ID4001 Communication and Teaching in Science Module Handbook   2025-26

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

Contents

1. INTRODUCTION & SCHEDULES

Welcome to the Communication and Teaching in Science module.   This is a rather different module from most others that you have done. Much of the work is "learning by doing". It might be considered a vocational module in as much as you will be learning "on the job". The skills that you should develop are highly useful in many areas outside teaching, as well as in education-focussed careers.

Those of you considering teaching as a career should find this module to be particularly useful in letting you see whether or not this is for you, and to give you useful experience in this profession. Those of you who are considering a career in which communication is important (ie almost all careers), you should find this module very useful in providing development of such skills, and giving evidence of these skills. You should all find that thinking about your subject in a way that you can present it to school pupils should enhance your understanding of your degree topic.

You will be in the classroom in a professional role, and you should look and act the part. Your work in this role is not just for your degree, it is also important to the pupils that you will be working with. This again makes this module "different", and we expect full commitment from students to the module for the sake of the pupils and our ongoing relations with the schools involved – that is part of professional practice. You are a University ambassador in the school that you work in, as well as being someone who is being relied upon to contribute to the education of young people. You are in this module to learn, but you are also in the module to teach, and both roles have important responsibilities associated with them.

You will be working with young people with a wide range of learning abilities, and you will be developing ways of communicating science effectively with them all. You will need to read and think carefully about a range of educational issues and how they matter in your role. You will need to prepare well for your sessions in the schools, and reflect after each session on your performance. This reflection should include recognising things you have done well, noting what you have learnt from the experiences, and what areas you need to improve your performance and how. You will be interacting with your mentor teacher (and other staff) in the school, and it is your job to ensure that you learn from them, and work safely and effectively under their guidance. In this module you need to take care of your learning - there will be little of people standing up and telling you what you need to know. The experiences that you should gain should serve you well in your future studies and employment.

You have taken the decision to enroll on this "different" module – embrace the opportunities and get as much out of the experience as you can for yourself and for those you interact with in the schools.

This is an interdisciplinary science module for SH (or M-year) undergraduate students in the Schools of Biology, Chemistry, Computer Science, Geography & Geosciences, Mathematics & Statistics, Physics & Astronomy, and Psychology & Neuroscience. *CS is not taking part in 2024-25.* The coordinator is in the School of Physics and Astronomy, and the module itself sits in a "quasi-School" with Associate Dean Dr Anne Smith as the Head of the quasi-School. There are departmental representatives from each of the participating Academic Schools, and these people also act as tutors with their subject groups. Your departmental reps are here for consultation throughout the module; please do turn to them and to your mentor teacher for guidance and discussions as appropriate.

The module is operating with the guidance of a national organization called the **Undergraduate Ambassadors Scheme** (UAS). UAS works with universities in the UK to develop similar modules in other science, technology, engineering and mathematics departments, and has links with various other subject organisations and professional institutions. UAS is endorsed by a number of professional bodies.

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

Of equal or greater importance to the grades and credits that you achieve is the experience that you will gain from taking part in this module. You will learn important, marketable and transferable skills of benefit to you in employment and in life, whether or not you decide to enter the teaching profession. A good degree is no longer enough in the competitive world of work, and involvement in a module like this will be of great interest to many potential employers. The specific and transferable skills you 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

You will have the satisfaction of making a positive impact on the education of pupils of a range of ages and the chance to act as a role model for your subject. It is a chance to put something back into the community by sharing your knowledge and helping to motivate young people and to raise their aspirations towards your subject. You should develop your confidence in answering questions about your own subject and in devising appropriate ways to communicate a principle or concept that may be difficult for school pupils to understand. You should develop your communication skills and gain a better understanding of your own level of expertise. You should learn to devise and develop subject-specific projects and teaching methods appropriate to engage the relevant age group. For those of you who are interested in teaching as a profession, this will be an opportunity to explore whether it is a path you want to pursue.   Hopefully, you will also get a lot of enjoyment out of this module.

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 Representatives 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 Module Board and University systems

1.3 Attendance and behaviour in the module

Students are responsible for arranging with their teacher mentor classroom contact time in the placement school. They should aim for at least 25 hours of time in the classroom (including observation time), though the absolute minimum is 20 hours. Students considering more than 30 hours in the classroom should consider how they fit in all the work needed in this module outside the classroom, as well as the time needed for their other modules. We do not expect more than 30 hours of classroom contact time. Note that failure to attend for a minimum of 20 hours contact time at the school will result in a 0X grade for this module. We would normally expect students to take the opportunity to lead a class(es) for between one and three hours. It is important to ensure that attendance logs are completed.

Students who take this module are ambassadors for the University of St Andrews and role models for local school pupils. In the unlikely event that a student's behaviour is unacceptable they will be withdrawn from the module and will receive a 0X grade if this occurs after the module has begun.

Absence of you from classes
Note that in addition to the University's requirements for absence reporting, this module also requires you to inform the host school and teacher mentor immediately if you are unable to attend any pre-arranged visit. It is your responsibility to find out the placement school's procedures for reporting absences. Remember that you are a University Ambassador - it is essential that you act in a professional manner when working with your placement school.

Responsibility for student learning
Students are reminded that this is a module with a good deal of experiential learning, and that both their mentor teacher and their departmental representative are here to assist them with their studies. Students are asked to be pro-active in seeking advice and support on the module. Their departmental representative is available for consultation on matters large and small outside the tutorial sessions as well as within them.

Summative Assessment
Students are summatively assessed by University staff on:- a document that proposes a topic for the special project undertaken with the placement school, an oral presentation on the special project, and a written report on what they have learned from the placement. A teacher at their placement school provides a judgement on the student's work on the placement. More details on these assessments are given later in the handbook.

1.4 Calendar for ID4001

Please would students read this carefully, and note it in their personal planners, as they are expected to act on what is here without 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. **It is vital that students have their first full placement session by 19 September.**

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 8 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.
Fri 12 Sept	Induction Event Friday 12th Sept 2025, 1.30 pm – 5.00 pm, J F Allen (Physics) Building Theatre B *(TBC)* 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.
St A Uni Week One wb 15 Sept	Observation Session in the Classroom This or Orientation Week should 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. Students are reminded that it is **their** responsibility to communicate with their dep rep and/or mentor teacher if they are not sure or if they have any concerns.	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 22 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. **Seminar on Co-operative Learning and Formative Assessment** with Tara Harper and Susan Wylde from Dundee University Education Monday 22 September, 5.30 pm, venue to be announced **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 the student by the Friday before their placement school's holidays.	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, extra input to small groups of pupils, etc.
Week Three wb 29 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 for Dundee and Angus state schools, Friday of next week for Fife state schools. Students should submit the mid-semester feedback form with teacher and student comments on it to their departmental rep by Friday of the same 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/five. 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 6 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. This Friday is the deadline for the mid-semester feedback from mentor teacher and response from placement student to get to your dep rep if you are in a Fife state school.	Holiday for Dundee and Angus state schools

Time	Summary of activity	Ideal Development Path
Week Five wb 13 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 Angus and Fife state schools
Week Six wb 20 Oct Ind. Learn. Week	Reading and preparations if not on a school visit. If a school placement visit is possible, that would be useful. First travel claims may be submitted Students please consider if they are on target in their work. Discuss with Dep Rep and Teacher mentor in the coming week if they consider that they are not. Last week and this week, prepare a five minute presentation for next week's tutorial	Holiday for Fife state schools University Independent Learning Week
Week Seven wb 27 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. Meeting of Student Staff Consultative Committee (TBC) **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. Students are reminded that it is their responsibility to communicate with their dep rep and/or mentor teacher if they are not sure or if they have any concerns.	It may be helpful for students to lead part of a lesson as preparation for their special project this week or next

Time	Summary of activity	Ideal Development Path
Week Eight wb 3 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 10 Nov		Over the placement students should lead between one and three hours of lessons.
Week Ten wb 17 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 24 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 7 December please.	Final visit to the classroom, finish evaluation of special project work
Week Twelve, Revision Week, wb 1 Dec	**Oral Presentations this week**; delivered at the University - dates and times to be confirmed by your department rep, but likely to be **Monday** – Parallel events – one set Chemistry and Geo/EES, one set Maths & Stats and Biology, and one set Psychology & Neuroscience and Physics & Astronomy. Students will need to attend all of one session (morning or afternoon). They will deliver their presentation for assessment and benefit from feedback on their talk, as well as learn from the talks of others and provide feedback to the other speakers. Staff feedback on the talks to be provided within five working days of the presentation in order that students can use this feedback when they write their final report. Slides to be put on to MySaint/MMS in .ppt, .pptx, or .pdf format in advance of the presentation. If there is any aspect of your placement that you wish to bring to the attention of the examiners you should do so in writing to the module co-ordinator not later than 5 pm on the Thursday of this week. (This is *not* the same as a lodging a formal complaint or appealing an academic decision - those processes are separate.)	
Week 13 Exam week wb 8 Dec	Second set of travel claims may be submitted	
Week 14 Exam week wb 15 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 12th 2025

We expect thit to be in the J F Allen Building (Physics) lecture theatre B (but locations TBC). Students please register between 13:30 and 13:45. Separate registration desks will be open for ID4001 and ID4002. Please complete registration in time for the 13:50 start.

Table 2 - Induction Event Schedule

Time	Activity
13:30	Registration opens in the foyer. Submit signed Codes of Conduct.
13:50	Welcome and introductions – Stephen Tyre and Bruce Sinclair, coordinators
13:55	"Experiencing the Placement." - former ID4001/2 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 233*
~14:45	Discussion with speaker
14:55	Break – juice boxes available in main concourse. Toilets through the blue wall there.
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'. • 'Reflecting'. • Bruce Sinclair – comments on reflection, recording and feed forward in ID4001/2. • Former students 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
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 students placed in 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 233
16:45	Final words, then likely election of class reps. End by 17.00.

1.6 Tutorials and seminars

Your departmental representative will normally run at least five tutorials with you, usually with other students in your subject area. Dates and times will be as agreed with your departmental representative within the constraints set out in the module calendar. The purpose of the departmental tutorials is for you to discuss your progress and to exchange experiences and ideas with one another. Attendance at these departmental tutorials is compulsory and they may take place over lunch or after 5pm if no other timetabling schedule permits.

Seminars will be run by visiting speakers covering material useful for your teaching experience. These are most likely to take place after 5pm because of timetabling availability.

1.7 Mentor teachers are the experts, use of literature, our biases

The vast majority of our students recognise before the start of the module that their mentor teachers are experienced professionals in the field, and a tremendous source of guidance. A major benefit of the module for students is learning from their mentor teacher and other teachers in the placement school. Students and mentor teachers may wish to discuss with each other the relative merits of different teaching styles and classroom management techniques in different situations. Students should not appear to be advising mentor teachers to change said teachers' professional practice.

When planning for learning and teaching, it is important to recognise that you come with certain biases, both conscious and unconscious. When beginning to think about learning and teaching, these biases are challenging to overcome. For example, you may think a particular teaching approach is very effective because it worked well for you as a learner. Just because it worked for you does not necessarily mean that this is going to work well for all the learners in your classroom. In helping others to learn it is important to consider the learning needs of all your pupils, including those with potential barriers to learning, and how you can plan for all those needs.

It is vital that up-front you learn from the expertise of your mentor teacher, from relevant literature, and from ID4001 sessions. When planning for learning it is an ethical issue if you just 'have a go' and hope for the best. The young people you are working with are in school to learn, and you have a responsibility to those learners and their learning time.

1.8 Presentations

Near the start of revision week, with permission from the Dean, students will attend a session of talks at which they will each give a presentation on what they have learnt from the module.

1.9 Leaves of Absence, Returns to Module

We recognise that on rare occasions students may need to take a leave of absence from their studies for health or other reasons. This impacts on the placement school as well as the student, but there are situations when this cannot be avoided.   A student who takes a leave of absence while on this module will have to re-apply to join the module in any subsequent year should they wish to take part in the module again. There is no guarantee that such an application will be accepted.

1.X Taking this Further

Some students may wish to move into school-teaching following graduation. There are various routes to this, and these may be discussed with our invited speakers or with staff in the University Careers Centre. The following web sites may also be a useful start.
- Careers Centre at the University of St Andrews
- Teach in Scotland from the Scottish Government
- Scottish Government policy on encouraging people into School Teaching
- Teacher Training routes from Government Department of Education
- Teach First
- UCAS on Teacher Training Courses

Your work on this module may be appreciated by those selecting people onto Initial Teacher Education (Teacher Training). One selector emailed the ID4001 coordinator with the following, which I include here

with the permission of the sender.

"I had the pleasure of interviewing a candidate for our PGDE Secondary programme who had undertaken the Communications module. Their experience and knowledge of the Scottish education system gained from being on placement shone through. My colleague and I were able to mark them down as "outstanding".
I thought you would be interested to hear about the impact of the module.
More of the same please!"

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 2025-26

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

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 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 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.

3.5 Student Representation

This module and ID4002 have a joint Student Staff Consultative Committee, usually chaired by one of the Faculty Presidents. ID4001 representatives are invited from each participating University School, and we ask that people are identified for this at the induction event. These representatives can take matters to the departmental representatives, the module coordinator, and the SSCC. All students on the module, however, are also invited and encouraged to talk directly to their departmental representative and/or the module coordinator if they have any queries, concerns, or suggestions.

3.6 Travel Claims and Rules

The University is willing to [reimburse students for reasonable travel expenses](#) for attending their placement schools. It is not normally possible to provide funding in advance. Travel claims may be submitted to

administrator Ms Niki Stalker niki.stalker@st-andrews.ac.uk, School of Mathematics and Statistics, by the start of week 6 and by the start of week 13.

Claims must not be for more than the amount spent. It is expected that the claims will be for up to one round-trip journey for each week that the school placements are running as part of the module. The maximum claim for each week is expected to be equivalent to the return bus fare from St Andrews to the placement school. If buses are used, then the tickets should be provided with the claim. If a student's own vehicle is used, then the University mileage charge can apply up to the limit set above. If a student uses a vehicle other than public transport, they should note that it is at their own risk, and that they must check that the vehicle insurance includes these journeys that insurers may regard as being outwith the "usual" social, domestic, and pleasure use of the vehicle. Those using a bus service to get to and from schools can usually benefit from free or discounted travel.

If you drive a vehicle to get to and/or from your placement school at any time, the University requires you to register as an authorised driver.

4. THE STUDENT'S TIME IN THE CLASSROOM

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 **and before the end of Orientation Week**, 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 reflective writing study guide .

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.

5. ASSESSMENT OF ID4001 STUDENTS

5.1 Learning Aims
The overall aim of the assessments is to evaluate the extent to which you have succeeded in the following areas:
- Communication skills
- Working with others
- Organisation, reliability and self-management
- Initiative and creativity
- Identifying and understanding the educational needs of others
- Self-analysis, reflection and critical evaluation

5.2 Assessment Components
The four assessed elements and their contribution to the module grade:
- A proposal, outlining the aims and objectives of your special project, should be submitted via MySaint to your departmental representative by the stated deadline. This work is worth 10% of the module credit and is assessed by your departmental representative.
- A 15 minute oral presentation on your special project given to staff and peers and followed by a question and answer session. This will happen late in the semester. This is worth 30% of the module credit and is normally assessed by your departmental representative and at least one other member of staff.
- A written report on the school placement, using information from your reflective log sheets and other sources. This should be submitted via MySaint by the stated deadline. This work is worth 35% of the module credit and is assessed by two module tutors, most likely not including the tutor from your School.
- An assessment from the mentor-teacher which is worth 25% of the module credit; this mark may be moderated by University staff.

5.3 How each learning outcome will be assessed.
The overall aim of the assessments is to evaluate the extent to which you have succeeded in the following intended learning outcomes:

Key Learning outcomes	Assessed by
1. Communication and related professional skills.	Module report Teacher's assessment Talk
2. An understanding of some of the key issues associated with communicating and teaching school pupils.	Module report Teacher's assessment Talk
3. Improved professional skills of the type needed in communicating and teaching.	Teacher's assessment Module report Talk
4. The ability to work professionally in a potentially challenging educational environment, including the ability to communicate effectively with educational professionals and young people. *Note that ID4001 students are not expected to take primary responsibility for discipline/classroom management.*	Teacher's assessment

5. The ability to address the needs of individuals, and to choose methods of explanation and presentation relevant to the individual or group with which you are working, differentiated learning.	Teacher's assessment Talk Module Report
6. An improved ability to determine what the student involved needs to do in order to prepare for planned work in the educational establishment.	Teacher's assessment Module report
7. An indication as to whether or not work in this field would be something of interest to them in the future.	Not formally assessed, but may be in the module report.

Supplementary Learning Outcomes	Assessed by
Good presentational skills, both verbal and written, and appropriate for pupils, peers, senior colleagues and specialist audiences.	Teacher's assessment Module report Talk
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.	Special project planning Teacher's assessment Module report Talk
Ability to self-reflect and to respond appropriately to guidance and experience gained within the school.	Teacher's assessment Module report
Ability to use find, interpret and use information from relevant literature.	Module report
Ability to describe, discuss and critically evaluate a current educational issue.	Module report

Progress towards achieving these learning outcomes should be seen in the log book, end of module report, and assessed talk. We recognise that school placements will differ and it is therefore important for you to report on how you have used the opportunities available to you within the school.

5.4 Extensions for submission

Students should address any request for an extension to a submission deadline to the Extensions Group in the School of Physics and Astronomy using this School of Physics and Astronomy Extension Request form. This Extensions Group may consult with the equivalent group in the student's home school. Extensions will be permitted only for justified reasons.

5.5 Penalties for late submission

Unless otherwise stated later in this document or in the marking sheets online, late written submissions without justifiable reason will incur a penalty under scheme A in the University's Policy on Coursework Penalties, ie 1 mark on the 20 point scale will be deducted for each day, or part thereof, for which the submission is late. Any coursework that has not been submitted by the Wednesday after the last day of the semester will not be accepted, and a mark of zero will be awarded for that piece of work. Please see the oral presentation section for penalties associated with late submission of PowerPoint files or giving the talk.

5.6 Academic Alerts

The University operates a system of academic alerts, as described in the University handbook, academic alerts. The aim of the alert system is to help students who are having difficulty coping with their studies by flagging up problems before they seriously affect students' grades. Alerts will be issued by email from the School and will tell students what the issue is, what they are required to do and what support the University can offer. If students do not take the action required, they may get another alert, and eventually may automatically get a grade of zero and fail that module. The system is designed to help and support students to remedy any problems or issues before these lead to failing a module. Alerts will never appear on a student's permanent transcript. For more information on alerts and the categories, see the University's policy on Academic Alerts and the accompanying guidance for students.

Note that a "FINAL" alert can result in a student receiving a grade of 0X for the module. That zero will also form part of the calculation for the classification of the Honours degree, even if the module is taken and passed in a subsequent semester. If you receive an alert, you must always follow the instructions in the alert and respond within four days as stated.

The University's Assessment Policy and Procedures contains several conditions, including that at least 75% of the assessed work in any module must be submitted for a student to gain credit for a module.

In ID4001 students are expected to attend *all* scheduled learning sessions, including evening seminars, and proactively engage with the whole placement experience.

In order to avoid receiving a 0X grade for the module through being issued with a "Final" academic alert, you must, as a minimum,

- Attend all agreed placement sessions at your placement school, and behave in an appropriate way on the placement according to the module's code of conduct.
- Attend and actively engage in at least 20 hours of classroom contact time in your placement school
- Attend at least 75% of the ID4001 tutorials
- Submit on time the Proposal and the Final Report
- Give a satisfactory presentation at the scheduled time, and attend the presentations of others in your presentation session.

5.7 Penalties for unsatisfactory performance on the module

Failure to attend the placement school classroom effectively for a minimum of 20 hours will result in a failure for the module and 0X will be awarded. (Remember that, unlike campus-based classes, University staff are not in a position to monitor any pattern of absence that might otherwise result in academic alerts being issued. It is your responsibility to ensure that you maintain a pattern of attendance at your placement school that will enable you to fulfil the minimum requirement. It will often not be possible to "catch-up" missing hours very late in the semester.)

The placement must be passed in order for the student to gain a reasonable grade on the module. Hence, if the teacher's assessment of the placement is graded at less than 7.0 (i.e. fail) after due moderation by the module staff, the module grade will be capped at 7.0P. There is no reassessment opportunity.

The Module Coordinator, on behalf of the University, reserves the right to withdraw a student from the module, with immediate effect, if they are creating significant difficulties within the placement school. Examples might include: inappropriate behaviour, or behaviour likely to cause alarm or disruption within the classroom. You should refer to the Code of Conduct for this module.

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.

The module's Moodle course 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. 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 use the session and 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 Reflective 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 allows you to evaluate critically your own progress and experiences during the module and to determine/evidence whether or not you have achieved the targets (including those 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. This reflective report allows you to address your learning across the whole placement. Use should be made of relevant literature and other sources.
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. Relevant use of the literature and other sources is required.
   • You might 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-matters 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, and indeed you are not 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 and reflective - don't just take information 'at face value'.

As 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, and how you used that in preparing for your teaching.
- 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 did.
- 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 was this the case? What did you learn from this and proceed differently afterwards? What would you do differently next time and why?

Students who do well in the classroom and in their final reports use the literature in their decision making and may include in the narrative statements which reflect their critical thinking as a result of the reading. For example, "*I had originally planned to.... However, having accessed literature by x and by y it is evident that is not the most effective way to support learning in... A number of sources (see, for example 1, 2, 3) indicate that z is more effective way of including all children in the learning, and developing conceptual understanding. I therefore planned to....*

It can be tempting to plan teaching based on your own experiences and assumptions and then seek literature which supports your existing viewpoint. An easy example to discuss is around fixed 'learning styles'. This took hold as an idea at some time in education, despite not having a proper evidence base. You may at some point have said "I don't learn well from listening, I am a visual learner" or similar. We sometimes see students on this module reporting planning for 'visual' learners, 'kinaesthetic' learners and so on and then indicating that there is evidence to support this. However, the ideas about being able to identify, label and teach to 'learning styles' has long been debunked. So, if you report taking this approach it would indicate that you have not familiarised yourself with the recent literature when planning the learning. Thus your report would not score well for appropriate use of up-to-date literature in planning your teaching sessions. Please look at the three examples below with this in mind.

Confidentiality is important; you must not include pupil or teacher names in the report. Indeed, you must be careful not to give other information in your report that could identify a pupil. 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.

You should aim to avoid statements about children which are judgemental and perhaps reflect bias of those around you, or yourself. There are common assumptions which you may hear repeated which are not borne out by evidence e.g. children in 'poor areas' have parents that don't care about school and learning.

The media often frames any difference in a negative light, whereas difference and diversity may be a real positive for learning. Reflect as you write on how you are viewing the range of different children and how your writing communicates this.

The module's MySaint/Moodle course contains general advice on scientific writing, which may be useful to review before writing your report. You may also find the information contained in the marking schedule of use.

Examples
Below you will find three examples of the type of writing you might expect to include in your report. The subject of these examples is discipline, however, you will not be expected to maintain discipline in your classroom, as this is the responsibility of "all **paid staff** […] with responsibility for pupils" (Department for Education, 2016). This is one reason why this topic has been chosen for the examples here. We note that current accepted practice has moved towards an emphasis on building positive relations in the classroom.

Example 1: Good
Initially I was nervous about maintaining discipline in the classroom. I observed that my mentor teacher took a 'zero-tolerance' approach to disruptive behaviour, verbally disciplining the child and placing them on report immediately. This type of approach became widespread in the US in the early 1990s (American Psychological Association Zero Tolerance Task Force, 2008) and seemed to work well with the class. Recently, there has been criticism of this approach by the American Psychological Association, who set up a taskforce to investigate its effectiveness (American Psychological Association Zero Tolerance Task Force, 2008). The task force found that zero tolerance approaches do not lead to improved behaviour or to a better learning environment. The Department for Education (2016) recommends that discipline should be "proportionate and fair" and that educators should reward and praise good behaviour. After discussion with my mentor teacher, I chose to take a slightly more relaxed approach to discipline, and rely more heavily on praising good behaviour rather than punishing bad behaviour. During my first class this approach was not particularly successful, as I had not made the new rules and expectations clear enough to the class. In the second class I explained the rules and the approach was much more successful.

American Psychological Association Zero Tolerance Task Force (2008). Are Zero Tolerance Policies Effective in Schools? American Psychologist, 63(9), 852-862.

Department for Education. (2016). Behaviour and discipline in schools Advice for headteachers and school staff. Retrieved 23 August 2024.

Example 2: Not so good
Initially I was nervous about maintaining discipline in the classroom. I observed that my mentor teacher took a 'zero-tolerance' approach to disruptive behaviour, verbally disciplining the child and placing them on report immediately. After discussion with my mentor teacher, I chose to take a slightly more relaxed approach to discipline, and rely more heavily on praising good behaviour rather than punishing bad behaviour. During my first class this approach was not particularly successful, as I had not made the new rules and expectations clear enough to the class. In the second class I explained the rules and the approach was much more successful.

Example 3: Poor
Initially, I was nervous about maintaining discipline in the classroom. I observed that my mentor teacher took a 'zero-tolerance' approach to disruptive behaviour, verbally disciplining the child and placing them on report immediately. I chose to take a slightly more relaxed approach to discipline, and rely more heavily on praising good behaviour rather than punishing bad behaviour. This approach had mixed results, working much better in the second class than the first.

Transforming Education, https://www.youtube.com/watch?v=ygEvntynlgc, 2018

Mechanics

The report should be produced with 1.5 line spacing. The pages should be numbered. The cover sheet with the project title and your ID number should be used, and the word count stated. Diagrams are welcomed. Be aware of the confidentiality rights for your pupils. Do not put your name on the report. Your submission to MySaint must be a .pdf file, please, where the text remains machine readable.

Word Counts

Word counts are enforced. In developing communication skills you wish to be able to select out the material that you wish to present, and do so to the necessary requirements.

You are permitted to have a word count different from the stated value by up to 10% with no specific penalty (note however, that if the extra 8% is "padding" that is not useful then there may be a reduced mark because of that). The penalty for work of an incorrect length will be option A in the University's Policy on Coursework Penalties, ie on the 20 point scale 1 mark for work that is over or under the required count by more than 10%, and a further 1 mark per additional 10% over or under.

Word counts include footnotes and endnotes, but exclude the bibliography and/or the reference list. Headings and sub-headings are included, as are figure captions and any significant amount of text in tables etc. Word counts will normally be as determined by the Word Count tool in MS Word.

Appendices are not included in the word count but should *not* contain any discussion and should only be in the form of absolutely necessary background items such as, perhaps, a copy of a handout or leaflet created by you or your pupils as part of your placement or Special Project. You are strongly advised to discuss the contents of any Appendices with your departmental representative *before* submission if you think these might be more than two pages in length, or if they are essential to the case you are making in your report.

Referencing

All reports should refer to appropriate literature. You should use the "APA" style as defined by journal publisher Taylor and Francis.

Marking

Your report will normally be marked by two of the module's departmental representatives. A check is made on how different markers mark work compared with other markers, and the output of that may lead to some moderation. In many cases the report mark is simply the mean of the two provided marks. In some cases there will be discussion between the two markers before an agreed report mark is confirmed. Feedback is provided on MySaint, normally by providing an average tickbox position and by providing comments from the two markers on the report. Through that process there may be some repetition of feedback in the document provided to the candidate. There is no suggestion that the length of a feedback comment is related to the importance of the comment. The report mark is provided on the usual MySaint table.

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 on the module web page. 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.

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.

7. GENERAL GUIDELINES FOR GOOD WORKING PRACTICE IN SCHOOLS

7.1 Placement School Policies

- Make yourself aware of your placement school policies in relation to Discipline and class management, Health and Safety, Child Protection, Drugs, Equal Opportunities, Accident/Illness. It is VERY important that you follow these policies AT ALL TIMES
- Check with your teacher mentor whether there are any health or disability matters that you need to know about concerning any pupils' medical needs and medication (e.g. Epipen, Inhalers, Tablets etc) and note that at NO time should you administer ANY medication.
- ALWAYS follow school procedure with respect to accidents and emergencies.
- DO NOT try to resolve ANY major problems alone. Talk to your teacher mentor if unsure. If in doubt about a situation SEEK ADVICE
- Find out who is responsible for child protection issues within the school
- NEVER arrange to meet pupils outside the formal sessions
- Follow the guidelines set out in the Confidentiality Agreement, Child Protection Agreement and Code of Conduct forms enclosed in '*ID4001 Further Guidance*' booklet.

7.2 University Policies

Remind yourself of the Child Protection and Confidentiality statement that you signed up to at the start of the module. Be aware of the University's policy on the Protection of Children and Vulnerable Adults. Read again the general risk assessment in this handbook. Be aware of the general information in this handbook.

7.3 Planning your work

Your first meeting with the teacher mentor
At the start of the module, you will need to meet with your teaching mentor to discuss in detail what your role will be in the classroom, what subjects will be covered during the term and what your mutual aims and objectives will be for the term. You should make careful notes and draw up a list of targets for the term. You will also need to make sure that you have all the relevant information about the school and placement. Some of the factors you need to consider are listed below. You should find out about dress code, signing-in arrangements, and school policies covering at least the items mentioned in section 7.1.

Before each lesson you should also aim to create a plan of what you will be doing and what you expect to achieve in that session. An example is given below, and more information is given later in this handbook. Always try to discuss your plan with the teacher in advance of the lesson, and always try to reflect upon how the lesson proceeded, note these reflections with your plan, and store in your log book for future use.

Some contact information and dates that you will need to find out
- Head Teacher's name, Mentor Teacher's name, Link teacher's name, Class teachers' names
- School address, Telephone number, Main school email
- Other useful email address (e.g. that of teachers)
- School day start time, lunch time, break times, end of day.
- School term dates and holiday dates
- Placement Days and Times

Basic Action Planning

Travel
Map of School? Parking? Method/Route of travel to school?

Identification of role
Have you talked to the teacher about how they see you working with the class?
If so, what are the major targets and success criteria?
What steps will have to be made to ensure they are achieved?
Who or what is needed to help you get over any barriers to these targets?

Other information
Knowledge of what exists already in school in terms of schemes, awards, resources.
Ask about textbooks, curriculum information, sources of information.
If you are considering taking a group out of school, for example on a visit to the University then find out about regulations and permissions needed.

Planning Your Tutoring- think about the following:
- What should I wear when at the placement school?
- How should I refer to the teacher, Head Teacher, etc?
- How do I want to be introduced to the learners?
- What do I/the teacher want pupils to call me?
- What does the teacher expect of me?
- How am I going to memorise their names?
- How am I going to encourage them to talk with me and ask questions?
- How am I going to encourage them to listen to me?
- How can I help them/other staff to understand my role in their classroom?
- Where am I going to sit/stand?
- What strategies will I use to help people understand me?
- How best can I give and receive formative feedback?
- How will I know when they have understood?
- When am I doing the next visit, and what will I be doing?

Session Planning- lesson plan

This example is for your information. You may find it helpful to use something like in your planning.

Date: 12 August   Class/Group: 4b (whole class)

Activity: (description and lesson learning context/prior learning)
'Being a Student' - talk and poster as a self-initiated project.
Exercise will build on informal chats in the classroom throughout my placement with the poster as an end focus point to remind the pupils of student life after I have gone.

What do the pupils/learners know already?
Some pupils have asked me questions about university life, but not all have had a chance, so there is little or no awareness of university apart from knowing it's a place that I come from.

What do you want the pupils/learners to do?
To listen to my brief talk, ask a few questions/say their ideas and then make posters in groups, showing what they think being a student is like.

What do you want them to have learnt? (Key concepts and ideas)
What a university is. An idea of what it is like to be a student. That anyone can go to university.

Communication with teaching/other staff:
Arrange with teacher to run the activity on my last visit and go through the content with her, to make sure it is appropriate for the class and seek advice

How are you going to do the activity?
Introduction:
Timeframe 5 minutes.
Give prepared short talk on being a student and what university is, stressing that all sorts of people go, keeping it simple as the children are 10 years old and for many, this is the first impression they will have. I will use pictures to make it more captivating.

Main Activity:
Timeframe 20 minutes
After some Q&A's and prompting of ideas the class have of me, they will work in their usual groups and make a poster of what it's like to be a student. I will get them to imagine themselves at my age and what they think they would like to do/be as a student. I will give each table some photos that I took as a 'day in the life' snapshot of me as a student to help them create a picture/written poster. I will move between groups and chat further about their ideas.

Summary:
Timeframe 5 minutes
When the class members have finished their posters, we will all look at them and get each group to say their favourite thing about the poster/what they have learnt about being a student. I'll give them all a 'prize' and thank them for welcoming me in.

Resources:
Pictures of university/halls bedroom/union. Photographs of various aspects of my life as a student.
Arrange with teacher access to poster materials

Outcome/End Product:
Posters to display in school. That the pupils have learnt at least one thing about being a student/university

Review of Activity:
Pupils enjoyed the posters and have decided to display them in the school entrance.
I should have been better prepared for the variety of questions asked. Got feedback from teacher, who praised the level I had chosen to pitch at.

7.4 Working with Teachers

Students' Role and Commitment
It is important to remember that you are there to support the work of the teacher, and aid the education of the learners you are working with, as well as learning yourself.

Supervision
- You will be under the supervision of a class teacher - if you need help or advice, don't hesitate to ask.
- Always work in sight of a teacher or other responsible adult.
- If you are not working in a classroom you must ensure you **never** work in a closed room alone with the pupils.

Confidentiality
- If a teacher talks to you confidentially about a pupil, the information must **not** be passed on to anyone else - refer to the confidentiality agreement in this booklet and follow the school's code of conduct.

Time Commitment
- Agree in advance with your teacher how much time you will be giving and the date and time of your visits to the school.
- If you are unable to attend school it is essential to advise the teacher as soon as possible and always try to make alternative arrangements.

Your role within the school
- The teacher should decide what tasks you will undertake each week, in consultation with you. Discuss your area of expertise with the teacher in detail in order to help them identify a suitable role for you. Looking through the school's programmes of work might help you to identify areas where you feel you can make the greatest contribution.

Behaviour Management
- Teachers are responsible for the pupils: morally and legally and for health, insurance and discipline issues.
- You should ensure that your behaviour is appropriate and that it is conducive to creating a positive learning environment. You should work with your teacher to build good relationships with pupils and support good discipline.
- If you are involved in setting boundaries for acceptable behaviour with children they must always be **clear, consistent, firm and fair**.

Liaison with the teacher
- You should meet the teacher in advance of beginning your placement. At the end of this meeting you should be clear about what you are going to be doing, how this fits in with what the teacher will be doing, what to wear and how to address the teacher and pupils in the classroom
- Arrange to have a chat with the teacher to get some feedback after each session and to discuss likely content of the following week's lesson. Where this is not possible you should at least talk on the telephone, or communicate by email. How easily you are able to do this will depend on your individual relationship with the teacher - but remember that teachers have lots of other commitments too, so please be considerate of their time.
- During your normal working hours, teachers are likely to be with classes, so it will be important to set up arrangements for communicating that are mutually convenient. Teachers' working arrangements mean that they cannot be as readily contacted by telephone or e-mail as many students will be used to.

Don't hesitate to ask for advice from your mentor teacher and departmental representative

7.5 Working with Pupils

During the induction session and/or seminars you may work through some situations that you may encounter when working with pupils, Examples of such scenarios are:

- Misunderstanding of the science subject being explored
- Misbehaving or disruptive child
- Inappropriate requests ("can you lend me a fag/50p etc.")
- Information passed to you "in confidence"

Educational practice is now typically more about building positive relationships in a classroom than focussing on disciplining pupils. Please take advice from your mentor teacher about such matters.

Remember: The teacher is always in charge. They know the pupils, they have been fully trained in how to cope and they are experienced. You should always alert teachers to any problems as soon as possible and hand over to them.

If there is a problem in the relationship between you and an individual pupil, you should talk to the teacher as soon as possible

NEVER ALLOW YOURSELF TO BE ALONE WITH ANY PUPILS UNDER ANY CIRCUMSTANCES

As a responsible adult, you should be able to respond to any difficult situation with CAUTION and COMMON SENSE, but if you are in any doubt about how to deal with a problem during your placement you should speak to the teacher and/or departmental representative WITHOUT DELAY.

7.6 Some Classroom Techniques and Guidance Notes - mostly from the UAS

These notes are intended as guidance and are in no way comprehensive or definitive and you may well encounter different views among the teaching staff at 'your' school. If so, take the opportunity to listen and to learn from these different approaches.

Names
If you can remember the names of the pupils you are working with this has several benefits. The pupil may feel good about you knowing their name, and that may help you develop a good working relationship with them. You being able to use their name means that you can direct comments or questions to them, and you can discuss their learning with the class teacher with you both know which pupil you are talking about.

Encouraging People to Talk - Questioning and Listening

Questioning is an important part of establishing a rapport with a person. The way questions are asked can open up a rapport or close a relationship down. It is worth considering the kinds of questions that may be asked.

Closed questions encourage a yes or no answer, while leading questions seem to anticipate a particular set of responses. Examples of closed questions are: "*Did you understand that?*"

Closed questions are useful for collecting facts but if too many closed questions are used it tends to close down the relationship and stop the free flow of discussion. Shy people in particular find it hard to respond to questioning. By asking closed questions they are not encouraged to open up and talk freely.

Leading questions such as *"So, you all understand that now?"* make it difficult for pupils to do anything other than answer in any way other than has been indicated, so leading questions should generally be avoided.

Open questions may be used when the teacher wants to find out what the respondent thinks and this kind of question encourages a free response. For example: "Which parts of the module are you finding the most enjoyable?" "Why is that?" Open questions encourage the student to talk and give their views or experiences.

Testing questions are asked to test if something has been understood or learned satisfactorily. You may wish to check up if the students have understood something or if they recollect some fact given to them in the past. "Do you remember what that means? Tell me" or "Please explain that to me."

Exploring questions are used to prompt and help develop a train of thought, to encourage reasoning and problem solving, for example: "What do you think that this experiment might show?", "How might this project help a business?"

Listening
Listening is as important as questioning, if not more so. Attentive listening makes the person feel that their ideas and views are important. It helps them feel supported in decision-making and learning. You should try to start your reply or comments on the basis of what the student has said. Remembering between sessions what individual students have said is important.

Giving Feedback
Giving feedback is an important part of working with learners. Feedback should be non-judgmental, honest and consistent. Try to give a feedback sandwich: positive, negative, positive. For example, if a student has given the wrong answer ask why they said that, correct them, giving an explanation as to why they were wrong as well as why the right answer is right. Then provide positive encouragement to the next stage. Leaving students with a negative feeling may cause them to lose interest in the subject or the project.

Questioning Techniques (Reproduced from *Training for Assertiveness,* Lucy Seifert, Gower, Aldershot, 1994)

Questions to you
Accept questions to encourage participation
Treat all questions as having equal importance
If you don't know the answer: don't bluff, say you'll find out (ask the teacher and tell them later)

Questions to others
Take care not to embarrass anyone who gives a wrong answer
Resolving contradictions can be good learning experiences.
Build on individual answers using open and exploring questions

Questioning a Group
Use a routine for asking questions e.g. Question – Pause – Name a respondent
Don't allow calling out
Ensure a random distribution of respondents
Avoid indicating who must answer until everyone has had time to think

Questions to Avoid

Leading: Compare the likely responses to "isn't that the best way to do it?" with "is that the best way to do it or can you suggest another?"

Built in answers: "5 per cent of 23 is 1.15 isn't it?"

Multiple: So what's the next stage? What would you do next? What would help you to find the answer?"

Read my mind: Do you want to explore other people's ideas?…… or for them to guess yours?

Complex: Match language, etc, to pupil's level. Plan how, why and when to expand vocabulary

Vague: The pupil should know exactly what you are asking

Trick: Think about what purpose a question serves. "Trick" questions often make someone appear foolish

Active Listening Techniques

Type of Statement	Aim	Method	Examples
Encouraging	To convey interest To keep the person talking	Don't agree/disagree Use noncommittal words with a positive tone of voice	"I see" "Uh-huh" "That's interesting"
Restating	To show that you are listening and understand To let the person know your grasp of the facts	Restate the other's basic ideas, emphasising the facts	"If I understand, your idea is …" "In other words, this is your decision…"
Reflecting	To show that you are listening and understand To let others know you understand their feelings	Restate the other's basic feelings	"You feel that …" "You were pretty upset by this …"
Summarising	To pull important ideas, facts, etc. together To establish a basis for further discussion To review progress	Restate, reflect and summarise major ideas and feelings	"These seem to be the key ideas you have expressed…" "If I understand you, you feel this way about the situation…"

Self- evaluation of your listening skills

This is a short questionnaire that will help you to assess your strengths and weaknesses so that you can improve your listening skills. Use it to find out more about yourself. There is no need to discuss your answers with your teacher mentor or departmental representative unless you are concerned about anything in particular.

Description	True	False
1. I give the speaker my complete attention and don't allow myself to be distracted easily.		
2. When I'm distracted by my environment, I take assertive action to remove the distraction before asking the speaker to continue.		
3. I keep good eye contact, neither staring nor averting my eyes.		
4. I'm responsive through my body language while the speaker is talking (e.g. smiling, nodding).		
5. When I'm on the telephone, I give my full attention; I don't secretly do something else at the same time.		
6. I don't constantly interrupt.		
7. I don't finish other people's sentences.		
8. I don't use every opportunity to turn the conversation on to myself ('the egocentric listener')		
9. I take notes of complex instructions, of meetings and lectures, rather than relying on my memory, and to assist my concentration.		
10. I try not to let my emotions on a topic affect my ability to listen objectively.		
11. I try not to make assumptions or jump to conclusions.		
12. I often summarise or repeat back what the speaker has said to check that I've understood.		
13. I ask questions for clarification (e.g. 'Can you give me an example…?').		
14. If I don't understand, I say so, and ask the speaker to repeat, to slow down, to speak up, or to spell unfamiliar names as appropriate.		
15. I ask open-ended questions (beginning with who, what, how, when, where and why?) to find out more and to encourage the speaker.		
16. I am a patient listener.		
17. I am an active and assertive listener.		

7.7 How to present yourself in the classroom

Body language involves giving signals about feelings and content; it's how the body expresses itself separately from the words themselves. It can indicate anger, fear, nervousness, hurt, joy or love. It can say 'I respect you and want to get to know you' or 'Stay away from me!' Assertive body language reinforces the message of the words; non-assertive body language confuses the message. Assertive body language is appropriate to the message. For example, a news presenter would look serious when describing a natural disaster. A smiling face could confuse the audience as well as cause offence.

This list is primarily for you to be aware of your own body language and it will help you present yourself to students but it will also help you to "read" the students better.

Body language includes
- Accessories (everything from handbags to jewellery!)
- Presence*
- Breathing
- Cosmetics
- Clothes
- Smell
- Eye contact
- Facial expression
- Gestures
- Hairstyle
- Handshake
- Nervous habits
- Nervous habits
- Non-words**
- Pacing up and down
- Personal space
- Physical contact
- Posture
- Spectacles / contact lenses
- Tattoos
- The car you drive
- The newspaper you carry and/or read
- Voice / speech pattern (volume, pitch, fluency)

* 'Presence' is the atmosphere around a person and the emotional impression they make. 'Presence' can even remain in a room when the person is not. For example, their aggression or nervousness can enter a room before them and remain there after they have gone.

** Non-words are superfluous words that add nothing to the meaning and can form a nervous, distracting habit. Examples are 'you know' and 'I mean'.

The body gives out powerful messages. The impact of messages can be approximately 20 per cent word content, 25 per cent vocal (quality, volume, pace and tone of voice) and 55 per cent visual impression. When you walk into a room you can announce your age, sexual orientation, ethnic origin, status, gender, class, mood, sense of humour and level or confidence – all this without speaking one word. However, be aware that body language can be affected by factors such as culture, nationality, tradition, family background, disability and individual mood.
(Reproduced from *Training for Assertiveness* by Lucy Seifert, Gower, Aldershot, 1994)

Assertive Body Language
Again, this information is primarily to help you to present yourself to the pupils but it will also help you to "read" them better.

Breathing
Steady. If you're feeling nervous about handling a situation relax with deep breathing exercises, breathing in through the nose and counting to five, breathing out through the mouth and counting to five. This helps slow down your breathing and can lower your anxiety level.

Clothes and accessories
Clothes should be comfortable, suitable for the climate, environment and occasion. They should be a reflection of you, whilst also acknowledging the people you're with. You should also check with your school if they have a particular dress code.

Eye contact
Direct without staring or glaring. Look outwardly at others, rather than being constantly involved with looking inwards at yourself. Eye contact helps you listen and concentrate, and the other person feels valued.

Facial expression
Appropriate to the words and the feelings. If angry, look angry and don't smile; if happy, smile. Relaxed mouth and jaw.

Gestures
Expressive but not distracting. Open-handed. Don't fidget or engage in distracting habits like nail biting, tapping on the table or putting your hand over your mouth.

Personal space
This includes distance and height. Appropriate to the situation and degree of familiarity. Comfortable distance. Respect the other person's space.

Posture
Upright but not stiff when sitting or standing. Uncrossed legs when sitting.

Voice and speech pattern
Steady, fluent. At a good level so that you can be heard without being intrusive. Leave appropriate silences; don't fill gaps or give yourself extra thinking time by using non-words like 'really', 'well', 'right' and 'you know'. Steady pace of speech, without abrupt acceleration, deceleration or hesitation.

Summary
Assertive body language is appropriate body language; it confirms and enhances what you say instead of confusing your message through inappropriate facial expression or tone of voice. It's reinforcement, not a distraction. It can also empower you by building an inner sense of self-esteem, which, in turn helps you behave assertively.

(Reproduced from *Training for Assertiveness* by Lucy Seifert, Gower, Aldershot, 1994)

7.8 The Learning Process

Memory
It takes years of learning and practice to develop and acquire the use of memory as a learning tool. A 5-year-old's ability to concentrate and therefore to memorise, is non-expert and their approach appears to be cursory and haphazard. By the age of 11, children have learnt how to structure what needs to be memorised (e.g. categorisation).

Try to get the pupils you work with to remember what you did with them on the previous visit. This will help to reinforce the progress made, and will help the pupils to build on memorising skills.

Concentration
Younger children can have impulsive and brief attention spans.
When dealing with them on a one-to-one basis, start with general chat to find out what their concentration is like.
Tune in to their responses - it is much easier to employ different ways of approaching the task if you know how your pupils are likely to react.
Use a limited time for each activity (don't labour a point if the pupil does not show interest).

Instruction Techniques which work
Use your own positive learning experiences that have worked well for you. Use techniques recommended by your mentor teacher, and/or that you saw working well in your observation sessions.
If the child struggles, judge how soon you need to intervene. Too hasty and it looks as if you do not have confidence in them, but too slow and they will start to get over-anxious
Try to always use a 'Can do' attitude
Try to relate the subject to the child's own experience - this way they can understand it better rather than be left with an abstract concept

Always try to end each session on a positive note

Four Ways of Learning

i) TRIAL AND ERROR

What is it?
This is probably the simplest form of learning. Learners try to do something and learning takes place when they succeed or fail in their attempt. People who do not have time to train thoroughly often use it.
Common phrases used are "Oh you'll soon pick it up" or "You'll learn as you go along".

Advantages:-
- Little preparation required
- Minimal resources needed

Disadvantages:-
- Lots of mistakes made at the outset
- Can de-motivate
- Feeling of isolation

How to use trial and error as a learning tool:-
Opportunities for practising trial and error learning should be created around practical, realistic activities. The opportunities should be learning events that are structured rather than unstructured, i.e., events that

the trainer has carefully planned. An important feature of trial and error is reinforcement either by praising and confirming that the attempt was correct (positive reinforcement) or constructively criticising for making an incorrect attempt (negative reinforcement).

ii) BEING TOLD

What is it?
The basis of this way of learning is that the learner receives some information (words, symbols or figures) from the trainer, e.g. the Highway Code when learning to drive. The entire content of what is to be learnt is presented to the learner in a final form: "Sit down and I'll tell you what you need to know" or "Listen carefully, I'll just go over what you have to do".

Advantages:-
- Quick for trainers
- Can deliver lots of information to a large number of people
- Limits questions and discussion

Disadvantages:-
- Limits independent thought - no improvement in process
- Does not encourage interaction between learners
- Creates more questions after training

How to use being told as a learning tool:-
Useful for situations where there is a clear-cut body of knowledge with a minimum amount of ambiguity and where the task does not require the learner to make any independent discovery. How much a learner learns depends upon:

The amount to be remembered
If it is only a small amount, the learner can simply be told. A larger amount of information should be presented in written form for referral.

The complexity of the information.
With more complex topics, it is usually better to represent the information visually as well as orally.

iii) IMITATION

What is it?
In learning imitation, a learner observes somebody performing a task which the learner then attempts to imitate, e.g., "Sit next to Nellie, you'll learn a lot from the way she does things" or "Just watch me, I've been doing it for years".

Advantages:-
- Help and advice is always available
- Learn from an experienced person
- Informal

Disadvantages:-
- Learn bad habits
- Limited to individuals and small groups
- Time consuming - may lead to resentment from trainer
- Personality conflicts

How to use imitation as a learning tool:-

The 'model' that a learner imitates should be a positive influence on a learner's behaviour by demonstrating the correct way to do something. The method of learning requires careful consideration by the trainer - if it is poorly prepared and unstructured, the learner will be exposed to (and learn) probably as many bad working practices as good ones.

iv) THINKING

What is it?

Learning can occur when a learner is encouraged to think about an experience and reflect on it in learning terms. Using such questions as "Why do you think that happened?" and "What would you do if you were to repeat it?" the trainer is able to create a learning event within which complex situations can be thought about and discussed.

Advantages:-
* Lends itself to group discussion and feedback
* Retained in memory for longer
* Carry out difficult procedures in a controlled environment

Disadvantages:-
* Requires skilled trainer
* Can be challenging to some people
* Time consuming

How to use thinking as a learning tool:-

It might be that there is not a simple, clear-cut answer. The learner might be presented with a number of options, each one having some advantages to offer. Learning can take place when the learner has to evaluate the options, draw conclusions, consider consequences and generally 'think through' the situation. The maturity and experience of the learners relative to the thinking required needs to be taken into account. What is a complex and demanding thinking experience for one learner becomes a simple situation all too easily solved for another.

7.9 Pupils with Disabilities

We should value all people in the school, and aim to support the educational development of all pupils. Your mentor teacher will let you know if a pupil has a disability and/or a disability allowance that you should know about. Please regard such information as particularly sensitive and confidential. Please act on the advice given. There may be other pupils in the class with disabilities that you have not been told about. If you have any queries about disabilities and appropriate support strategies for your pupils with disabilities, please ask your mentor teacher or other relevant staff in your placement school. Some allowances are relatively obvious, such as speaking at the preferred side of someone with hearing difficulties in one ear. Some allowances are much more complex. Some pupils may have a pupil support officer with them to assist in their learning, and again your mentor teacher or other relevant school staff can provide guidance on how to interact with these support people and the pupil being supported.

Some students, particularly those from Psychology and Neuroscience, may be placed in a specialist school or unit within a school for pupils with profound learning difficulties. Students on such placements are expected to have discussed aspects of their placement work with their departmental representative.

7.X Primary Schools and Secondary Schools

Curriculum for Excellence applies to both primary and secondary schools in the state sector.   Many lessons in secondary schools are delivered by subject specialists, whereas many lessons in primary schools are led by the class teacher. Just as there are differences between primary and secondary schools, there are differences amongst primary schools. Students are asked to learn from their observations, and to ask their mentor teachers and other staff in their placement schools about any questions that they may have.

8. CURRICULUM STRUCTURES

8.1 Curriculum for Excellence

Much of the material in this note is taken from information on the [Education Scotland website about the Curriculum for Excellence](#).

Curriculum for Excellence has been introduced to state schools in Scotland over a number of years. It has been designed to develop four capacities, helping each child or young person to become:
- A successful learner
- A confident individual
- A responsible citizen
- An effective contributor

The Education Scotland website states that:-

"The curriculum aims to ensure that all children and young people in Scotland develop the knowledge, skills and attributes they will need if they are to flourish in life, learning and work, now and in the future. The attributes and capabilities of the four capacities are outlined below:

Successful Learners	Confident Individuals	Responsible Citizens	Effective Contributors
Attributes Enthusiasm and motivation for learning. Determination to reach high standards of achievement. Openness to new thinking and ideas.	**Attributes** Self-respect. A sense of physical, mental, and emotional well-being. Secure values and beliefs. Ambition.	**Attributes** Respect for others. Commitment to participate responsibly in political, economic, and cultural life.	**Attributes** An enterprising attitude. Resilience. Self-reliance.
Capabilities Use literacy, communication and numeracy skills. Use technology for learning. Think creatively and independently. Learn independently and as part of a group. Make reasoned evaluations. Link and apply different kinds of learning in new Situations.	**Capabilities** Relate to others and manage themselves. Pursue a healthy and active lifestyle. Be self-aware. Develop and communicate their own beliefs and view of the world. Live as independently as they can. Assess risk and make informed decisions. Achieve success in different areas of activity.	**Capabilities** Develop knowledge and understanding of the world and Scotland's place in it. Understand different cultures and beliefs. Make informed choices and decisions. Evaluate environmental, scientific, and technological issues. Develop informed, ethical views of complex issues.	**Capabilities** Communicate in different ways and in different settings. Work in partnership and in teams. Take the initiative and lead. Apply critical thinking in new contexts. Create and develop. Solve problems.

The attributes and capabilities can be used by establishments as a guide to check whether the curriculum for any individual child or young person sufficiently reflects the purposes of the curriculum"

Text and table taken from [Education Scotland](#) website.

The [Scottish Government web site about the Curriculum for Excellence](#) states

"All children and young people in Scotland have an entitlement to a curriculum which will support them in developing their values and beliefs and enable them to:
- achieve the highest possible levels of literacy and numeracy and cognitive skills
- develop skills for life and skills for work
- develop knowledge and understanding of society, the world and Scotland's place in it
- experience challenge and success

so that they can develop well-informed views and act responsibly. They should be encouraged to adopt an active and healthy lifestyle and be equipped with the skills needed for planning their future lives and careers."

The Curriculum for Excellence defines five levels of learning. The first four levels are described as a broad general education, followed by progression to qualifications described under a fifth level, called the senior phase. Pupils in Scotland's state schools are often in year groups Primary 1 to Primary 7 (P1 to P7) then Secondary 1 to Secondary 4 (S1 to S4). Pupils may leave school after S4, though many stay on to the optional S5 and S6 years. The senior phase with national assessments normally happens in S4 to S6, but there is intended to be more flexibility than there used to be in terms of when a child moves from one level to another.

Level	Stage
Early	The pre-school years and P1, or later for some.
First	To the end of P4, but earlier or later for some.
Second	To the end of P7, but earlier or later for some.
Third and Fourth	S1 to S3, but earlier for some. The fourth level broadly equates to Scottish Credit and Qualifications Framework level 4. The fourth level experiences and outcomes are intended to provide possibilities for choice and young people's programmes will not include all of the fourth level outcomes.
Senior phase	S4 to S6, and college or other means of study.

Table showing he levels of education in Scotland's state schools, taken from the Education Scotland Website

It used to be that many learners took Standard Grade or Intermediate exams in S4 (age about 16). These were considered to be at a similar level as GCSE (successors to O-levels) south of the border. National 4 and 5 qualifications replaced these from session 2013-14.

Those staying on in school may have taken a set of Highers in S5, and these could be used to gain entrance to University.   Other pupils may take alternative courses at this stage. Significant numbers of pupils choose to stay on at school into S6 to do a mix of Advanced Highers (considered to be at a standard a little above A-level) and/or other qualifications.

Curriculum for Excellence has made major changes in S1 to S3, including having more inter-disciplinary work, an intention to get students exploring subjects more themselves, and a greater emphasis on developing relevant skills. Most things that are planned to happen in schools will have in mind the four capacities of the Curriculum for Excellence and how these will be developed by the learning activity.

There is now much less expectation that able pupils will take a swathe of National 5's at the end of S4, and a set of five Highers at the end of S5, etc. Instead, there can be much more of a mix and match.

Year Group in Scotland	As it was in Scotland	As it is in Scotland	England and Wales
S1 to S3		Part of the Broad General Education	
S4	Standard Grade – Foundation OR Access 3 Standard Grade – General OR Intermediate 1 Standard Grade –Credit OR Intermediate 2	National 3 National 4 assessments National 5 assessments	GCSE
S5	Highers	Revised Highers	
S6	Advanced Highers	Revised Advanced Highers	A-levels

The Curriculum for Excellence and many of the bodies involved with it are currently under review following the publication of a report by the OECD.

8.2 Year groups and examinations in England & Wales compared with those more often used in Scotland

In England and Wales the terms 'key stages' are used to refer to the following:
- Key Stage 0: Nursery and reception years (3 to 5 year olds) also known as the 'foundation stage'
- Key Stage 1: Years 1 to 2 (5 to 7 year olds)
- Key Stage 2: Years 3 to 6 (7 to 11 year olds)
- Key Stage 3: Years 7 to 9 (11 to 14 year olds)
- Key Stage 4: Years 10 to 11 (14 to 16 year olds) usually ending in GCSE exams
- Key Stage 5: Years 12 to 13 (16 to 18 year olds; also referred to as sixth form) exams include AS levels, A levels, NVQs and HNDs

Some books on teaching may refer to these Key Stages or Years, so we provide here a brief comparison with the year groups in Scotland's state schools. In Scotland P1 to P6 are in primary school, and S1 to S6 in secondary school.

Age range	Scotland	England and Wales	National Exams
5-6	P1	Reception or Year 1	
6-7	P2	Year 1/2	
7-8	P3	Year 2/3	
8-9	P4	Year 3/4	
9-10	P5	Year 4/5	
10-11	P6	Year 5/6	
11-12	P7	Year 6/7	
12-13	S1	Year 7/8	
13-14	S2	Year 8/9	
14-15	S3	Year 9/10	
15-16	S4	Year 10/11	Start of senior phase of Curriculum for Excellence National 4/5 or Standard Grade* (Much of Scotland) GCSE (Much of rest of UK)
16-17	S5	Year 11/12	Highers (Scotland)
17-18	S6	Year 12/13	Advanced Highers (Much of Scotland) A Level (Much of Rest of UK)

8.3 International Baccalaureate

The "IB" is used in a number of schools, including St Leonards. There is more information about this at the IB website.

9. USEFUL RESOURCES

The [Undergraduate Ambassador Scheme](#) website.

9.1. General Educational Resources

- [Education Scotland](#)
- [Getting it right for every child](#) – GIRFEC is a Scottish Government policy on children's rights.
- [The Department for children, schools and families](#) has a number of useful links on its website, but bear in mind that this is targeted towards England and Wales.
- [Teach First](#)
- [Curriculum for Excellence](#)
- Bloom's taxonomy, for example at [UCF](#).
- Brief [comparison of Bloom and SOLO taxonomies](#) from Monash University.
- A study recommended by our External Examiner on effective pedagogies – C Husbands and J Pearce, [What makes great pedagogy? Nine claims from research, 2012](#)
- Studies recommended by some of our school teacher collaborators on use of assessment – P Black and D Wiliam, [Inside the Black Box: Raising Standards through Classroom Assessment](#)
- A useful short paper on reflective learning - A Tsang, [Personal reflection: Reflective learning as a student and an educator: Connecting the scholarship of learning and teaching](#) 2009
- Educational journals such as
    Journal of Biological Education, Chemistry Education Research and Practice, Physics Education, British Journal of Educational Psychology, Mathematics Teacher

9.2 Science Education and Communication websites

Many of these sites should also give you pointers and links towards a range of practical demonstrations, projects and 'resource packs' you may be able to use in the classroom:

- [BEST Evidence Science Teaching](#)
- [SSERC](#)
- [Royal Institution](#)
- [British Science Association](#)
- [Institute of Physics](#)
- [Society of Biology](#)
- [Royal Society of Chemistry](#)
- [British Psychological Society](#)
- [Royal Geographical Society](#)
- [The Geological Society](#)
- [Geology.com](#)
- [The Royal Society of Edinburgh](#)

- [The Royal Society](#)
- [Exscitec](#)
- [Association for Science Education (ASE)](#)
- [ASE range of online resources](#)
- [Nuffield Curriculum Centre](#)
- [Institute of Mathematics and its Applications](#)
- [London Mathematical Society](#)
- [National Numeracy](#)
- [Scottish Mathematical Council](#)
- [Scottish Maths Council Maths Challenge:](#)
- [The National Centre for Excellence in the Teaching of Mathematics](#)

9.3. Classroom Organisation and Management
- [Education Scotland](#)
- [Scotland's Anti Bullying Service](#)
- [Better Behaviour Better Learning Report](#) (Scottish Executive Website 2006)
- [Promoting positive relationships and behaviour in educational settings](#) (Education Scotland, 2024)

9.4. Assessment of Pupils
- [Scottish Qualifications Authority](#) (SQA)
- [Inside the Black Box](#)

9.5 Scottish Government Publications
- [System](#) searchable for executive reports including education issues

9.6. Child Protection
You can find out more about **child protection** issues at the [Disclosure Scotland](#) website and our University's policies are on the University website.

9.7. Communication and Skills
- [Key Skills](#)
- [Effective communication](#)

9.8. Neurodiversity
- [British Psychological Society article](#)
- [GTCS professional guide](#)
- [Autism.org advice](#)

9.9. Some Other Useful Resources:
- [New Scientist](#)
- [Times Educational Supplement](#)
- [The Guardian Education site](#)

9.X. Books:
There are numerous books out there aimed at aspiring teachers and teaching assistants, for example:-
- I Abbot, Preparing to teach in secondary schools: a student teacher's guide to professional issues in secondary education, McGraw-Hill Education, 2019
- C Burnett and T Cremin, Learning to Teach in the Primary School 4th ed., Routledge, 2018
- B Boyd, The learning classroom: a teacher's guide from Primary to Secondary, Hodder Gibson, 2008.
- P Drake et al, Becoming a Teaching Assistant, Sage Publishing. The 2012 ebook is available through the University library website. The paper version was published 2004.
- T Kamen, Teaching Assistant's Handbook, Hodder Arnold, 2008,
- A Watkinson, The Essential Guide for Competent Teaching Assistants: Meeting the National Occupational Standards at Level 2, 2003

Subject-specific books that are in the University Library are noted in the Library reading list tool.

A recent popular science book that may be of interest is Alom Shaha, "*Why Don't Things Fall Up?: and Six Other Science Lessons You Missed at School*", Hodder and Stoughton, 2023. The author is a teacher in a secondary school, and was a plenary speaker at the annual meeting of physics teachers in Scotland 2024. He is also employed as a science communicator in TV etc, Some of the big ideas in chemistry and biology are also covered in the book. There are some interesting comments on demonstrations in the classroom.

10. 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.

11. 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.

12. 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 2025-26 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 18.7.25