

commitment to lifelong learning



undergraduate

skills record



The RSC would like to thank:

Professor John Holloway, University of Leicester; Professor Neil Connolly, University of Bristol; Professor Ray Jones, University of Loughborough; Dr Tina Overton, LTSN Physical Sciences Subject Centre; Dr Gareth Price, University of Bath; Professor Nick Harris, QAA; Dr David Alker, Pfizer

for their significant input to the Undergraduate Skills Record

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Forewords

The Royal Society of Chemistry is the professional body for chemists and the learned society for the chemical sciences, with over 46,000 members worldwide. The RSC is responsible for ensuring high standards in education and training, and provides a range of services for its members in this area. Increasingly, individuals are expected to take responsibility for their own development, whether during formal study or in the workplace. The Undergraduate Skills Record (USR) has been introduced to support students in the chemical sciences to help develop a range of skills during their degree.

Whatever career graduates choose, the range of skills developed with the help of the Undergraduate Skills Record will prove invaluable. Employment in the sciences has become increasingly multidisciplinary and the need to communicate well and work effectively with others is essential. These vital skills as well as the ability to plan, organise and solve problems are crucial aspects for all successful careers.

Dr A D Ashmore Eurchem CChem FRSC, Registrar, Royal Society of Chemistry

Successfully completing a degree in the chemical sciences provides much more than academic knowledge. The skills developed throughout the duration of your course will prove invaluable, whatever future career path you choose. Completing the Undergraduate Skills Record (USR) will help to improve your skills by identifying gaps and areas that require development. It will help you become a more effective, independent learner with the ability to identify goals and to plan your development to achieve those goals. Your Skills Profile will serve as an aid to completing application forms and constructing CVs. The USR will serve as a launch pad into further continuing professional development, either as a postgraduate student or in the workplace.

Professor J Holloway, Pro-vice Chancellor, University of Leicester

In the pharmaceutical industry it is not enough to understand the theory and practice of chemistry, it is essential to be able to use this knowledge to solve problems creatively and efficiently. The desire to contribute and the motivation to tackle problems are essential traits, while in an increasingly complex and multidisciplinary environment of the modern pharmaceutical sector, good teamwork and effective communication skills underpin all R&D endeavour. Students who have developed these skills as part of their undergraduate programme are likely to represent attractive potential recruits and can look forward to a stimulating, rewarding R&D career. I strongly recommend every undergraduate in the chemical sciences, irrespective of their proposed career path, to complete the USR honestly and diligently, providing a framework to identify skills gaps and address these effectively.

Dr D Alker, Manager Academic Liaison and Recruitment, Pfizer

In all forms of consultancy, the analytical skills and intellect of chemistry graduates are a useful asset. Sometimes, subject knowledge is not enough. We look for intelligent, articulate people, with the aptitude to solve problems quickly, work in a team and communicate their ideas to a diverse audience. Our people must be able to listen to our clients' problems, analyse potential solutions and make recommendations. Rarely are the issues facing our clients small enough for one person to answer alone, therefore ability to work as part of a large, multi-skilled team is vital. Once a solution has been developed, it must be explained clearly, concisely and without jargon. Your ability to present your idea could be the deciding factor in whether the idea is accepted or not.

Paul Richardson, Partner, Accenture

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Introduction

Why record skills?

If you are to succeed in the rapidly changing and increasingly competitive world of employment, skills such as the ability to communicate effectively, team working, problem solving, organisation and management are essential. Scientific research has become increasingly multidisciplinary and the need for effective communication and the ability to plan and work within a team is more important than ever. There are plenty of opportunities to develop existing skills and identify skills gaps during undergraduate study. The trick is awareness and knowing how to identify the numerous opportunities presented to you every day. Developing and recording your skills means that when you graduate you will have the full range of subject-specific skills and the transferable skills that employers look for. This will give you an advantage over others who have not set about this essential preparation for the world of work.

A permanent record of the skills developed will serve as evidence to future employers of your competence in these particular areas and it will help when writing a CV and completing application forms. The Standard Application Form (SAF) has been agreed between all the university and college careers services and the representatives of many graduate employers, and requires information relating to the skills highlighted in the Undergraduate Skills Record (USR). You will find sample extracts from a SAF in the Career Planning Section (page 45). The completed USR will also serve as a launch pad into continuing professional development (CPD), the practice of which is essential to achieve your full potential.

How do I use the Record?

It is important to remember that **YOU** are the major beneficiary of this process of skills recording. This document is your personal record, to record honestly your achievements and development needs. This record consists of a Skills Audit (i.e. a checklist) and a Skills Profile (i.e. a summary).

The **Skills Audit** allows you to carry out a self-assessment of your current skills and to reflect upon and record your ability in important areas. There is a series of statements associated with each particular skill against which you must rate your ability according to the scale given. With each self-assessment you are asked to provide a short statement of evidence to support your rating. It is quite likely that one statement of evidence will support two or more of the ability statements. Throughout the course of your study you will be able to reflect on your ratings, record progress made, and plan your future development.

The Skills Audit is divided into three phases of study. You are advised to complete Phase 1 during the first few weeks of your course, Phase 2 at the halfway point of your studies, and Phase 3 towards the end of your studies. You can select the appropriate timescales to suit the nature and length of your own particular course.

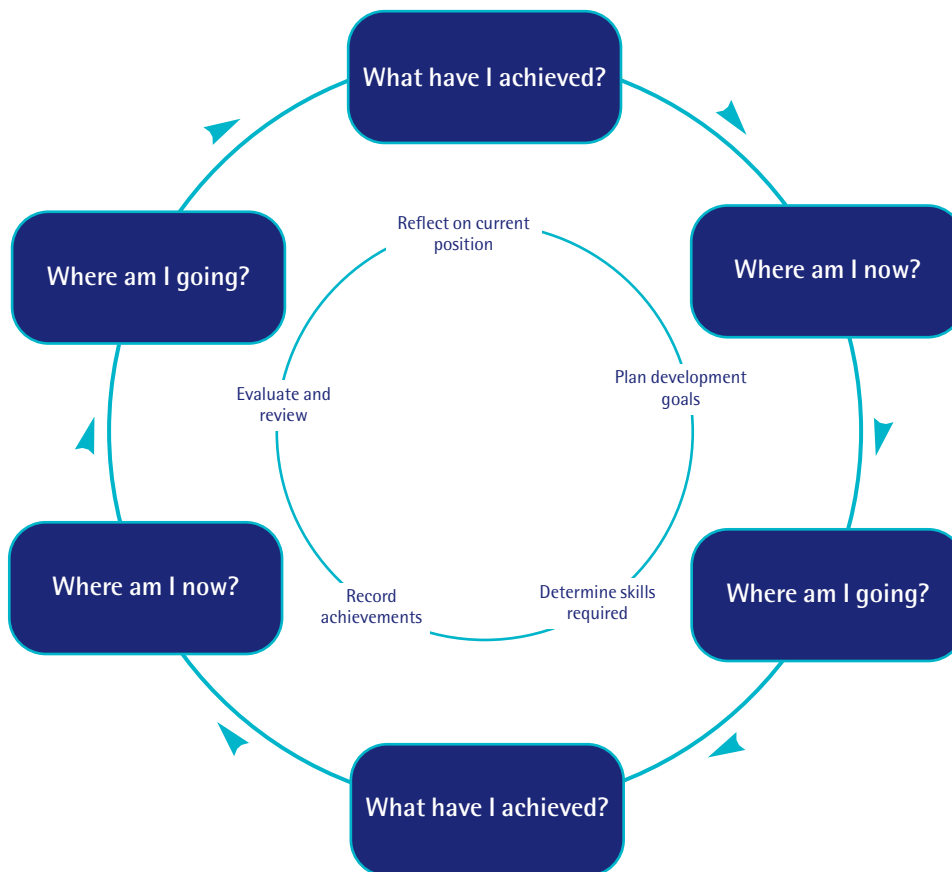
Timescales

Phase 1	4-10 weeks
Phase 2	mid way through studies
Phase 3	end of studies

Of course, you may re-visit your Skills Audit at any time during your course. Your department or personal tutor may help you by setting times for you to complete the different stages of the Record. Additional Skills Audit forms are available to download on the RSC website www.rsc.org/ugskills, and remember, not everything is expected at day one or month one.

The **Skills Profile** is a summary of your skills development and achievements for each particular skill, and should be completed towards the end of your course after reflecting on your development in Phases 1, 2 and 3.

The cycle of skills recording and development





Which skills?

Planning & Organisation	The ability to plan and organise for the long and short term.
Study Skills	The ability to manage and develop strategies and methods of study.
Handling Information	The ability to retrieve, analyse, evaluate and interpret information.
Communication Skills	The ability to communicate in writing and orally to a range of audiences.
Working with Others	The ability to work in a team and to lead that team when necessary.
Scientific & Practical Skills	The ability to carry out practical activities safely and effectively.
Improving Learning & Performance	The ability to identify opportunities for further development.
Information Communication Technology (ICT) Skills	The ability to use electronic media to interpret and present work.
Problem Solving	The ability to apply acquired knowledge and understanding to the solution of chemical and related problems.

How do I develop them?

There will be many opportunities for skills development throughout your degree, however these opportunities are not just confined to formal study. There are many situations within your social life (interests, hobbies, part-time work, voluntary organisation involvement etc.) as well as year-out experiences, whether in industry or abroad, which will contribute significantly to the development of your transferable skills base. It is important to recognise that many everyday tasks and procedures incorporate skills that you have already acquired and will continue to develop and improve, while others add new skills to your repertoire. For that reason it is important to record these skills early in your career and monitor your continuing professional development (CPD) at different stages.

Feedback

Receiving feedback is a valuable exercise; very often others recognise skills and qualities you possess. It is very easy to overlook certain skills yourself, especially if they are practiced on a daily basis. An important aspect of personal development is the ability to receive (and give) constructive feedback, incorporating this into your development plan and targets. It will be useful to invite feedback at different stages of your undergraduate study. Some of the people from whom you could receive feedback are:

- Fellow students
- Personal tutor
- Project supervisor
- Lecturers

It may be appropriate to ask different people to provide feedback for different skills. You are advised to invite feedback after completing each Phase of the Skills Audit. To do this you will find a simple form to complete at the end of the Skills Audit (page 30-32). You may wish to photocopy this and present it to whom-ever you request feedback from. You should incorporate any appropriate feedback into your development plans and targets.

At the end of your course you should have completed your Skills Profile (page 39). You are advised to invite feedback on your Skills Profile using the feedback form on page 42. Again you may wish to photocopy these, to keep the information in your Skills Audit confidential.

Help and advice from the RSC

As a student of the chemical sciences, it is important to gain the recognition of your professional body. The RSC provides a number of services and events, which can help with your personal and scientific development. We deal with many enquiries from student members each year, ranging from general careers advice to helping find industrial and summer work placements, visit the RSC's Student Zone at www.rsc.org/studentzone. Details on what the RSC can do for you, including how to join, can be found throughout this Record.



Personal details

Within this section you are encouraged to include details of club/society membership and any personal achievements and/or positions of responsibility. It is easy to forget this sort of detail, but activities such as these can often demonstrate your ability in a number of skills.

Name

University, Department

Registered Course

Reasons for choosing this course *

Personal Tutor

RSC Affiliate student membership number

Post-16 qualifications

*In the later stages of your study you may find it useful to reflect on your reasons for choosing this course. This is a question frequently asked at interview.

Awards/Bursaries

Prior work experience

Club/society membership

Personal Achievements

Help from the RSC

RSC Student Chemical Society Network

The RSC supports Student Chemical Societies all over the UK and Ireland providing advice and financial help. To find out who the RSC Liaison Officer is at your university see www.rsc.org/lap/rscom/younger/studsocs.htm

If you are interested in starting a Student Chemical Society at your university, contact memprom@rsc.org



Department/Institution induction

This section should be completed in the early stages of your course. It serves as a check point – if you answer No to any of the questions, you should make efforts to find out the relevant information.

General Issues, do you know:

	Y	N
1. Your timetable (including practical classes, tutorials, workshops & seminars)?	<input type="checkbox"/>	<input type="checkbox"/>
2. Who is your personal tutor?	<input type="checkbox"/>	<input type="checkbox"/>
3. Who is the Head of Department?	<input type="checkbox"/>	<input type="checkbox"/>
4. Who to approach if you have academic problems?	<input type="checkbox"/>	<input type="checkbox"/>
5. Who to approach if you have personal/other problems?	<input type="checkbox"/>	<input type="checkbox"/>
6. About ICT provision in your department (including e-mail and internet access)?	<input type="checkbox"/>	<input type="checkbox"/>
7. Where the lecture theatres are?	<input type="checkbox"/>	<input type="checkbox"/>
8. Where the library is and how to use it?	<input type="checkbox"/>	<input type="checkbox"/>
9. What are your recommended course texts?	<input type="checkbox"/>	<input type="checkbox"/>
(see page 9 for details of the RSC members book offer)	<input type="checkbox"/>	<input type="checkbox"/>

Answer Y or N

Safety Issues, do you know about:

	Y	N
1. Emergency evacuation procedures (from lecture theatres and laboratories)?	<input type="checkbox"/>	<input type="checkbox"/>
2. Raising the fire alarm?	<input type="checkbox"/>	<input type="checkbox"/>
3. Health and Safety procedures and guidelines?	<input type="checkbox"/>	<input type="checkbox"/>
4. Provision of chemicals and how to dispose of them?	<input type="checkbox"/>	<input type="checkbox"/>

Answer Y or N

Central Facilities, do you know about:

	Y	N
1. The Student Union?	<input type="checkbox"/>	<input type="checkbox"/>
2. The Student Welfare Office?	<input type="checkbox"/>	<input type="checkbox"/>
3. The Careers Centre/Service?	<input type="checkbox"/>	<input type="checkbox"/>
4. Learning Support Services?	<input type="checkbox"/>	<input type="checkbox"/>

Answer Y or N

Royal Society of Chemistry, do you know about:

	Y	N
1. The help and advice the RSC can offer?	<input type="checkbox"/>	<input type="checkbox"/>
2. How to become a member?	<input type="checkbox"/>	<input type="checkbox"/>

Answer Y or N

Help from the RSC

Massive savings on books for RSC members

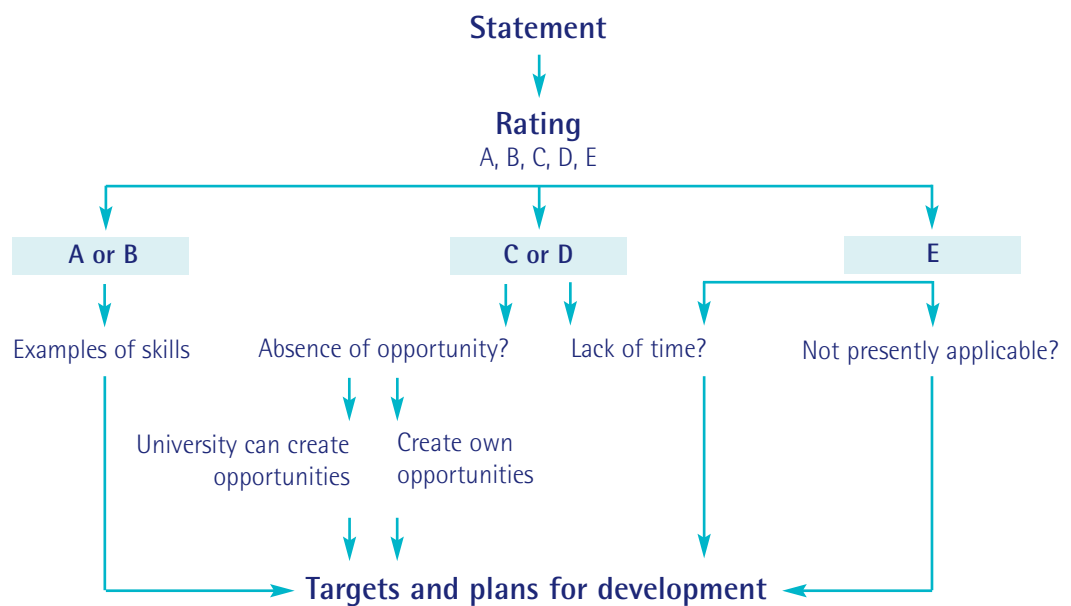
- Save up to 35% off your recommended text books from the RSC, Wiley, Pearson, OUP, RAPRA.
- In your 1st year of membership you will receive a £20 voucher redeemed against £30 of RSC books
- www.rsc.org/members/membbooks.htm



Skills Audit

There are nine categories of skills in the Skills Audit. Rate yourself according to the scale shown for all of the statements in each skill category. The evidence you provide to support your ratings is very important. You will use this evidence to construct your Skills Profile and plan for future development. Remember, it is quite likely that one statement of evidence will support two or more of the ability statements. Throughout the course of your study, you will receive feedback from a number of sources for different course activities. For example if you have to give a presentation or written report you will receive feedback from your tutor or fellow students. You should incorporate this feedback into your development targets. If you require additional space, you can download continuation sheets from www.rsc.org/lap/educatio/ugskills

The following flow chart will help guide you through the process.



Use the following to rate yourself against each of the skills in the Skills Audit:

Ability Ratings

- A** I can use this skill very well
- B** I can use this skill well but some improvements could be made
- C** I need to improve this skill
- D** I need to put in considerable work to develop this skill
- E** I have not had the opportunity to develop this skill



The following example shows that you can use experience from outside your academic course as evidence of your ability in a particular skill. It also indicates how you can incorporate any feedback you receive into your development targets.

Example - Planning & Organisation

www.rsc.org/ugskills

Planning & Organisation

Rate yourself against the following statements of 'My ability to...'

	Phase 1	Phase 2	Phase 3
1. ...plan ahead and demonstrate good time management	B	B	A
2. ...identify targets in my course	D	C	B
3. ...plan for practical and project work	C	C	B
4. ...plan ahead for meetings with lecturers and/or project supervisor	C	B	B
5. ...plan for the next stage of my career	D	C	B

Rating A-E for each statement

How do you rate yourself overall for Planning & Organisation?

	Phase 1	Phase 2	Phase 3
	C	C/B	B

www.rsc.org/ugskills

Provide evidence for your ratings (remember, your evidence need not always be confined to academic study):

phase 1 date: Dec 2002

Note comments, targets and plans, and examples to support your scoring

I have successfully completed tutorial/homework and practical sessions to set deadlines. When I am given the notes for practical sessions I familiarise myself with the experimental procedures before the session. I have made appointments with my lecturers to discuss difficulties I have had with certain course modules.

Remember to invite feedback, incorporating this into your targets for Phase 2

Development Targets for Phase 2 *To organise an appropriate summer work placement, to do this I will need to identify local companies and send an up to date CV. I will concentrate on areas of chemistry which I think I may wish to pursue as a career. I will continue to make meetings with my lecturers, but will do some extra reading around before approaching them with difficulties.*

phase 2 date: March 2004

Note comments, targets and plans, and examples to support your scoring *As the 2nd year representative of the departments chemsoc I helped plan and organise the annual chemistry ball, this involved planning the most effective time to sell tickets to my year. I have improved with planning ahead for meetings with lecturers by reading up on the issues involved allows me to concentrate on aspects of my course which I find the most difficult. My summer placement has helped me to identify better the best optional units to choose for next year.*

Remember to invite feedback, incorporating this into your targets for Phase 3

Development Targets for Phase 2 *To use my lecture notes better. The feedback I have received from my practical sessions suggests that I would have a better understanding if I use my lecture notes to help with my practical write-up.*

phase 3 date: March 2005

Note comments, targets and plans, and examples to support your scoring *I have organised a revision group with my friends, identifying course targets and problem areas which require further work. I use my lecture notes as an aid to my practical session write-ups, this has resulted in an increase in my average mark. I have planned to meet with a career adviser soon, to discuss possible career paths.*

Remember to invite feedback, incorporating this into your targets for the future

Future development targets *To plan an individual revision timetable for my final exams.*

To plan a European trip on a limited budget and hopefully to pick up some additional work experience.

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Ability ratings
 A I can use this skill very well
 B I can use this skill well but some improvements could be made

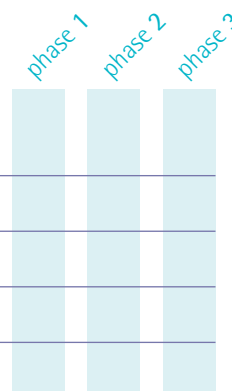
Help from the RSC
 Industrial Placements and Summer Placements on the Members of the RSC can access details of organisations of interest



Planning & Organisation

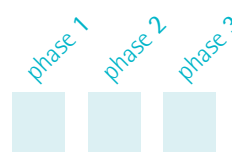
Rate yourself against the following statements of 'My ability to...'

1. ...plan ahead and demonstrate good time management
2. ...identify targets in my course
3. ...plan for practical and project work
4. ...plan ahead for meetings with lecturers and/or project supervisor
5. ...plan for the next stage of my career



Rating A-E for each statement

How do you rate yourself overall for Planning & Organisation?



Example:

1. My ability to plan ahead and demonstrate good time management

B

phase 1

phase 2

phase 3

phase 1

Note comments, targets and plans, and examples to support your scoring

I have successfully completed tutorial/homework and practical assignments to given deadlines.

Remember to invite feedback, incorporating this into your targets for Phase 2

Development Targets for Phase 2

To organise an appropriate summer work placement. To do this I will need to identify appropriate local companies and contact them with an up to date CV.

Ability ratings

A I can use this skill very well

B I can use this skill well but some improvements could be made

C I need to improve this skill

D I need to put in considerable work to develop this skill

E I have not had the opportunity to develop this skill.

Help from the RSC

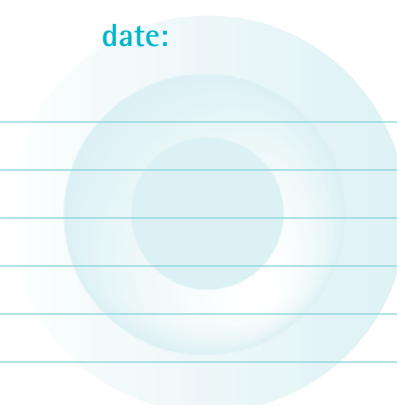
Industrial Placements and Summer Placements on the RSC website:

Members of the RSC can access details of organisations offering year out and summer work placements, www.rsc.org/industrialplacements

Note comments, targets and plans, and evidence to support your scoring
(remember, your evidence need not always be confined to academic study):

phase 1

date:



Development Targets for Phase 2 Remember to invite feedback, incorporating this into your targets for Phase 2

phase 2

date:

Development Targets for Phase 3 Remember to invite feedback, incorporating this into your targets for Phase 3

phase 3

date:

Future development targets Remember to invite feedback, incorporating this into your targets for the future

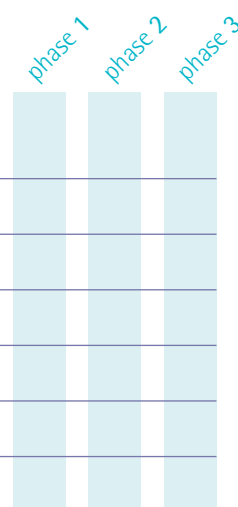


Study Skills

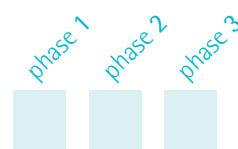
Rate yourself against the following statements of 'My ability to...'

1. ...make, organise, store and find notes effectively
2. ...use lecture time effectively
3. ...make the most of group work, tutorials and practical work to support my understanding
4. ...learn effectively and reflect upon and evaluate the extent of my learning
5. ...think critically and analytically and evaluate arguments
6. ...plan new tasks and assignments
7. ...use good revision and examination techniques

Rating A-E for each statement

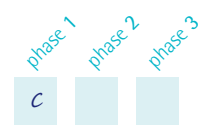


How do you rate yourself overall for Study Skills?



Example:

1. My ability to make, organise, store and find notes effectively



phase 1

Note comments, targets and plans, and examples to support your scoring

I take draft notes during lectures and write them up afterwards.

Remember to invite feedback, incorporating this into your targets for Phase 2

Development Targets for Phase 2

To write up my draft notes at the earliest opportunity and effectively use additional information from text books.

Ability ratings

A I can use this skill very well

B I can use this skill well but some improvements could be made

C I need to improve this skill

D I need to put in considerable work to develop this skill

E I have not had the opportunity to develop this skill.

Help from the RSC [Getting the Message Across, Key Skills for Scientists](#)

This essential reference for degree students and graduates is free to RSC members and gives advice and useful pointers on a range of subjects including: Information Retrieval; Note taking; Keeping a

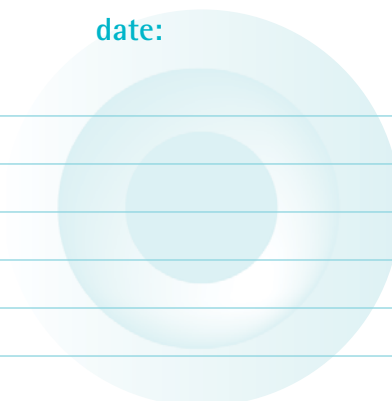
laboratory notebook; Report writing, including scientific papers; Proof-reading; Meetings and networking and Time management. Contact education@rsc.org



Note comments, targets and plans, and evidence to support your scoring (remember, your evidence need not always be confined to academic study):

phase 1

date:



Development Targets for Phase 2 Remember to invite feedback, incorporating this into your targets for Phase 2

phase 2

date:

Development Targets for Phase 3 Remember to invite feedback, incorporating this into your targets for Phase 3

phase 3

date:

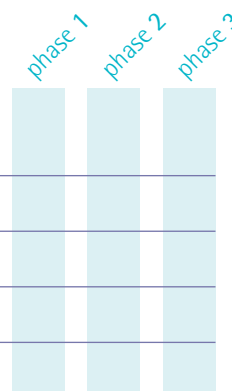
Future development targets Remember to invite feedback, incorporating this into your targets for the future



Handling Information

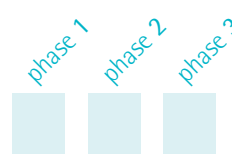
Rate yourself against the following statements of 'My ability to...'

1. ...use safety literature and hazard data (eg COSHH Assessments)
2. ...analyse and evaluate experimental data and interpret laboratory measurements and observations
3. ...evaluate and interpret chemical information (including chemical nomenclature, terminology and units)
4. ...use knowledge in solving problems (including an appreciation of error margins)
5. ...use primary and secondary information sources

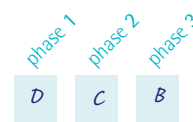


Rating A-E for each statement

How do you rate yourself overall for Handling Information?



1. My ability to use primary and secondary information sources



phase 3

Note comments, targets and plans, and examples to support your scoring

Having understood the initial information given in my research project, I have increased my understanding by retrieving and studying cited material and information sourced from the internet.

Remember to invite feedback, incorporating this into your targets for the future

Future Development Targets

To learn to use Chemical Abstracts and Web of Science more effectively.

Example:

Ability ratings

A I can use this skill very well

B I can use this skill well but some improvements could be made

C I need to improve this skill

D I need to put in considerable work to develop this skill

E I have not had the opportunity to develop this skill.

Help from the RSC

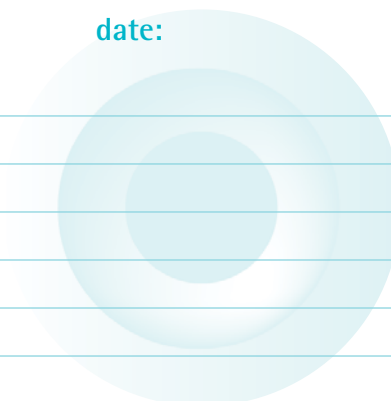
- Library and Information Centre: Extensive collection of books, journals, databases and other electronic products plus the Chemical Enquiry Help Desk.

- Chemistry in Britain: A valuable source of chemistry-related articles, news events and job adverts.
- Websites: www.rsc.org www.chemsoc.org www.rsc.org/lic/library.htm

Note comments, targets and plans, and evidence to support your scoring
(remember, your evidence need not always be confined to academic study):

phase 1

date:



Development Targets for Phase 2 Remember to invite feedback, incorporating this into your targets for Phase 2

phase 2

date:

Development Targets for Phase 3 Remember to invite feedback, incorporating this into your targets for Phase 3

phase 3

date:

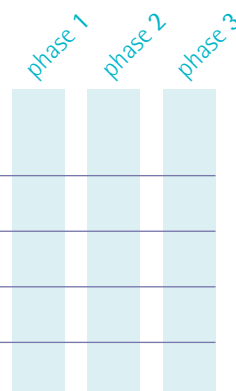
Future development targets Remember to invite feedback, incorporating this into your targets for the future



Communication Skills

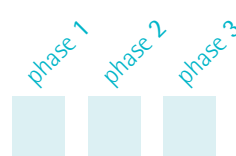
Rate yourself against the following statements of 'My ability to...'

1. ...ask for advice and help from a range of people (fellow students, lecturers, supervisors)
2. ...present ideas coherently to a range of scientific and non-scientific audiences
3. ...maintain good laboratory notes
4. ...provide written reports of my work on time (including essay-type reports on a range of topics)
5. ...plan and present an oral presentation with appropriate visual aids



Rating A-E for each statement

How do you rate yourself overall for Communication Skills?



Example:

1. My ability to present ideas coherently to a range of scientific and non-scientific audiences

phase 1

D

phase 2

phase 3

phase 1

Note comments, targets and plans, and examples to support your scoring

I presented a short piece of work to my tutorial group (Note that this evidence can be used for both statement 2 and 5).

Remember to invite feedback, incorporating this into your targets for Phase 2

Development Targets for Phase 2

Present a piece of work to a larger audience. I require practice and a fuller understanding of the work I am presenting. To do this I will have to prepare earlier and read more around the subject.

Ability ratings

A I can use this skill very well

B I can use this skill well but some improvements could be made

C I need to improve this skill

D I need to put in considerable work to develop this skill

E I have not had the opportunity to develop this skill.

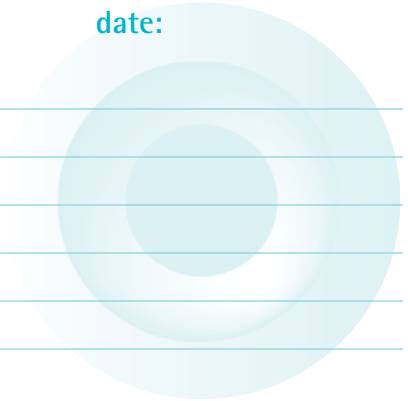
Help from the RSC [Getting the Message Across, Key Skills for Scientists](#)

This essential reference for degree students and graduates is free to RSC members and gives advice and useful pointers on subjects including: *Oral presentations; Preparing a poster.* Contact education@rsc.org

Note comments, targets and plans, and evidence to support your scoring
(remember, your evidence need not always be confined to academic study):

phase 1

date:



Development Targets for Phase 2 Remember to invite feedback, incorporating this into your targets for Phase 2

phase 2

date:

Development Targets for Phase 3 Remember to invite feedback, incorporating this into your targets for Phase 3

phase 3

date:

Future development targets Remember to invite feedback, incorporating this into your targets for the future

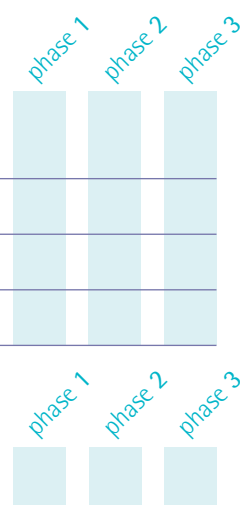


Working with others

Rate yourself against the following statements of 'My ability to...'

1. ...work in groups (eg contributing in labs, tutorials, seminars and workshops)
2. ...assume a number of roles eg team leader, team player
3. ...interact with a range of people to obtain necessary information and assistance
4. ...give and accept constructive criticism

Rating A-E for each statement



How do you rate yourself overall for Working with others?

Example:

1. My ability to work in groups (eg contributing in labs, tutorials, seminars and workshops)

phase 1
B

phase 2

phase 3

phase 1

Note comments, targets and plans, and examples to support your scoring

I contribute effectively in my practical class group, working well with the rest of the team.

Remember to invite feedback, incorporating this into your targets for Phase 2

Development Targets for Phase 2

To make opportunities to lead a team. To contribute effectively to the Chemistry Society Committee as 2nd year representative.

Ability ratings

A I can use this skill very well

B I can use this skill well but some improvements could be made

C I need to improve this skill

D I need to put in considerable work to develop this skill

E I have not had the opportunity to develop this skill.

Help from the RSC

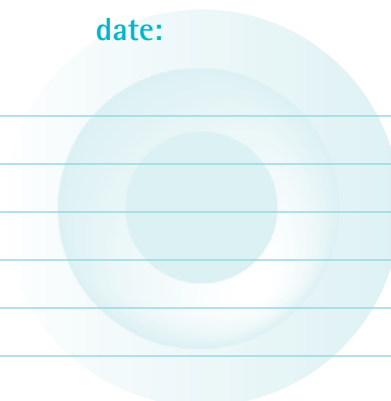
The numerous networks available to RSC members could assist in developing team and leadership skills, for example: Young Members' Network; Student Chemical Society Network; Local Sections; Subject Group meetings



Note comments, targets and plans, and evidence to support your scoring (remember, your evidence need not always be confined to academic study):

phase 1

date:



Development Targets for Phase 2 Remember to invite feedback, incorporating this into your targets for Phase 2

phase 2

date:

Development Targets for Phase 3 Remember to invite feedback, incorporating this into your targets for Phase 3

phase 3

date:

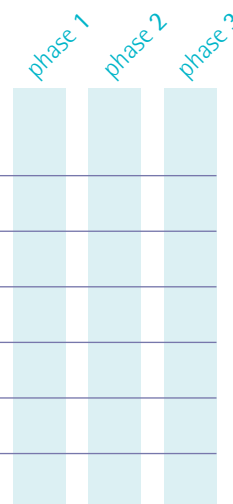
Future development targets Remember to invite feedback, incorporating this into your targets for the future



Scientific/Practical skills

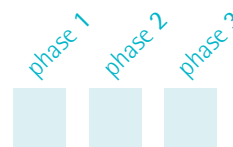
Rate yourself against the following statements of 'My ability to...'

1. ...maintain awareness of the specific hazards relating to the physical and chemical properties of chemicals
2. ...carry out COSHH assessments and handle chemicals safely
3. ...understand the principles behind and processes involved in experiments
4. ...measure and observe chemical events and changes, and record these changes coherently
5. ...understand error margins relating to chemical data and information
6. ...select and use appropriate techniques and procedures for experimental work
7. ...use a range of instrumental techniques

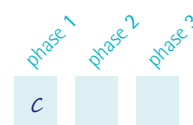


Rating A-E for each statement

How do you rate yourself overall for Planning & Organisation?



1. My ability to carry out COSHH assessments and handle chemicals safely



phase 1

Note comments, targets and plans, and examples to support your scoring

I carry out COSHH assessments for all chemicals before commencing experimental work.

Remember to invite feedback, incorporating this into your targets for Phase 2

Development Targets for Phase 2

To improve my confidence in the assessment of chemical hazards and develop a greater understanding of the potential outcomes.

Example:

Ability ratings

A I can use this skill very well

B I can use this skill well but some improvements could be made

C I need to improve this skill

D I need to put in considerable work to develop this skill

E I have not had the opportunity to develop this skill.

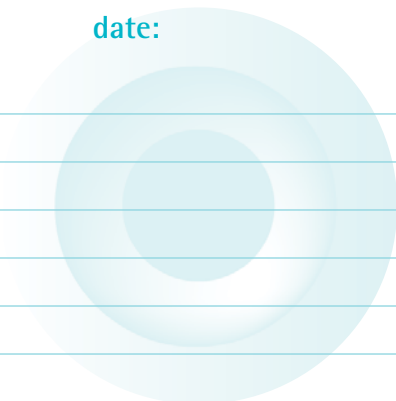
Help from the RSC

The RSC produces a number of publications that can help you to develop your scientific skills. RSC members receive up to 35% off the price of publications, see www.rsc.org/pubcat

Note comments, targets and plans, and evidence to support your scoring
(remember, your evidence need not always be confined to academic study):

phase 1

date:



Development Targets for Phase 2 Remember to invite feedback, incorporating this into your targets for Phase 2

phase 2

date:

Development Targets for Phase 3 Remember to invite feedback, incorporating this into your targets for Phase 3

phase 3

date:

Future development targets Remember to invite feedback, incorporating this into your targets for the future

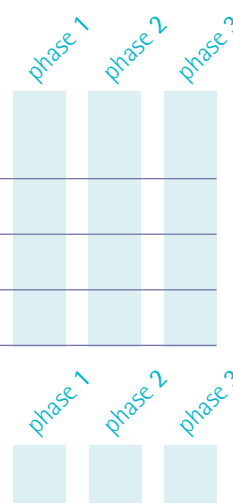


Improving Learning & Performance

Rate yourself against the following statements of 'My ability to...'

1. ...use feedback on work to reflect upon academic performance and progress
2. ...reflect upon and plan for future skills requirements
3. ...identify and create new learning opportunities, drawing on experiences within and outside my course
4. ...maintain an interest in general science issues

Rating A-E for each statement



How do you rate yourself overall for Improving Learning and Performance?

Example:

1. My ability to use feedback on work to reflect upon academic performance and progress

phase 1

Note comments, targets and plans, and examples to support your scoring

I find it difficult to recognise constructive feedback.

Remember to invite feedback, incorporating this into your targets for Phase 2

Development Targets for Phase 2

To learn to recognise and request constructive feedback and to incorporate this into practical work and tutorial assignments.

Ability ratings

A I can use this skill very well

B I can use this skill well but some improvements could be made

C I need to improve this skill

D I need to put in considerable work to develop this skill

E I have not had the opportunity to develop this skill.

RSC Membership benefits

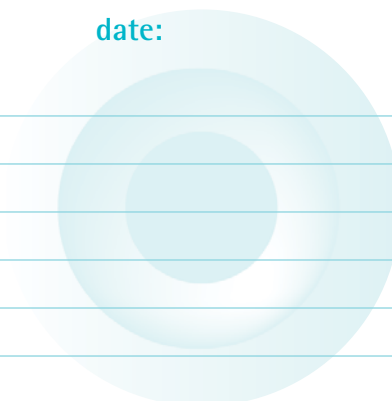
RSC conferences and journals are an invaluable source of information relating to a wide range of subject areas in the chemical sciences. A number of Interest Groups and networks have been set up, visit www.rsc.org for more details.



Note comments, targets and plans, and evidence to support your scoring (remember, your evidence need not always be confined to academic study):

phase 1

date:



Development Targets for Phase 2 Remember to invite feedback, incorporating this into your targets for Phase 2

phase 2

date:

Development Targets for Phase 3 Remember to invite feedback, incorporating this into your targets for Phase 3

phase 3

date:

Future development targets Remember to invite feedback, incorporating this into your targets for the future



Information Communication Technology (ICT) Skills

Rate yourself against the following statements of 'My ability to...'

1. ...use e-mail and the internet for communication

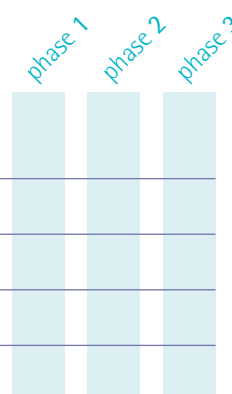
2. ...use electronic information sources (eg library systems, internet sources)

3. ...word process scientific reports effectively

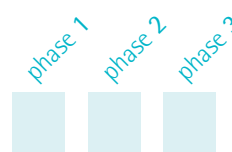
4. ...use computers to prepare presentations

5. ...use data processing methods (e.g. spreadsheets)

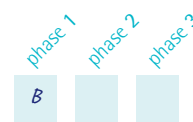
Rating A-E for each statement



How do you rate yourself overall for Information Communication Technology Skills?



1. My ability to use e-mail and the internet for communication



phase 1

Note comments, targets and plans, and examples to support your scoring

I frequently contact friends and fellow students via e-mail, and use the internet as an information source to complete tutorial and homework assignments.

Remember to invite feedback, incorporating this into your targets for Phase 2

Development Targets for Phase 2

To learn how to use HTML to build my own website.

Example:

Ability ratings

A I can use this skill very well

B I can use this skill well but some improvements could be made

C I need to improve this skill

D I need to put in considerable work to develop this skill

E I have not had the opportunity to develop this skill.

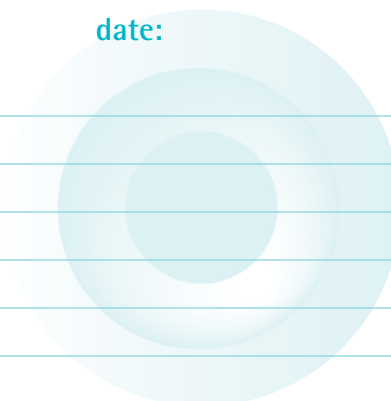
Help from the RSC

Exemplarchem aims to provide a web based platform for the best project work undertaken by students studying chemical science courses. The awards include a prize of £500 for the overall winner and other prizes of £250. See www.chemsoc.org/Exemplarchem

Note comments, targets and plans, and evidence to support your scoring
(remember, your evidence need not always be confined to academic study):

phase 1

date:



Development Targets for Phase 2 Remember to invite feedback, incorporating this into your targets for Phase 2

phase 2

date:

Development Targets for Phase 3 Remember to invite feedback, incorporating this into your targets for Phase 3

phase 3

date:

Future development targets Remember to invite feedback, incorporating this into your targets for the future



Problem Solving

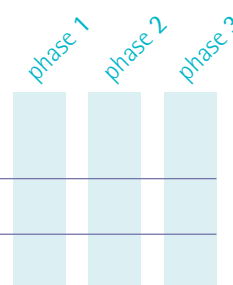
Rate yourself against the following statements of 'My ability to...'

1. ...apply acquired knowledge and understanding to the solution of chemical and related problems

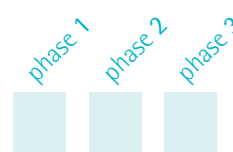
2. ...suggest ideas/solutions in the absence of complete data

3. ...work from first principles

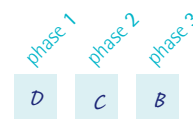
Rating A-E for each statement



How do you rate yourself overall for Problem Solving Skills?



1. My ability to apply acquired knowledge and understanding to the solution of chemical and related problems



phase 3

Note comments, targets and plans, and examples to support your scoring

I recognise the close relationship between the subjects taught in Module X and Module Y, and have applied knowledge to enhance my understanding of both subjects.

Remember to invite feedback, incorporating this into your targets for the future

Future Development Targets

To be accepted onto a PhD programme, and continue my improvement in problem solving.

Example:

Ability ratings

A I can use this skill very well

B I can use this skill well but some improvements could be made

C I need to improve this skill

D I need to put in considerable work to develop this skill

E I have not had the opportunity to develop this skill.

RSC Membership benefits [Tutorial Chemistry Texts \(TCT\)](#)

This new series of books consists of short, single-topic or modular texts, concentrating on the fundamental areas of chemistry taught in undergraduate science courses. Each book provides a concise account of the basic principles underlying a given subject, embodying an independent-learning philosophy and including worked examples. Students will be able to assess their understanding through use of exam-style questions, which include answers.

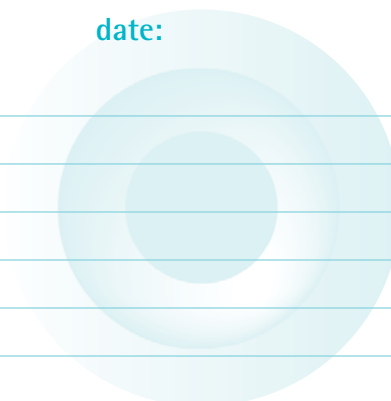
As a student member of the RSC, you receive a £20 voucher that can be redeemed against the purchase of £30 worth of selected texts, including all in the TCT series.



Note comments, targets and plans, and evidence to support your scoring (remember, your evidence need not always be confined to academic study):

phase 1

date:



Development Targets for Phase 2 Remember to invite feedback, incorporating this into your targets for Phase 2

phase 2

date:

Development Targets for Phase 3 Remember to invite feedback, incorporating this into your targets for Phase 3

phase 3

date:

Future development targets Remember to invite feedback, incorporating this into your targets for the future



Feedback – Skills Audit

Throughout the course of your study you will receive feedback on a number of issues, from a number of sources. You should record this feedback as well as the feedback you invite after completing each Phase of the Skills Audit on the following forms. Incorporate any feedback you receive into your development plans and targets.

You may wish to photocopy the forms if you request feedback from a number of sources.

Phase 1

Skill	Overall rating phase 1
Planning & Organisation	
Study Skills	
Handling Information	
Communication Skills	
Working with Others	
Scientific & Practical Skills	
Improving Learning & Performance	
Information Communication Technology	
Problem Solving	

Feedback Comments



Feedback – Skills Audit

Remember to include feedback from ongoing activities in your course, as well as feedback received from any activities outside of university.

Phase 3

Skill	Overall rating phase 3
Planning & Organisation	
Study Skills	
Handling Information	
Communication Skills	
Working with Others	
Scientific & Practical Skills	
Improving Learning & Performance	
Information Communication Technology	
Problem Solving	

Feedback Comments

Project work

During your course, you may carry out one or more research projects. You may also have gained valuable project work practice during periods of work experience. You should draw on the experiences of all project work when recording your achievement and planning future development in this area.

Understanding the aims of your project and identifying the specific techniques you need to apply at the early stages are fundamental to the success of your research project.

Title of Project (1)

Aims of Project

Title of Project (2)

Aims of Project



What techniques are you applying to your project?

– eg analytical techniques, synthetic chemistry, instrumental techniques, molecular modelling.

To record your development you may find it helpful to separate your period of research into three stages.

For example, for a 6-month project:

Stage	Timescale
1	2 months
2	4 months
3	6 months

Rate your proficiency in each of the techniques at the different stages of your project.
Regular high competency user; Competent user; Familiar with method; Rare user.

Example:

Stage 1	
Technique	Proficiency
<i>Assembling apparatus in inert atmosphere</i>	<i>Competent user</i>
<i>NMR Analysis</i>	<i>Rare user</i>
<i>Infra-red spectroscopy</i>	<i>Familiar with method</i>

Stage 2	
Technique	Proficiency
<i>Assembling apparatus in inert atmosphere</i>	<i>Regular high competency</i>
<i>NMR Analysis</i>	<i>Familiar with method</i>
<i>Infra-red spectroscopy</i>	<i>Familiar with method</i>
<i>Surface area measurements (BET)</i>	<i>Rare user</i>

Stage 3	
Technique	Proficiency
<i>Assembling apparatus in inert atmosphere</i>	<i>Regular high competency</i>
<i>NMR Analysis</i>	<i>Familiar with method</i>
<i>Infra red spectroscopy</i>	<i>Competent user</i>
<i>Surface area measurements (BET)</i>	<i>Competent user</i>
<i>Molecular modelling</i>	<i>Familiar with method</i>

Rate your proficiency in each of the techniques, and provide evidence to support your rating.
If you require additional space, you can download continuation sheets from www.rsc.org/ugskills

Stage 1

Technique

Proficiency

Stage 2

Technique

Proficiency

Stage 3

Technique

Proficiency



Set targets for your project, and review your comments at each stage.

Targets at stage 1 - to be completed in stage 2

Targets at stage 2 - to be completed in stage 3

Stage 3 - Identify the areas of success in your project. What could you have done better and what would you have done differently?

Skills Profile

From your Skills Audit, you can generate a Skills Profile. Your Profile should not simply be a list of dates and events, but more a brief summary of your achievements for each particular skill.

Your Skills Profile provides benefits in a number of ways, including:

Applying for employment

You can use your Skills Profile as an aid to completing application forms and constructing your CV. Remember to highlight the skills that are most appropriate to the position for which you are applying.

A Skills Profile should clearly set out the skills and abilities you have to date, ie those that you have identified in the Skills Audit and the Project Work sections. In short, your Skills Profile should address the following:

- What skills do I have?
- What can I do?

Using the different categories in the Skills Audit, generate your Skills Profile. Under each heading provide a brief statement of your ability in this area and provide an example of evidence. Lists of positive and action words are provided; you may wish to use some of these in your Skills Profile. You should also summarise your future development targets in the space provided.

1. Complete your Skills Audit (Phases 1, 2 & 3)
2. Summarise information for your Skills Profile
3. Summarise your future development targets

You are encouraged to invite feedback from a range of sources on your Skills Profile. You may choose for the Record itself to be for your own personal viewing. We would therefore advise you to photocopy your completed Skills Profile and present it with the feedback form to the appropriate person/people.



Action words

Achieve	Administer
Analyse	Articulate
Build	Communicate
Control	Co-ordinate
Create	Design
Determine	Develop
Direct	Engineer
Establish	Expand
Guide	Implement
Improve	Initiate
Lead	Manage
Monitor	Organise
Participate	Process
Qualify	Repair
Specialise	Supervise
Train	

Positive words

Ambitious	Assertive
Capable	Competent
Competitive	Confident
Consistent	Economic
Effective	Efficient
Enthusiastic	Experience
Innovative	Positive
Productive	Proficient
Profitable	Resourceful
Successful	Versatile

Example:

Planning and organisation

I can organise my time effectively, and have the ability to analyse situations to plan ahead for a positive outcome. I can manage assignments and projects, identifying targets in my work as well as identifying the development required to achieve the desired goals.

Target(s)

To gain experience in managing a larger project, including project design and proposals.

Skills Profile

Name:

Date:

Remember, if you prefer the Record to be for your own personal viewing, photocopy your completed Skills Profile and present it with a copy of the feedback form (page 42) to the appropriate person/people.

Planning & Organisation

Target(s)

Study Skills

Target(s)

Communication Skills

Target(s)



Handling Information

Target(s)

Working with Others

Target(s)

Scientific/Practical Skills

Target(s)

Improving Learning & Performance

Target(s)

Information Communication Technology (ICT)

Target(s)

Problem Solving

Target(s)

Remember to invite feedback on your Skills Profile using the Feedback form on page 42.



Skills Profile Feedback

Name:

Date:

Present this feedback form to a suitable person(s) with a copy of your Skills Profile. You may find it useful to ask for feedback from a range of people. They should state their relationship to you (ie personal tutor, project supervisor, fellow student etc.) in the space provided.

Skill: Planning & Organisation

Relationship:

Date:

Skill: Study Skills

Relationship:

Date:

Skill: Handling Information

Relationship:

Date:



Skill: Communication Skills

Relationship:

Date:

Skill: Working with Others

Relationship:

Date:

Skill: Scientific/Practical Skills

Relationship:

Date:



Skill: Improving Learning & Performance

Relationship:

Date:

Skill: Information Communication Technology (ICT)

Relationship:

Date:

Skill: Problem Solving

Relationship:

Date:

Career Planning

Possession of a degree is far more common than it was some years ago, and competition for jobs is fiercer than ever. A wide range of career choices are open to you; with greater options it is important to plan for your career aspirations at the earliest opportunity. Being able to follow your chosen career comes more easily to those who are prepared, proactive and motivated. There are a number of steps to take when preparing for further study or employment. Consider the following.

- Have you discussed your career aspirations with the University Careers Service?
- Have you discussed your career with staff in your department?
- Do you have the skills profile for your chosen career?
- Do you have an up to date CV?
- Have you filled in practice application forms?
- Have you had a practice interview?
- Have you taken an aptitude test?

The RSC publication *Got a Degree? What next...* gives you an indication of the opportunities that are available to graduates of the chemical sciences within the chemical and pharmaceutical industries as well as in other fields of employment. There are sections on job hunting and guidelines for writing your Curriculum Vitae (CV) and on interview preparation. There is also some information about membership of the RSC and how to become a Chartered Chemist (CCChem) - the professional qualification for all chemists. This publication is available free to RSC members in hard copy and online at www.rsc.org/members/gotadegree.htm

Standard Application Form

The Standard Application Form (SAF) has been agreed between all the university and college careers services and the representatives of many graduate employers. As well as sections on Personal Details, Education and Work Experience, the SAF requires you to provide evidence of specific skills and abilities. Overleaf are extracts from the SAF*, completed using example evidence submitted for the Undergraduate Skills Record.



Planning, implementation and achieving results:

Describe a challenging project, activity or event which you have planned and taken through to a conclusion. Include your objective, what you did, any changes you made to your plan and state how you measured your success.

At the end of my second year I planned to spend three months in a chemical company on work experience. My objective was to arrange a short placement which would provide me with some practical project experience. After researching the business areas of a number of organisations, I wrote to those that performed the type of chemistry I am interested in, stating my requirements as being a three-month project to work on. My first applications were addressed broadly to 'Research and Development'. After a disappointing response I visited the websites of each company and where possible, targeted my application to named personnel. I was offered an interview at 2 of the companies. After talking at length with scientists from both companies, I was offered a paid 3-month placement at HowesMed. I was required to write a report on the project work I was involved with, and received very positive feedback from my project manager and team. On returning to my final year of studies, I felt more confident in the laboratory and my report writing skills had improved.

Influencing, communication and teamwork:

Describe how you have achieved a goal through the actions or opinions of others (perhaps in a team context).

What were the circumstances? What did you do to make a difference? How do you know the result was satisfactory?

As part of my chemistry communications module I had to give a 15-minute presentation on one aspect of the chemical sciences. I worked in a group of two people and had to present to the year group of 45 students and staff. During small practice presentations we invited feedback from a number of different people, both staff and fellow students, and incorporated the feedback into subsequent talks. The presentation was graded as 8/10 and formed part of my overall marks for the module.

* Extracts from SAF reproduced with the permission of AGCAS (Association of Graduate Careers Advisory Service)

Responding to Job Advertisements

When you are ready to apply for positions, consider the advert carefully. You will be able to use some of the evidence submitted in your Skills Record to demonstrate that you have the qualities and abilities required for that particular position. Below is an example of an advertised graduate level position, with suggestions of how to use extracts from your skills record effectively.

OPPORTUNITIES FOR GRADUATES

HowesMed Associates, a leading organisation in science innovation, are looking to recruit top level graduates with well developed skills.

You will be a good communicator with excellent organisational skills as well as the ability to work in a high-pressured environment with a range of people. You will be flexible, self-motivated, quick to learn and keen to achieve project goals.

If you can demonstrate these qualities, please send your CV or SAF and covering letter to Dr Deborah Lang, HowesMed Associates, PO Box W1, London

Use extracts from your Skills Profile to demonstrate your communication skills

Use extracts from your Skills Profile to demonstrate your ability to work with others

Use extracts from your Skills Profile to demonstrate your planning & organisation skills

Use extracts from your Skills Audit and Project Work sections to demonstrate ability to set and meet targets

There are a number of publications available which advertise job opportunities, many from your University Careers Service. They include:

- *Prospects*
- *Prospects Today*
- *GO* (Graduate Opportunities)
- *GET* (Graduate Employment and Training)

As well as the reference publications, there are a number of other publications that detail job advertisements for chemists (both in the chemical sciences and non-science areas). These include:

- | | |
|---|---|
| <ul style="list-style-type: none"> • www.chemsoc.org/careers/careers.htm • <i>Chemistry in Britain</i> (monthly to RSC members) • <i>New Scientist</i> (weekly) • <i>Nature</i> (weekly) • <i>Chemistry & Industry</i> (fortnightly) • <i>Chemical & Engineering News</i> (weekly) • <i>The Daily Telegraph</i> | <ul style="list-style-type: none"> • <i>The Guardian</i> • <i>The Independent</i> • <i>The Sunday Times</i> • <i>The Times</i> • <i>The Observer</i> • <i>The Times Higher Education Supplement</i> • Local Newspapers |
|---|---|

Your University Careers Service should be able to help and advise you on many of these issues. Often the first step is booking an appointment with a career adviser.

The Royal Society of Chemistry also offers careers advice; contact education@rsc.org



Affiliate Student Membership of the Royal Society of Chemistry

The RSC is a membership organisation supporting the interests of 46,000 chemical scientists worldwide, with over 5,000 undergraduate student members throughout the UK and Ireland. Over 98% of RSC student members go into employment or further education. Our members and activities are at the forefront of developments in chemical biology, material science, nanotechnology and environmental science as well as the core areas of chemistry.

We recognise the importance of continuing professional development and are committed to helping you throughout your career. Our Chartered Chemist designation, CChem, represents the highest level of professional achievement for those who practise chemistry.

Benefits of Affiliate Student Membership

Throughout the Undergraduate Skills Record there are examples of how the RSC can help you during your studies. As a student member you will have access to:

- up to 35% off text books and journals
- expert careers advice
- special events for younger members
- one of the largest collections of chemical science information in the world
- an interactive version of the USR

You will also receive

- A free copy of our job-search guide, *Got a degree? What next...*
- The essential reference booklet *Getting the message across – key skills for scientists*
- A voucher for **£20** off selected RSC books
- a monthly magazine for keeping you up to date with what's going on in the world of chemical science – covering everything from job adverts to news reports and feature articles

How to join

To join and take advantage of the special benefits to members:

Visit: www.rsc.org/members/memindex.htm

Tel: +44 (0) 1223 432267

Email: memprom@rsc.org

Notes



Notes

For further information on educational activities undertaken by the Royal Society of Chemistry, please contact the Education Department:

Royal Society of Chemistry
Burlington House
Piccadilly
London
W1J 0BA

Tel: 020 7437 3344
Fax: 020 7287 9825
Email: education@rsc.org

www.rsc.org and www.chemsoc.org

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