.4 Assessment by the Teacher

Your teacher mentor will be asked to complete an assessment sheet at the end of your school placement. A copy of the sheet is below. The teacher's grade will be moderated by the module coordinator and departmental representatives and the final mark will contribute 25% to the overall grade for this module. The teacher's sheet invites them to give comments on a number of areas, along with a guide number. The teacher mark for the placement is, however, determined by their judgement on the overall attainment of the placement student, as indicated in the final classification table. This mark is subject to possible moderation by the course team at the University.

Examples of very positive comments
These teacher comments are lightly edited:

- She is clearly committed to the welfare and holistic development of students in her classes where she always shows integrity, honesty and respect to all students and staff in the school.
- She has been extremely organised – emailing at the beginning of every week keeping up to date with where all of her classes are and how they are getting on when she is not in school – this has allowed her to return to previous learning at the beginning of her lessons which have been fantastic starter tasks.
- He planned thoroughly and took on board advice – having to overhaul his plan for his special project several times in response. This he did with apparent cheer.

- I found them very easy to work with, full of ideas that they was able to translate into good resources. They worked well with the pupils on a one-to-one basis in all the classes that they attended. They had a realistic sense of the skills that they had and where they needed to ask for advice.
- She has been an exceptional student. She built good relationships with all the pupils and staff. She was calm and confident, even when chaos was reigning down in class. She was keen to learn and asked questions about the best ways to present her lessons and how to differentiate the activities and took all advice on board.
- He struck up a good rapport with the pupils. He was articulate both face-to-face and by email. He had a very personable and lively presentation style which the pupils enjoyed. He dealt very competently with pupil questioning, managing to respond and react to queries without getting sidetracked from his goal.
- Her willingness to learn from the placement experience has been evident through her rigorous note taking within observed lessons but also through in depth discussions about current teaching issues. It is clear that she has constantly been reading professional literature over the course of her placement through questions that she has been asking but also through her approach to her special project.
- Her planning and preparation has been excellent. Her planning is very detailed and she has always ensured that she knows the class's prior learning and end aims and outcomes to allow for successful lessons.
- His planning and preparation for the lessons with the S2 class was exemplary.
- Their use of new pedagogy theories were evident in their small starter tasks and special project.
- She knew from her second week with us what she was going to do as a special project. She came into class with loads of ideas and spoke about what she wanted to do as her final lesson. She checked she wouldn't be replicating any activities I had taught or any I was intending to teach and then made sure the activities were appropriate to the subject and the level of our pupils
- She ensured though her own professional reading and in depth discussions that she understood current principles within the new curriculum for excellence. Over her placement we had in depth discussions around cooperative learning strategies, Assessment is for Learning, self-evaluation, Getting It Right for Every Child, as well as the importance of both summative and formative assessment arrangements.
- She has had excellent subject knowledge of all areas which has allowed her to give assistance to all classes while they are working as well as answer questions, some of which were very tricky.

Examples of more critical comments

These comments from teachers (sometimes heavily edited) show where there was room for improvement:

- I offered to answer any questions, but she asked surprisingly few.
- He should have reflected more on how his sessions were received, and realised in what ways they could be improved.
- She did not discuss the proposed project with me sufficiently before submitting the proposal form, or before carrying out the special project.
- I wish he had taken the initiative to progress his knowledge and skills on his own, and been more proactive at seeking assistance.
- They should try not to work so close to deadlines.
- He was initially a little last-minute in his preparations, but took feedback on board and this improved over the course of the placement.
- The lack of proper preparation meant that the worksheet was not well designed for the task, and that backup activities had not been put in place to cope with unexpected difficulties in the session.
- He needed to show more initiative.
- The pace of their lessons was rather slow.
- She needs to be more aware of what pupils are doing, and whether or not pupils are keeping up with the work.
- Several of the pupils did not really understand what had been taught in the special project lesson.
- She should have learnt the names of the pupils, as this would have made questioning easier.
- He should consider how he provides feedback to pupils on their attainment.

- I would have liked her to have been more pro-active in the classroom, and looking for opportunities to approach pupils rather than wait for me to ask her to do so.
- The work that she was doing was related to the curriculum for excellence, but I did not see her making any links with this.

The teacher's marking and feedback sheet is available in Word format at the ID4001 - Communication and Teaching in Science webpage.

UNIVERSITY OF ST. ANDREWS

12. RISK ASSESSMENT FOR ID4001 AND ID4002

School/Unit/Residence: ID4001 and ID4002 modules, involving many University Schools, risk assessment carried out by B D Sinclair, School of Physics and Astronomy

Title of work activity ID4001 and ID4002 School (etc) placements

Description of work activity:

Students on these two modules are on a part-time placement in schools and science communication centres and related. The students spend around 25 hours in schools etc starting with observing educators at work, and progressing to leading a teaching/communication activity, albeit under supervision of the educator. Staff members may visit one or more placement providers as part of the module.

Description of significant hazards:

1) Transport
2) Inter-personal
3) Child protection allegations
4) Science Demonstrations

Groups who may be at risk:

Staff, students, pupils

List existing controls and decide whether these precautions are adequate or more are required.

These two modules come out of the national Undergraduate Ambassador Scheme, and are run under guidance from that scheme. Students on placement are under the rules of the placement school etc safety codes. When students are in classrooms they should be under the direct supervision of a professional educator. Some guidance on working in schools etc is given in the induction day and in the module handbooks.

List outstanding risks and the action to be taken where it is reasonably practicable to do more:

1) Transport

Students (and staff) will be travelling from St Andrews to their placement provider. The usual road-safety issues are there. Participants are advised to take appropriate care regarding road safety. Those using a private vehicle are advised to ensure that the vehicle is in good condition, and that the vehicle's insurance policy covers them for this travel, which may be regarded as "business" travel, rather than getting to and from work and social and domestic travel.

2) Inter-personal

It is an unfortunate fact of life that no-where is a person entirely safe from attack or abuse by another person, be it on a bus, in or around a school, or wherever. Participants are advised to be aware of the actions of those around them, and to seek to avoid dangerous situations. Within buses there will be at least a driver who can be alerted in case of issues, in school grounds there will be staff available to assist, and in the school classrooms students should be under the direct supervision of a class teacher, who can assist.

3) Child protection allegations
Students have been through the relevant process for checking to ensure that they are not barred from working with children and vulnerable people. They have signed the module's child protection statements, which include

- I agree to familiarise myself with the school's Child Protection policy.
- I agree not to arrange meetings with any pupil from the school outside the school environment.
- I agree not to have any contact with any pupil by telephone or e-mail or social media.
- I agree not to give any pupil my personal telephone numbers.
- In the case of any pupil making a disclosure or where there is cause for concern I agree to follow the school's Child Protection Procedures rigidly.

Should any issue to do with child protection arise I agree to:

- Inform my teacher mentor immediately.
- If this person is not available inform a senior member of staff. Under no circumstance leave the school building without having passed on my concerns.
- Where required complete any necessary documentation or write a report.
- Attend any meetings arranged by the school or outside agencies in connection with the disclosure/incident.
- Treat all warnings of abuse seriously.

This, plus the fact that students should always be supervised in the classroom, should go a long way to ensuring child safety, and safety of the student from allegations of child abuse. Students should additionally ensure that they are never in a position where they are alone with a child. Students should avoid any physical contact with a child. Students should not use any language of an offensive, discriminatory, or sexual nature in the presence of a child. Students should seek guidance on school policies on working with children, and act on these.

4) Science Demonstrations
In the school classrooms or in visits to the University students may be working with demonstration or pupil experiments. Within the school classroom these must be undertaken under risk assessments procedures of the school, which will normally involve liaison with the class teacher or the student's mentor teacher. For activities undertaken within the University there should be a risk assessment carried out within the relevant academic school.

Signature of Assessor BDS Date 6.8.24

Name of Assessor Bruce Sinclair Review Date

Notes:
1. The completed risk assessment form must be kept by the assessor and a copy given to the School Safety Officer.
2. This assessment must be reviewed and where appropriate revised if there is reason to suspect it is no longer valid or there has been a significant change to the task procedure.
3. This assessment must be made available to and discussed with all staff engaged on activities to which it relates.

13. ID4001 COMMUNICATION AND TEACHING IN SCIENCE - CODE OF CONDUCT

For the duration of this module, you will work within policies and practices in respect of Child Protection, Equal Opportunities and Diversity, and Health and Safety. This code of conduct is designed to protect you, young people and the school or college in which you are placed.
During your time on school placement on the ID4001/ID4002 module, you will be in a position of responsibility. Safeguarding the health and welfare of the children in your placement school is of paramount importance. Each placement school will have a detailed policy and procedures for preventing and reporting any risk of harm to children. You should familiarise yourself thoroughly with the school policy as part of your school induction. In *addition* to the school policy, you must comply with the University of St Andrews *Safeguarding of Children, Vulnerable Adults and Prevention of Radicalisation* Policy for students and staff. You must read and act on it.
Note, in particular, the following:

Child Protection

You have a responsibility to ensure that young people are treated with fairness, dignity, equality and respect and are free from risk of harm. This means:

- Always work in an open environment. If you are in a situation where you are alone with a child or vulnerable adult, make sure that others can clearly observe you. Where possible, leave the door open.
- Maintain a safe and professional distance in relationships with children and protected adults. You should not share your personal contact details and you should not connect with them over social media except where that is specifically related to the University activity and agreed in advance with your departmental representative and your teacher mentor
- When in a position of trust do not engage in sexual relationships with children and/or vulnerable adults. This is an abuse of a position of trust and a criminal offence
- Avoid rough, physical or sexually provocative conduct with children or vulnerable adults
- Do not provide children or vulnerable adults with access to alcohol (where that would be unlawful or inappropriate) or banned substances
- Avoid use of inappropriate language (including sexually suggestive comments), and work with your supervising teacher to ensure that the behavior of pupils is consistent with the school's behavior policy.
- Where appropriate ensure you have written consent before taking photographs or making video or audio recordings
- If (and this is unlikely) you are required to administer first aid ensure, wherever possible, that another employee is present, especially if you are concerned that necessary physical contact may be misconstrued
- You must report any suspicions that a young person is being abused to the school/college's named person. This is the Rector/Head Teacher unless you have been informed otherwise.

Equal Opportunities and Diversity

All members of the University community have an essential role to play in ensuring that children and vulnerable adults are protected, and the University is committed to working within the principles of dignity, safety, equality and diversity.

All young people must be treated appropriately with regard to gender, ethnic origin, religion or disability. This means:

- Be sensitive to children or vulnerable adults' appearance, race, culture, religion and/or belief, sexual orientation, gender or disability
- Being mindful of the difficulties that some groups can face and ensuring that any obstacles to them are removed
- Being aware of personal prejudices and stereotypical views and avoiding labels related to these
- Valuing each young person's worth.

Health and Safety

You have a duty to safeguard your own health and safety, that of the young people with whom you work and anyone else with whom you may come into contact during your working day. This means:

- You should make sure that you are familiar with the Health and Safety Policy and practices of the school/college in which you work. For example, where the first aid box is kept and who is in charge of first aid arrangements and what the emergency evacuation procedures are
- You should also make sure that the place where you work and the equipment you use is safe for you and the school/college students
- If you, or a young person in your care, have an accident while on the school/college premises, you must ensure that a report is made to the person responsible for recording accidents at the school/college.

Social Media

As noted above there is a requirement not to use social media or other mechanisms to communicate with pupils outside the supervised school setting. I understand that in at least some schools a teacher found to be "friending" a pupil on Facebook is likely to be considered for dismissal. We recommend that you review your Facebook (and similar) privacy settings.

Role

You are in this module both as a student and as an educator. You have a responsibility to your pupils and mentor teacher to act in a professional manner at all times on placement, and to do your best to provide the agreed support to pupils' learning. This will require timely and good preparation.

You should be positive wherever possible and aim to bring the good behaviour and hard work of your pupils to the teacher's attention so that they can be rewarded

Your teacher mentor and your University departmental representative have a responsibility to support you in your learning on this module. You should learn a great deal from your observation of your teacher mentor and from your discussions with them. You have a responsibility to be pro-active in your communications with both your teacher mentor(s) and your departmental representative. If you are not sure, if you have queries, if you wish to discuss ideas, if you have concerns, then this should be discussed with your University Departmental Representative and/or with your teacher mentor, whichever is appropriate.

You should be aware of the contents of the module handbook, and you should plan ahead for the various activities of the module. This code of conduct aims to help to make your time with local young people as effective and pleasant as possible.

Confidentiality Agreement

1. All students are required to adhere to the confidentiality agreement of the placement school in which they are working.
2. All students will respect the confidentiality rights of all members of the school community. The only exception to this is with any allegations or suspicions or cause for concern regarding child abuse. Students are expected to make themselves familiar with the individual school's Child Protection Policy and to follow it rigidly, taking advice from their teacher mentor as needed. It should be made clear to the child disclosing information in such cases that confidentiality cannot be guaranteed. They should be made aware that relevant information may require to be shared, on a need-to-know basis, within the school and with relevant external agencies. Information disclosed will comply with the Data Protection Act, 1998 and in accordance with the University data protection code.
3. Names of pupils must not be identified in support group supervision sessions (e.g. tutorials, oral presentation) or in any written assessment. Pseudonyms must be chosen and used instead when speaking or writing about pupils.

4. Nothing discussed in support group supervision sessions will be communicated outside the group in a manner that identifies any pupil.
5. Individuals or incidents that have occurred whilst mentoring/tutoring should not be communicated unless in a formal, supervised support setting in the placement School or with module staff.
6. Confidentiality of information about schools, children and their families is paramount.

Any initial disclosure of suspected harm or radicalisation to a member of the University community should be treated seriously and with sensitivity. Where concerns exist regarding risk to the welfare of the child / vulnerable adult or where there are concerns about the individual being drawn into radicalisation, the safety of the individual and/or the safety of other members of the community takes precedence, and confidentiality may be breached. University privacy notice.

Child Protection Statement and Agreement

1. I agree to familiarise myself with the placement school's Child Protection policy and the University of St Andrews' *Safeguarding of Children, Vulnerable Adults and Prevention of Radicalisation* Policy
2. I agree not to arrange meetings with any pupil from the school outside the school environment.
3. I agree not to have any verbal or social media contact with any pupil by telephone or e-mail, Facebook, Twitter/X, etc.
4. I agree not to give any pupil my personal telephone numbers, email or other electronic contacts.
5. In the case of any pupil making a disclosure or where there is cause for concern I agree to follow the school's Child Protection Policy and Procedures rigidly.

Should any child protection issue to arise I agree to:

- Inform my teacher mentor immediately.
- If this person is not available inform a senior member of staff. Under no circumstance will I leave the school building without having passed on my concerns.
- Inform my University Departmental Representative as soon as possible.
- Where required, complete any necessary documentation or write a report.
- Attend any meetings arranged by the school or outside agencies in connection with the disclosure/incident.
- Treat all reports of abuse seriously.

I agree to strictly adhere to the code of conduct of the module, the confidentiality agreement, and the child protection agreement:

Name of undergraduate: _____ Module Coordinator – Dr Bruce Sinclair

Signed: _____ Date:

Any breach of these agreements may result in the student being immediately removed from the scheme, and receiving a 0X for the module. Disciplinary or legal action may also be taken.

14. ID4001 - Selecting School Placements, Supporting Students, and Managing Risk

Module ID4001 allows fourth and fifth year honours students a placement in schools where they undertake a target of 25 hours of classroom experience. Students start by observing class teachers, move to a role similar to that of a classroom assistant, and by the end of their placement lead one or more teaching sessions, always under the direct supervision of the class teacher. The module is based on a scheme devised by the UK Undergraduate Ambassadors Scheme, adapted to suit our local circumstances. The module handbooks provide detailed guidance for students and for teachers. The selection procedure for this module is by application and interview. Students need to progress satisfactorily through the PVG scheme, and sign child protection forms before being placed in schools.

Throughout the placement-semester students have access to, and meet on a number of specified occasions with, their departmental representative in the University. The module is planned for experiential learning and reflection, rather than any form of "educational research" of the type that would require ethical clearance from the University and/or external organisations.

ID4001 University departmental representatives are responsible for securing and monitoring placements in schools for students. Although placements are often in the same discipline as the University school, there is some flexibility permitted. Placement schools may be in the state or private sector, and are normally within commutable distance from St Andrews. The departmental representative liaises with the placement school and individual students to ensure compatibility. Once placements have been decided, students are responsible for good communication with their mentor teacher. Students are reminded that they should have "professional" attitudes to their work on the module, and they have the status and responsibilities of temporary staff while on placement in schools. Students and mentor teachers are told that their University departmental representative and the module coordinator are available to answer any questions about the module, including any difficulties about the placement that may arise.

Department representatives give the module coordinator contact details for mentor teachers and students.

During the summer the module coordinator sends the following information to all placement schools:

- details of the students who will be placed there
- a paper or online copy of the Module Handbook for Teachers
- contact details of the departmental representative and the module coordinator
- notification that by accepting a placement student the placement school is agreeing to work with the University in line with the principles in the handbook, including:-
    1. providing a safe working environment, covered by risk assessment policy and procedure
    2. including the student in the placement school's public liability insurance
    3. providing suitable educational experiences for the student
    4. reporting to the University mid-semester and end-of-placement
    5. reporting to the University on any issues of concern that may arise

The module is run under the University's regulations, including the policy on Managing Work Placements, and the policy on Safeguarding of Children, Vulnerable Adults and Prevention of Radicalisation Policy. For 2024-25 the Head of the Virtual School of ID4001 is Dr Anne Smith, one of the University's Associate Deans. The placement and module coordinator is Dr Bruce Sinclair (Physics and Astronomy). The placement mentor for each student is their departmental representative (Dep. Rep.). The work-based supervisor for each student is their mentor teacher.

The University's public liability insurance policy is relevant to placement students, and this requires that students are supervised in placement schools at all times, and that students have gone through a selection process and through the Disclosure (PVG) process. A generic risk assessment for the University is in the module handbook; specific risk assessments may need to be written for some activities.

BDS 6.8.24