



School of CHEMISTRY

MSc Drug Chemistry
Degree Programme
Handbook

Academic Year 2011-2012

A large print version of this Handbook is available

This Handbook contains information about the MSc Drug Chemistry degree programme available in the School of Chemistry. It also provides details about the facilities, points of contact for help and advice, and other essential information.

The Introduction should be read first and prior to registration: other sections should be referred to as appropriate. The Handbook should be used as a primary source of information throughout the year.

The Handbook was accurate at the time of going to press, but it may become necessary to make certain changes to the modules on offer, and to their content and assessment, during the year. Such changes will be posted the stage notice boards outside the school office, on the second floor Bedson Building Room BEDB.2.36. It should be noted that there might be variation in the range of learning opportunities reflecting the availability of staff to teach them. While every effort will be made to ensure that the modules described in this Handbook are available, this cannot be guaranteed.

Dr C Bleasdale welcomes suggestions for improvements to the Handbook.

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Welcome

On behalf of all the staff in the School of Chemistry we would like to welcome you to this MSc course at Newcastle University. We hope that your stay will be a happy one, and at the end you emerge with an MSc degree that will enable you to be successful in your chosen career. If during your stay you encounter any difficulties please feel free to come and talk to me or Dr Mike Hall (arrange an appointment with Claire Nicoll) to discuss and hopefully resolve problems as they arise.

There is a welcome meeting for all new students on Monday 26 September at 11am in the Faraday Room, 1st Floor Bedson Building.

All students will be asked to register on their programme of study and update their personal details using the new on-line system. Full instructions on how to register online have been sent to your University e-mail address.

You will still need to come to the School for Welcome Week (Monday 26 September to Friday 30 September), to meet with your tutor, confirm your module choices, and to take part in the induction activities specific to your degree programme. **Please note that you must see your personal tutor before completing module choices.**

Everyone should consult the Notice Boards (in the corridor outside the School Office) frequently; pigeon holes are provided (same corridor) for student mail and messages and these should be checked daily. Students should also check their e-mail at frequent intervals during term.

Dr Christine Bleasdale
Degree Programme Director

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Tel : +44 191 222 7321

Chemistry at Newcastle

The School of Chemistry is an ideal setting for the Drug Chemistry degree as its research strengths include those areas relevant to the programme, as well as including strong links to industry.

Chemistry has a long tradition in basic and applied scientific research. It has about 20 staff engaged in research and a full complement of technical support personnel. Around one quarter of staff have been recruited within the past 5 years, and there is a firm determination to excel in both research and teaching. There are about 75 postgraduate research workers and a number of visiting professors. Its environment is well equipped for undertaking research at the highest level, encourages collaborations between research groups and hosts a thriving seminar programme.

Academic Year 2011 – 2012

Autumn Term: Monday 26 Sept 2011 – Friday 16 Dec 2011

Spring Term: Monday 9 Jan 2012 – Friday 16 Mar 2012

Summer Term: Monday 16 Apr 2012 – Friday 15 June 2012

Semester 1 Monday 26 September 2011 – Friday 27 January 2012

Semester 2 Monday 30 January 2012 – Friday 15 June 2012

Semester 3: Monday 18 June 2012 – Friday 31 August 2012

Examination Dates

Semester 1: Monday 16 January 2012 – Friday 27 January 2012
(including Saturday 21 January)

Semester 2: Monday 21 May 2012 – Friday 8 June 2012
(including Saturday 26 May and Saturday 2 June)

Resit Period: Monday 30 July 2012 – Friday 10 August 2012
(May be subject to change)

Examination Dates are available at:

<http://www.ncl.ac.uk/students/progress/exams/exams/ExaminationDates.htm>

CHEMISTRY STAFF
with particular responsibilities

Head of the School of Chemistry	Professor MJ Green
Director of Teaching and Learning	Dr C Bleasdale
Chair of the Board of Studies and Degree Programme Director	
Assistant Degree Programme Director	Dr MJ Hall
Secretary of the Board of Studies	Mrs J Lakey
Chair of the Board of Examiners	Dr DA Fulton
Secretary of the Board of Examiners	Miss S Lamb
Chair of Staff-Student Committee	Student Representative
Safety Officer	Mr A Crawford
Local RSC Representative	Dr P Hoare
First Aiders	Mr J Dyson Mrs I Lamb Miss S Lamb Dr Z McMillan Miss H Mann

CHEMISTRY STAFF

full list of teaching staff

Academic staff	Room number	Email address	Telephone extension
Dr U Baisch	3.45	ulrich.baisch@ncl.ac.uk	8507
Professor AC Benniston	3.48	andrew.benniston@ncl.ac.uk	5706
Dr C Bleasdale	2.32	christine.bleasdale@ncl.ac.uk	7070
Dr C Cano	3.52	celine.cano@ncl.ac.uk	7060
Dr MA Carroll	3.03	michael.carroll@ncl.ac.uk	7074
Dr S Doherty	1.22	simon.doherty@ncl.ac.uk	6537
Dr RJ Errington	1.17	john.errington@ncl.ac.uk	6643
Dr DA Fulton	2.42	david.fulton@ncl.ac.uk	7065
Professor BT Golding	3.34	bernard.golding@ncl.ac.uk	6647
Professor MJ Green	2.28	mike.green@ncl.ac.uk	6786
Professor RJ Griffin	3.58	roger.griffin@ncl.ac.uk	8591
Dr JP Hagon	2.27	jerry.hagon@ncl.ac.uk	7380
Dr MJ Hall	G.12	michael.hall@ncl.ac.uk	7321
Dr IR Hardcastle	3.25	ian.hardcastle@ncl.ac.uk	6645
Professor A Harriman	G.11	anthony.harriman@ncl.ac.uk	8660
Professor RA Henderson	1.06	richard.henderson@ncl.ac.uk	6636
Dr LJ Higham	3.40	lee.higham@ncl.ac.uk	5542
Dr BR Horrocks	2.52	ben.horrocks@ncl.ac.uk	5619
Professor A Houlton	2.53	andrew.houlton@ncl.ac.uk	6262
Dr KJ Izod	1.25	keith.izod@ncl.ac.uk	7101
Dr JG Knight	3.14	julian.knight@ncl.ac.uk	7068
Dr Z McMillan	2.18	zuleykha.mcmillan@ncl.ac.uk	6924
Professor M North	1.10	michael.north@ncl.ac.uk	7128
Dr AR Pike	2.50	andrew.pike@ncl.ac.uk	7061
Dr EM Tuite	2.44	eimer.tuite@ncl.ac.uk	5523
Staff in other schools who contribute to chemistry modules			
Dr PR Briddon	Merz Court	patrick.briddon@ncl.ac.uk	7348
Dr JP Goss	Merz Court	jonathan.goss@ncl.ac.uk	7425
School Administrator			
Miss S Lamb	2.36	samantha.lamb@ncl.ac.uk	7110
Personal Assistant to Head of School			
Mrs I Lamb	2.31	isobel.lamb@ncl.ac.uk	7102
Clerical Officer			
Mrs C Nicoll	2.36	claire.nicoll@ncl.ac.uk	7287
Clerical Assistants			
Miss M Douglas	2.36	margaret.douglas@ncl.ac.uk	7069
Mrs S Reay	2.36	susan.reay@ncl.ac.uk	7055
Mrs J Lakey	2.36	joanne.jameson@ncl.ac.uk	7122

Financial Assistant

Mrs J Rolfe	2.31	janny.rolfe@ncl.ac.uk	8806
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Manager of Technical Services and School Safety Officer

Mr A Crawford	2.33a	andrew.crawford@ncl.ac.uk	7080
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Technical Staff

Miss H Bowden	Synthetic Teaching Laboratory		7078
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Mr J Dyson	Synthetic Teaching Laboratory		7078
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Mrs H Mann	Synthetic Teaching Laboratory		7078
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Mr B Wailes	Synthetic Teaching Laboratory		7078
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The University telephone number is 0191 222 6000.

COMMITTEES, PERSONAL TUTORS THE BEDSON BUILDING, ETHICS

Committees

The Head of School is responsible for all activities within the School. In addition, there are committees which have been set up to facilitate the smooth running of teaching matters.

Board of Studies

Membership of this board includes academic staff involved in teaching chemistry modules, staff from other subjects who contribute to the programmes, plus student representatives. Meetings are chaired by the Director of Teaching and Learning (Dr Bleasdale).

Board of Examiners

Membership of this board includes academic staff involved in examining chemistry modules, staff from other subjects who contribute to the programmes, plus an external examiner from another university. The meetings of this Board are chaired by Dr DA Fulton.

School Teaching, Learning and Student Experience Committee (STLSEC)

Membership of this committee includes the School's Director of Teaching and Learning (Chair), the Degree Programme Director, Admission Tutor and other key School members. The committee meets on a monthly basis and reports to the School's Management Committee.

Staff-Student Committee

Membership of this committee includes a student chairperson, student secretary and a named staff facilitator. This includes both undergraduate and MSc student representatives. This committee meets twice each semester. Any student may submit items to the Chair or through student or staff representatives. The minutes of the meetings are considered by the Board of Studies (or other committees) and action agreed where appropriate. The minutes and the response from the Board of Studies are subsequently posted on the notice board. Training for this committee is provided by the Union Society.

You Said, We Did

This website provides evidence of how the University listens to and acts on suggestions to improve the student Experience. <http://www.ncl.ac.uk/students/yousaidwedid/>

Personal tutors

Each student is assigned a personal tutor who is a member of the Chemistry academic staff.

The role of the tutor is to help and advise his/her tutees as necessary. **Students must see their personal tutor at the start of each semester and at such other times as the tutor may require.** He/she can be consulted at other times: it is advisable to arrange an appointment (eg by e-mail) if possible. Students should talk to his/her tutor about difficulties that may affect their studies or well-being. If the tutor is unavailable the degree programme director or other staff should be consulted.

Students should seek advice from their tutor if they are considering changing modules or degree programme, or if they need to apply for a 'Concession' (see Assessment).

Students should obtain examination results from their tutor.

Tutors will be informed of student absenteeism from staff within Chemistry and outside schools as appropriate, and will follow-up and keep records of such reports. It is therefore essential that students inform their tutor as soon as is reasonable in the event of teaching sessions being missed due to illness or other reasons.

Personal tutors are key points of contact for those outside the University (potential employers, local education authorities etc) and University staff (from the Student Office, halls of residence, academic schools, etc) who have legitimate cause to enquire about a particular student.

Students who feel it necessary to change their tutor should see the Director of Teaching and Learning (Dr C Bleasdale).

The Bedson Building

The Bedson Building houses Chemistry and other subjects. Chemistry students are expected to enter and leave the Building by the Main Entrance.

Smoking

Smoking is not permitted in any University premises or grounds at any time, by any person regardless of their status or business in the University.

Ethics

Students who are concerned about any ethical considerations whilst studying at Newcastle should see their Degree Programme Director.

Peer Observation

The University is fully committed to the provision of first class teaching and learning experiences to all students. The School has an annual procedure whereby all members of academic staff are observed by their peers. Academic staff are observed during one lecture session with the observer completing a review and supplying it to the Head of School and Director of Teaching and Learning. The Board of Studies approves the observer/observee document which is below for reference.

Peer Observation Schedule 2011-12

Observee	Observer
Dr Ulrich Baisch	Dr IR Hardcastle
Dr AC Benniston	Dr AR Pike
Dr C Bleasdale	Dr LJ Higham
Dr C Cano	Dr S Doherty
Dr MA Carroll	Prof RA Henderson
Dr S Doherty	Prof A Harriman
Dr RJ Errington	Prof M North
Dr DA Fulton	Dr EM Tuite
Professor BT Golding	Prof MJ Green
Professor MJ Green	Prof RJ Griffin
Professor RJ Griffin	Dr KJ Izod
Dr JP Hagon	Dr MA Carroll
Dr MJ Hall	Dr AC Benniston
Dr IR Hardcastle	Dr JP Hagon
Professor A Harriman	Dr JG Knight
Professor RA Henderson	Prof BT Golding
Dr LJ Higham	Dr BR Horrocks
Dr BR Horrocks	Dr DA Fulton
Professor A Houlton	Dr U Baisch
Dr KJ Izod	Dr C Cano
Dr JG Knight	Dr RJ Errington
Professor M North	Prof A Houlton
Dr AR Pike	Dr MJ Hall
Dr EM Tuite	Dr C Bleasdale

The actual modules observed will be confirmed at a later date.

COMPLAINTS, HELP, FINANCIAL SUPPORT, PROVISION FOR DISABLED STUDENTS, NU:KEM

Complaints

In addition to the Staff-Student Committee, students may take up complaints or grievances with the Director of Teaching and Learning (Dr C Bleasdale) regarding teaching matters or the Head of School (Professor Mike Green).

University Student Complaints Procedure

<http://www.ncl.ac.uk/students/progress/student-resources/regulations/complaints.htm>

University Student Academic Appeals Procedure

<http://www.ncl.ac.uk/students/progress/student-resources/regulations/appeals.htm>

Help

Students requiring help or advice on any matter are advised to consult their personal tutor in the first instance. Other members of Chemistry staff may be able to help if the tutor is not available. Personnel in the School Office can be contacted on 0191 222 7287 or 0191 222 7069; they will be able to assist in identifying appropriate staff to help. For additional points of contact see pages 45 of this handbook.

Student Financial Support Schemes

Posters on the student notice boards outline the financial support schemes that are in operation at the University. Further information can be found at the University's Welfare website at: <http://www.ncl.ac.uk/students/wellbeing/finance/advice/>

Provision for Disabled Students

The University has a Disability Unit which is a centre offering advice, guidance and support for students with disabilities and specific learning difficulties (eg Dyslexia). The unit is headed by the Disability Officer and has a Dyslexia Adviser, Co-ordinator for deaf students and a Technical Support Adviser. The unit has a technical resources room with specialist equipment for the use of students and for assessment purposes. The Disability Unit also provides advice and guidance to all university staff to promote effective disability awareness and support for students. The government provides funds for disabled students through the Disabled Students' Allowance to assist students who, because of their disability, incur extra costs. Advice and help on all aspects of claiming Disabled Students' Allowance can be obtained from the Disability Unit. The University has special examination arrangement for students with disabilities. Further information on provision for students with disabilities can be found in the University's Disability Statement which can be obtained from Anne Scott (Disability Advisor), Kings Gate, telephone 0191 208 3333 or e-mail anne.scott@ncl.ac.uk or on the website: <http://www.ncl.ac.uk/students/wellbeing/disability-support/index.htm>. If in doubt seek advice from Dr Bleasdale or Professor Henderson.

Nu:Kem

Students run their own chemical society 'Nu:Kem'. This society organises seminars and social and sports activities. There are representatives from undergraduates and postgraduates on the Nu:Kem committee; for further enquiries see Dr KJ Izod, or refer to the notice board outside the School Office.

Safety

The overall responsibility for safety within the School lies with the Head of School. The day to day administration of safety matters is attended to by the School Safety Officer (Mr A Crawford) and the Deputy Safety Officer (Mr James Dyson).

New undergraduates are issued with a separate Health and Safety booklet which should be read as soon as possible, and the rules in it adhered to (spare copies are available from the School Office; copies for consultation are available in the laboratories during practical classes). Copies of the full Health and Safety book are available for consultation (see School Office). In addition, further health and safety requirements are described in the laboratory manuals.

Immunisations

At present no chemistry (CHY) module involves work with human products (e.g. blood) which could potentially carry a risk of hepatitis or animals which could pose a risk of tetanus. Students who take modules in other schools will be notified if they are at risk from exposure to hepatitis or tetanus and if immunisation is required or recommended. If in doubt they should contact the degree programme director who will obtain clarification.

Expectant and Nursing Mothers

The University has a code of practice which details restrictions in work practices and advice for expectant and nursing mothers, this is available on the Occupational Health website (http://www.ncl.ac.uk/occupationalhealth/policy/documents/oh-policy-pregnancy_jc.pdf). Students who are, or who think that they might be, pregnant should seek advice from Dr Bleasdale before doing laboratory work.

Fire

If the fire alarm sounds students should leave the building by the nearest signposted exit. If a student discovers a fire, or smells smoke, he/she should sound the alarm and report to the Fire Marshal at the Porter's Lodge. The fire brigade should be called by staff (or student if staff are not available) on 6666 on an internal phone or 999 on a non-university phone).

Accidents

All accidents must be reported: in teaching laboratories the academic member of staff in charge should be told. Students who have observed or been involved in accidents in other parts of the building or other parts of the campus should see the School Safety Officer or other staff.

First Aid

First Aid is available in the Bedson Building. Students should seek assistance from a member of staff if they require First Aid. Lists of staff who have undergone a registered First Aid course ('First Aiders') are posted throughout the Building (eg at the Porter's lodge). Mrs Isobel Lamb (Room 2.31) is a registered first aider and is situated on the second floor.

Hazards

Students should note that practical work in chemistry may involve hazards for which stringent regulations apply. All health and safety instructions must be adhered to: if in doubt - ask. Safety glasses and laboratory coats must be worn in laboratories at all times. **Laboratory coats and gloves must not be worn outside the laboratory.**

COMMUNICATIONS, ESSENTIAL EQUIPMENT STUDENT READING/Common Rooms COMPUTING FACILITIES

Communications

E-mail is used as a primary method of communication, particularly between staff and their tutees. Each student will be given an email address and regular checks for incoming mail should be made.

Note that although you may have other email accounts you must use the Student Webmail Service because your email address "@ncl.ac.uk" is the one which the University will use for official and academic communications.

The MSc notice boards, situated outside the School Office on the second floor, are also used as primary modes of communication. Notice boards should be checked daily for changes of time/venue of lectures etc. Additional notice boards display information about career opportunities, safety, examination timetables etc.

Messages, in particular for individual students or subgroups, are also left in the student pigeon holes (same corridor as the notice boards). These should be checked regularly.

Students should inform their personal tutor and a member of the clerical staff of changes of address and/or telephone number at the earliest opportunity.

Timetables will be available during Welcome Week. Students can access their University timetable online from the following:
<http://www.ncl.ac.uk/timetable/index.php>

Essential Equipment

Stationery: Pens, pencils, A4 ring binders, wide-ruled paper and a ruler are considered essential materials. A calculator will also be required, but students should note that only the following types may be used in University examinations: Casio fx-82, fx-83, fx-115. Students will require a USB memory stick to store their presentations, reports, CVs etc.

Laboratory work: Safety spectacles and laboratory coats are a requirement for all practical work in Chemistry. Students will be issued with these prior to the laboratory class. Gloves, where required, are provided. Those students allergic to Latex are advised to purchase cotton liners (available from Chemistry Stores) for use with Latex gloves. **Laboratory coats and gloves must not be worn outside the laboratory.**

Student Reading / Common Rooms

The Faraday Room, 1st floor Bedson Building, has been designated as a student common room for Stage 4 and MSc students; a coffee machine is available. This room should be kept tidy at all times. There is also a Common Room situated on the 3rd Floor of the Bedson Building – above the School Office.

Bilingual Dictionaries: The use of bilingual dictionaries (e.g. French-English, English-German etc.) is permitted in all examinations other than those in which language translation itself is the skill being assessed. It is the responsibility of each candidate to supply themselves with a bilingual dictionary, if they so wish. Such dictionaries must not have been annotated in any way by the candidate or by any other person. The use of any other dictionary (which includes electronic versions) and the use of bilingual dictionaries in cases relating to translation skills is not permitted unless they are specifically allowed in the regulations for a particular examination.

Computing Facilities

Teaching and Cluster Rooms

There are about 40 Clusters of PCs (total: c.1300 PCs), each providing (a) a teaching facility and (b) a place for students to carry out their work when not in use for teaching. Two of the largest Cluster Rooms (Old Library, and Robinson Library) are never used for teaching; these are probably the best-known rooms on campus.

Computing Clusters

ISS provides and supports a number of computing clusters across the campus and in certain halls of residence. Cluster facilities are provided for all members of the University to support academic activity.

All of our clusters run a core set of software, suitable for most academic uses. We also provide a number of specialist applications in certain clusters to support additional teaching requirements of some courses.

We provide a number of clusters which are open for extended hours, however if you are not able to get to a cluster, you can still remotely access your filestore and many common desktop applications via RAS.

Bedson Building

The entrance to the Bedson 24 hour cluster (Side) is on the north eastern side of the building with level access from Queen Victoria Road.

Adviser Hours: There are no adviser facilities for clusters in this building. Please contact Helpline on ext. 5999 if assistance is needed.

Opening Hours: Mon - Fri: 9am to 4.45pm.

Accessibility: Very Good

**PERSONAL DEVELOPMENT PLANNING,
THE CAREERS SERVICE,
WRITING DEVELOPMENT CENTRE,
MATHS AID, SCAN**

Personal Development Planning

You will be able to make use of a personal development planner tool (known as PDP) to record, reflect on and evidence the skills knowledge and abilities which you are developing during your time at University. By undertaking this process you will be giving yourself a definite advantage when it comes to applying for jobs or further study. In addition, it provides a way for you to bring together your thoughts, plans and achievements and build on them for the future.

You can also use the PDP system to record your personal tutorial meetings. All the information you put into PDP is secure and private - it is only accessible to you unless you choose to make it available to others. The one exception to this is the information you provide to your personal tutor which is available to them and to you (but no one else).

To start using PDP or find out more about it, please log onto Blackboard where you will find a tab with the title PDP. Click on this and follow the simple instructions to access the PDP system.

Further information can be found at: <http://www.ncl.ac.uk/quilt/resources/pdp/>

Careers Service

Newcastle University's award-winning Careers Service can help you make the most of your unique skills and experiences. Whether you plan on embarking on a graduate career, going on to further study or starting your own business, they offer a range of support to help you realise your potential while you are studying and for up to three years after you graduate.

Advice

Their information officers and careers advisers are there to offer one-to-one advice and guidance to help you to explore your existing plans or generate new ideas. No appointment is required.

Information

There's lots of information and useful resources on their website and in the Careers Service which will give you an idea of the opportunities out there. A team of advisers can help you make the most of this information.

Developing potential business ideas

If you have a business idea and want to take it further, then visit the Careers Service for a chat with one of their business start-up advisers. You can also make use of the Elevator – a creative thinking space that's equipped with office facilities. Lots of activities take place across both semesters to develop your enterprise and entrepreneurial skills, including Newcastle University's annual business planning competition, Enterprise Challenge. Check out the Rise Up page on the website for more details.

Getting experience and credit towards your degree

Develop your skills and gain practical experience by taking part in extra-curricular activities or undertaking work experience. Look out for the ncl+ logo around campus – it highlights a range of activities that will all add to your degree. You'll find work experience opportunities on the website and staff can help you find more specific openings. Careers also run Newcastle Work Experience - a scheme which offers paid

placements within local businesses. Alternatively, gain credit towards your degree by completing one of the work-related modules - you can help out in a local school, the community or the University, or use your part-time job to build up a bank of skills that you can put on your CV.

Networking

Networking may sound scary, but it can give you a head start when it comes to landing a job or developing your business idea. The Careers Service can help you make contacts:

- 'Graduate Connections' is an online database of over 600 graduates now employed in a wide range of jobs and professions. You can read their profiles or contact them directly for information, advice and insight about the work they do and how to follow in their footsteps.
- 'Insider's Guide to' events feature speakers who are in different roles within a particular sector. Guest speakers talk candidly about what they do and you even have the opportunity to chat with them one-to-one.
- Networking events run throughout the year. Dates, times and details are on the website.

Part-time and temporary jobs

The service advertises part-time, temporary and vacation jobs that can fit around your studies. As well as earning some extra cash, you'll also gain a valuable addition to your CV. For more information, visit the website and register with the online jobs database, Vacancies Online.

Graduate vacancies

Regional, national and international based employers regularly host presentations and attend recruitment fairs on campus. This is your chance to meet them face-to-face and find out more about their placement opportunities and graduate jobs. Check the website for the latest events and graduate vacancies.

Making applications

Workshops are run throughout the year which covers all aspects of applying for jobs, from writing your CV to participating in assessment centres. You can also get personal advice and feedback on your CV, job and further study application forms, covering letters, interviews and business-related applications, on any weekday without an appointment.

Find the Careers Service at:

Location: Level 1, Kings Gate
Website: <http://www.ncl.ac.uk/careers/>
E-mail: careers@ncl.ac.uk
Telephone: 0191 222 7748

Writing Development Centre

Location: Level 2, Robinson Library
Website: <http://www.ncl.ac.uk/students/wdc/>
E-mail: wdc@ncl.ac.uk
Telephone: 0191 222 7659 or 0191 222 5650

The Writing Development Centre offers tuition and guidance for students who wish to improve their writing skills for study purposes. Help is available with the following:

- understanding assignment and examination questions
- planning, structuring and revising assignments

- using reading sources without plagiarism
- developing an argument
- writing critically
- using an appropriate authorial voice
- writing different types of assignment (e.g. essays, reports, reviews, reflective pieces)
- writing theses and dissertations
- answering examination questions
- using grammar and punctuation accurately and effectively
- using appropriate vocabulary and style
- learning from feedback on previous assignments

We run a series of **lectures and workshops** throughout the academic year. Some are open to all students, while others have been developed for specific degree programmes or modules. More information about these sessions is available on the Group Teaching pages of our website: <http://www.ncl.ac.uk/students/wdc/group/>.

We also offer a **one-to-one support service**. You can have an individual consultation with an academic writing tutor to discuss any difficulties you may have with writing, seek feedback on your written work or gain a better understanding of academic writing conventions and the standards expected at University. We recommend that you book a session in advance via our online booking system: <http://www.ncl.ac.uk/students/wdc/support/>. A limited drop-in service is also available. For more information, see **Opening hours** below.

International students with English as an additional language please note: You can use the Writing Development Centre one-to-one support service if you meet **one** of the following conditions:

- You have been exempted from language testing and/or the UELA assessment
- You have attained a mark of 70 or over in the UELA writing assessment
- You are a continuing student who has attended one full year of INTO In-Sessional writing classes in the past

If you are a new international student with a UELA writing score of less than 70, you will be supported by the INTO In-Sessional programme in the first instance.

Opening hours

During the teaching and assessment period in semesters 1 and 2, the Centre is open from 1:00 to 4:30pm Monday to Thursday and from 10:00am to 1:00pm on Friday. Bookable sessions are available from 1:00 to 4:00pm Monday to Thursday and 10:00am to 12 noon on Friday. We also offer a limited drop-in service from 4:00 to 4:30pm Monday to Thursday and 12:00 to 1:00pm on Friday. In addition, if a bookable slot is free, you may drop in at the appropriate time. A timetable showing free slots will be displayed at the entrance to the Centre.

During the Easter and summer breaks, sessions are available by appointment only.

Online resources

You will find a collection of learning resources for academic writing and general writing skills at <http://www.ncl.ac.uk/students/wdc/learning/>.

Maths-aid

Maths-aid provides workshops and a drop-in centre to help with learning mathematics. The drop-in centre is based in Room 201 of the Robinson Library and is manned by tutors from 11am to 3pm weekdays during semesters.

Find us at:

Location:	Level 2, Robinson Library
Website:	http://www.ncl.ac.uk/students/mathsaid/
E-mail:	mathsaid@ncl.ac.uk
Telephone:	0191 222 6444

SCAN Volunteer Module

SCAN stands for Student Community Action Newcastle and since the 1960's we've been based in the centre of Newcastle helping students and other young people access volunteering opportunities across the North East. SCAN today is a vibrant and lively young person led charity based at Newcastle University that aims to provide a wide variety of quality volunteering opportunities, through running our own community projects and by working with other charitable/community organisations.

SCAN currently offers over 200 volunteering opportunities in the community as well as running a successful programme of young person led projects, and one-off/taster volunteering opportunities. More information can be found at <http://www.unionsociety.co.uk/scan/>

University Regulations

The full Masters Regulations and the Examination Conventions are published by the University: copies of these may be consulted in the Registrar's Office, the University Library or by discussion with tutors. A URL link is available from the Examinations website. The Examinations conventions can be viewed at <http://www.ncl.ac.uk/regulations/docs/2011.html>.

The sections '**Teaching Arrangements**' and '**Assessment**' which follow summarise aspects of the Regulations in a student-friendly way and also incorporate rules, procedures and guidance for Chemistry students. This is not a legal version of the University Regulations, the latter take precedence in any perceived conflict of meaning.

Module Outline forms are available from www.ncl.ac.uk/module-catalogue

Modules and Semesters

A module is a unit of study. The size of the module is indicated by its credit value and students take 180 credits (10 credits formally equates to 100 hours of student work). Ideally, this is 60 credits for each of the 3 semesters, but other distributions e.g. 50:70:60 or 70:50:60 are permissible.

Descriptions of modules offered in this programme are given in this Handbook.

Change of modules

Students wishing to change modules should obtain the appropriate form, Appendix 1, from the clerical staff and complete this with the help of their tutor who must sign the form. **The change must be approved by the Degree Programme Director (DPD).**

Welcome week

The first week of term 1 is designated welcome week. Sessions are provided to inform students about central (University) facilities such as computing, careers and libraries as well as aspects of the chemistry course. Timetables detailing the induction programme are provided during registration.

Timetable

Students can access their University timetable online from the following: <http://www.ncl.ac.uk/timetable/>

Teaching in the last week of semesters 1 and 2

Although no formal University policy exists on this matter, all Boards of Studies are fully aware of the need to give students a breathing space for revision and assimilation of material between the end of teaching and the start of exams. Whilst Chemistry teaching may continue in the last teaching week of each semester, these weeks will primarily be used for revision.

Teaching methods

A variety of teaching methods are used by staff to achieve the objectives of the programmes. **All scheduled teaching sessions are compulsory.** Students are expected to remain in residence for the duration of all University terms. Students must be punctual for all teaching sessions.

Lectures

Lectures start at five minutes past the hour and finish five minutes to the hour. They are used to convey information. Normally the lecturer will use visual aids such as overhead projection and blackboards to facilitate this. In addition it is common practice

for the lecturer to provide handouts and/or material on the web. Staff will often ask questions during lectures and an interactive audience is beneficial to the learning process. The numbers of lectures associated with a module are provided in this Handbook; these numbers should only be taken as a guide; staff will inform classes if changes are needed. Titles which roughly approximate to the material to be covered are given in the module descriptors in this Handbook: in some cases changes may become necessary. Staff would prefer their attention to be drawn to problems early on in a lecture course so that remedial action can be taken.

Seminars

Lecture material is reinforced in seminars. Students are advised to inform the lecturer of aspects of the course that they feel needs further explanation in advance of seminar sessions.

Feedback

Staff will aim to give feedback within 4 term weeks in accordance with university guidelines. This feedback may be in the following forms: written, verbal, in lectures/seminars/labs or as a workshop. In unforeseen circumstances it may be necessary to extend this deadline and students will be informed if this is the case. In some instances assessment and feedback dates will be placed on the MSc notice board.

Deadlines

The School Office will only receive work for submission to staff between 9.30am and 4.30pm Monday to Friday. Work will not be accepted after this time. Please note that all assignments and laboratory work have a deadline of 12 noon on day of submission.

Key skills

Key skills, such as problem solving, communication, teamwork, planning and organising, are taught, practised and assessed throughout the degree programmes.

Study skills

Study skills are the techniques you need to help you to learn effectively whilst you are here at university. A wide range of resources is available to help you to improve your study skills. There is a small but growing collection of study skills resources in the Robinson Library. The collection is located on Level 4 near the education bookstock at the shelfmark STUDY 371.30281. For up to date information on the collection and links to other resources within the University and elsewhere, follow the links from the Library Home Page: <http://www.ncl.ac.uk/library>. An online study skills tutorial produced by Glasgow University is also available from the Library Home Page via the Information Skills Tutorials link <http://www.ncl.ac.uk/library/teaching/stan/>

Module Review

At the end of each module students will be asked questions during a lecture using wireless keypads, the SRS system (Student Response System) which gathers information electronically. This enables student opinion to be taken into account in planning and executing future courses. The information gathered is anonymous and will be considered by the module team and the Board of Studies.

Teaching Material on the web (Blackboard)

Blackboard is a Managed Learning Environment system that works across a network as a "virtual classroom". Blackboard is server software that allows tutors and their students to share learning materials on the Web, communicate and collaborate, and evaluate and measure student progress. University teaching staff use a variety of methods to facilitate the learning experience. While some choose to use Blackboard, many do not. Students should not expect lecture material to appear on Blackboard and should ask the individual lecturers if there is any doubt. Once registered on a module, you can use Blackboard to access the materials you need as well as to communicate with other students. Not all teaching material is placed on blackboard. In some instances the

material on the Blackboard may differ from that presented in lectures and seminars: the definitive version of the lecture course is that presented in lectures.

ATTENDANCE

It is a University requirement for students to attend their programme and actively participate in all sessions specified. The Student Charter can be viewed at:

<http://www.ncl.ac.uk/pre-arrival/regulations/charter.php>

In Chemistry all formal teaching sessions are compulsory. However, it is accepted that there will be occasions when a student is unable to attend classes due to illness or other personal circumstances. In such cases the student should inform their tutor as soon as is reasonably practicable. If their tutor is unobtainable, staff in the School Office (tel: 0191 2227055 and 0191 2227069) should be contacted (see the section of this handbook 'If Things Go Wrong').

International Students

It is particularly important that all international students attend their classes or notify their school of any absence. This is because the University must report International students who stop attending their classes to the UK Border Agency. Absence from classes could therefore affect a student's visa.

Visa Monitoring

International Students are required by the Border Agency to monitor student attendance. You will be required to sign the Visa sheet on a monthly basis. A School representative will email you a few days before you are required to sign reminding you of this request.

IF THINGS GO WRONG

Sometimes things happen that are beyond our control – illness, personal problems, etc. If things start to affect your course, you need to let someone know. There are processes in place to help you. Use your personal tutor as the starting point – they will be able to advise you about the various University procedures in place.

In cases where a student believes that illness (or any other extenuating personal circumstance) has affected academic performance, for example in examinations or other assessed work, they should do the following:

- Inform their tutor (or one of the senior tutors, Dr Bleasdale or Professor Henderson, or staff in the School Office, if their tutor is not available).
- Submit a PEC form to the School Office.
- Provide a medical certificate from their General Practitioner (Doctor) or other supporting documentation (e.g. a letter or email from a counsellor, tutor, parent, a police report etc) to accompany the PEC form.

If a student is unsure at any stage about the possible consequences of their personal circumstances on academic progress, they should consult their tutor for advice.

A PEC (Personal Extenuating Circumstances) form is the way to communicate your circumstances to the people considering your marks and, if appropriate, they can make adjustments to deadlines etc.

Before submitting PEC forms students *must* read the advice given on pages XXX in this Handbook. School Office staff will reject forms that are incomplete.

When filling out a PEC form you should make sure that you provide as much information as possible and that you are clear about which aspect of your studies (e.g. particular exams/labs/modules/assignments) have been affected, or which exams you have missed/have been affected. You should attach supplementary pages if necessary.

It is the normal expectation of the School that your tutor is informed of the PEC application and its details. If you do not wish this to happen you should submit the form and evidence in a sealed envelope marked '*Strictly Confidential – PEC application for the attention of the PEC Committee only*'.

Some examples where a PEC submission might be warranted:

"I broke my arm mid-way through the Semester. My arm was in plaster for four weeks and the injury caused me significant discomfort throughout this period and so I found it difficult to study and to revise for my exams"

"The night before my examination, there was a burst pipe in my flat. I had to wait for the landlord and the emergency plumber until the early hours of the morning. It was 3.00am when they left. I had fully prepared for my examination; however, having had very little sleep the night before, and worrying about the damage in the flat, I believe my performance on the day may have been affected."

"My mother fell ill the week before the exams and was taken into intensive care. I returned home to support her. Although she is now well, I believe that these circumstances significantly affected my preparation for the exams."

"I suffer from XX (a long-term medical condition) and this has seriously affected my ability to study throughout the first/second semester/year."

Absence from examinations

When a student is absent from an examination because they have misread the timetable or failed to find the place of examination etc this counts as an attempt at the examination and a zero mark will be given.

If a student fails to attend an examination at the required time (they will not be allowed into the exam room after 30 minutes from the start time) they should report to the School Office.

Students who have a valid reason for missing a formal examination should submit a PEC form to the School Office, along with the appropriate evidence as soon as they are able to do so.

Procedures to be followed in the event of absence from studies due to illness

- 1 Where illness prevents a student from studying for 7 working days or less, they should complete a 'Self-Certification of Illness' form which they can obtain from the School Office.
- 2 If illness prevents the student from studying for more than 7 working days, they should obtain a medical certificate from their General Practitioner (Doctor) as soon as possible.

NOTE: If absence due to illness or other extenuating circumstances affects a student's ability to study or, importantly, affects assessed work, they should complete a PEC form and return this to the School Office as soon as is reasonable. If the absence results in underperformance in, or missed, assessed work, evidence (eg from a doctor) is required even if the duration of the absence is less than 7 days.

Late Submission of Work

It is vitally important for your academic career that you adhere to submission deadlines for all of your assessed work. You will be informed of your assessment and submission deadlines well in advance (in this Handbook or during lectures), and you must plan your work to ensure submission BEFORE the final deadline. However, there may be occasions when you need to ask for an extension due to illness or other personal circumstances. In order to make sure that all students are treated consistently, the University has a Policy on the Late Submission of Assessed Work.

The key points of the Policy are:

- **Submission of work within 7 days of the deadline, without good cause or without the granting of an extension, will lead to a maximum mark of 40 (or 50 for Master's level modules, i.e. those with a code of the type CHY8xxx) for the assessment in question.**
- **Non-submission of work, or submission later than 7 days after the deadline will result in a mark of zero.**

If a student has a legitimate reason that makes them unable to submit a piece of assessed work by the published deadline a PEC form (together with supporting evidence) must be submitted - in advance of the assessment deadline - to the Chemistry School Office, Room 2.36.

A member of the PEC Committee will consider each request and students will normally receive an e-mail within 48 hours informing them whether or not an extension has been granted.

Where an extension request is based upon absence from the University for which the student must self-certificate, the maximum extension granted will be seven calendar days which is the current limit of self-certification prescribed by the NHS. A revised submission date will not exclude vacations.

The maximum allowable extension for MSc programmes will be 14 days, beyond which a School Concession is required. The length of the extension granted will vary according to individual circumstances and may be much less than the possible maximum.

The full University Policy on the Late Submission of Work is available from <http://www.ncl.ac.uk/quilt/atoz/policies.htm>

University concessions

A Concession is anything that is not explicitly covered by the University Regulations. Concessions allow exceptions to the regulations, based on a student's personal circumstances. Concessions can, amongst other things, wipe examination attempts away or allow a student to repeat a year, without the regular 'resit' penalty; allow a student to sit an examination at a different time; or allow a student to have an unusual split of modules. Concessions are considered by the School PEC Committee.

If the concession for an exam attempt to be discounted is granted then one less of the allowed three attempts at the examination will have been used. More importantly at levels 2, 3 and 4 (MChem), a subsequent pass in the examination will yield the full mark obtained towards the student's degree rather than the mark being capped at 40 (or 50 for Master's level modules).

To apply for a University Concession the student must submit a PEC form (together with supporting evidence) to the Chemistry School Office, Room 2.36.

Before submitting PEC forms students must read the advice given on pages 35 in this Handbook.



School of Chemistry (MSc) PEC form

Forms must be submitted to the School Office as soon as possible before or after the problem arises. It is essential that you read the attached guidance notes BEFORE completing this form.

A. STUDENT DETAILS

Name of Student:	University email address: _____@ncl.ac.uk
Name of Tutor:	Student Number:
Programme:	Stage:

B. WHAT HAS BEEN AFFECTED? (please be specific)

Module Code:	Aspect Affected (e.g. Practical, Exam, Attendance):	Staff responsible	Dates

C. HOW YOU HAVE BEEN AFFECTED (tick all that apply)

Because of the circumstances described below, I:

am unable to submit my work, despite being given an extension	<input type="checkbox"/>
am unable to submit my in-course assessment(s)	<input type="checkbox"/>
am unable to submit my practical report(s)	<input type="checkbox"/>
am unable to attend my exam(s)	<input type="checkbox"/>
am unable to attend University	<input type="checkbox"/>
have special requirements during examinations	<input type="checkbox"/>
am unable to prepare effectively for my examinations	<input type="checkbox"/>
am unable to work to my normal standard	<input type="checkbox"/>
have been affected in the following way, not listed above (please specify):	<input type="checkbox"/>

D. DETAILS OF PERSONAL EXTENUATING CIRCUMSTANCES (tick appropriate box and give details)

Medical <input type="checkbox"/>	Personal <input type="checkbox"/>	Other <input type="checkbox"/>
Brief summary:		
Period affected: From.....(Date) To.....(Date)		

E. EVIDENCE (please tick as appropriate and submit your evidence with this form)	
Medical note	<input type="checkbox"/>
Police report/incident number	<input type="checkbox"/>
Personal statement	<input type="checkbox"/>
Statement from tutor	<input type="checkbox"/>
Statement from parent, etc.	<input type="checkbox"/>
Legal documents	<input type="checkbox"/>
Newspaper clipping	<input type="checkbox"/>
Evidence of bereavement (e.g. Order of Service)	<input type="checkbox"/>
Letter of invitation for placement interview	<input type="checkbox"/>
Other evidence, not listed above (<i>please specify exactly</i>):	<input type="checkbox"/>

F. PROPOSED CONSIDERATION	
Exemption from in-course assessment (<i>please specify which assessment(s)</i>)	<input type="checkbox"/>
Exemption from practical experiment (<i>please specify which experiments(s)</i>)	<input type="checkbox"/>
To set aside exam(s) and resit as 1 st <input type="checkbox"/> /2 nd <input type="checkbox"/> /3 rd <input type="checkbox"/> attempt(s) (<i>tick attempt as appropriate</i>)	<input type="checkbox"/>
Deferral of exam(s) until August resit period	<input type="checkbox"/>
Deferral of exam(s) until next normal occasion (Jan/Jun)	<input type="checkbox"/>
Temporary special examination conditions	<input type="checkbox"/>
Late submission of work without penalty	<input type="checkbox"/>
Other adjustment, not listed above (<i>please specify exactly</i>):	<input type="checkbox"/>

<p>G. Normally, you should inform your personal tutor you are submitting this PEC form and ask your tutor to sign the form. If necessary, your tutor or another member of staff may be asked to provide further information about your case. If you are <u>not</u> happy for this consultation to take place, please tick here and provide an explanation.</p> <p style="text-align: right;"><input type="checkbox"/></p>	
Signature (student):	Signature (tutor):
Date:	Date:

PLEASE REMEMBER TO ATTACH YOUR EVIDENCE TO THIS FORM

H. FOR OFFICE USE ONLY

The following adjustment is an appropriate response to the student's personal extenuating circumstances (please tick).

1. Immediate Action (in line with UG and PGT EC 15)

Date:

2. Referral to SPS Examinations Team for temporary adjustment

Date:

3. Retain for consideration at PEC Committee meeting

Rating (for BoE discretion purposes) and PEC Committee comments :

Date:

4. No need for adjustment.

Comments: (e.g. lack of evidence, circumstances not relevant, PEC is not the most appropriate procedure)

Date:

SCHOOL OF CHEMISTRY

Guidance Notes for Completing PEC Forms

The PEC Procedure:

PEC forms should be completed in the following circumstances: (i) If you have missed an assessed component of a module (e.g. in-course assessment, practical, etc.); (ii) If you have missed a *formal* University examination (i.e. an examination held at the end of a semester) or if your performance in one or more such examinations may have been affected by illness or other personal circumstances; (iii) If you have a long term medical condition or other personal circumstances (e.g. family problems) that may have affected your studies over a significant period; (iv) If your circumstances have prevented you from submitting a piece of assessed work by the deadline and that deadline has passed. You should not use the PEC form to report short periods of absence (unless you were absent from an assessed component); in such cases you should submit a self-certification certificate (available from the School Office). Nor should you submit a PEC form if you are requesting an extension for a piece of assessed work where the deadline has not yet passed; in such cases you should submit an Extension request Form (available from the School Office).

If your case cannot be dealt with immediately (e.g. by granting an exemption) it will be considered by the School PEC Committee, which meets once at the end of each semester (and also just after the August resit examinations). Only this committee will be aware of your circumstances – they are confidential and are not revealed to the Board of Examiners or discussed anywhere else. The PEC Committee will inform you of their decision as quickly as possible using your Newcastle University e-mail address. **The decision of the PEC Committee is final. No details of the PEC committees discussions will be divulged to you. Details of the appeals process may be found at <http://www.ncl.ac.uk/students/progress/staff-resources/examiners/chair/appeals.htm>**

Further details about the PEC procedures may be found in the "Attendance and Absence" and "If Things Go Wrong" sections of the MSc Degree Programme Handbook page 25

How to Complete a PEC Form:

You must complete *all* of the sections **A** to **G** and ensure that you provide as much information as possible. Make sure that you are clear about what aspect of your studies (e.g. particular exams/labs/modules/semesters) or which exams have been affected.

Section B: Ensure that you provide the module code for *each* affected assessment and, for modules which span two semesters, state clearly which semester(s) were affected. You should provide as much information as possible (for example, if you have missed a practical, state which practical number; if you have missed an in-course assessment, specify *which*). Do not feel limited by the size of the text box on the form – continue on a separate sheet as necessary and attach this to the form when you submit it. You should also provide the name (or initials) of the member of staff who set the assessed component (the "staff responsible", e.g. the practical organiser) and the date on which it was due. [N.B. If you believe that your circumstances have affected your performance throughout a semester a statement to this effect is sufficient.]

Section C: Make clear how your studies have been affected.

Section D: Provide sufficient detail so that the PEC Committee can consider your case effectively. If you require more space than that provided, please submit a personal statement with the form (alongside any other evidence you provide).

Section E: *All* PEC forms *must* be accompanied by suitable supporting evidence (e.g. a doctor's note, a police report/incident number, a supporting statement by you or a parent, etc.). In the absence of supporting evidence the PEC Committee will be unable to consider your case.

Section F: It is essential that you give the PEC Committee an idea of the consideration that you wish to be given - i.e. what you would like the Committee to do with regard to your circumstances. Please note that the University regulations prohibit the adjustment of marks - i.e you cannot ask the committee to mark your work leniently or to adjust your marks upwards because of your circumstances.

Section G: Finally, make sure that you *sign and date the form* – this is an official University document. If, for reasons of confidentiality, you do not wish your tutor to see the form, it can be signed by one of the senior tutors (Dr Bleasdale or Prof Henderson).

PEC forms submitted later than one week after the end of the examination period in each semester will not be considered.

The rules governing the examining procedure are given in the University's Examination Conventions.

Assessment

Knowledge, initiative, understanding and performance are assessed through a combination of unseen written examinations, course work assignments, oral presentations and a dissertation in deciding the award of MSc.

There are strict rules governing conduct in all types of assessment, which must be adhered to. Cheating, plagiarism, copying or fabrication of results will be treated severely in accordance with University procedures. The Student Standards of Personal Conduct can be found at:

http://www.ncl.ac.uk/students/progress/assets/documents/NUNI_StudentSurvivalGuide09-10Final.pdf

Students should inform their tutor of any factor which may affect assessment. In the case of serious illness a note from their doctor should be provided (this also applies to absence from Examinations).

The University procedures on irregularities can be found at:

<http://www.ncl.ac.uk/students/progress/student-resources/regulations/assessment.htm>

The University procedures on the Student Disciplinary Procedure can be found at:

<http://www.ncl.ac.uk/students/progress/student-resources/regulations/disciplinary.htm>

In order to pass the MSc courses candidates are required to pass modules to the value of 180 credits

Regulations concerning resits

Number of Occasions of Assessment

- (a) A student who satisfies the examiners in the assessment specified for a module or in any additional non-modular aggregated assessment, may not, unless otherwise required by these regulations, enter again for that assessment.
- (b) Students who fail 40 credits or more in a single semester (or in total over semester 1 and semester 2) will not ordinarily be permitted to proceed without the support of the chair of the board of examiners.
- (c) Subject to these conditions, a student has the right to enter and be assessed as specified for any assessment on up to two occasions only – i.e.: a first attempt and one reassessment opportunity.

A student who fails the assessment relating to any module, or to any non-modular aggregated assessment, shall have the right to be reassessed in those modules, or in the non-modular aggregated assessment concerned, without reassessment in any other modules which may have been passed. The form of the reassessment may vary from the original, at the discretion of the board of studies. Note that the board of studies may delegate this authority to the board of examiners.

Timing of Reassessment at any Stage

Second Attempt - A student who has the right to enter for a second attempt at all or some of the assessment relating to the programme, shall be entitled to be reassessed in all modules failed and in any non-modular aggregated assessment. The timing of the reassessment will be such that student progression is not unduly delayed. This will

normally be at the next normal occasion, except with the agreement of the board of examiners.

Examinations

University examinations are held at the end of Semesters 1 and 2 for each stage of the course. These examinations cover the modules studied during the semester in which a particular examination is held. The papers are up to 3 hours duration and there is normally a choice of questions. It is university policy that the papers are marked 'blind', i.e. the names of candidates are only revealed after the marking is complete. The marking of all of the papers is validated by a second marker and is scrutinised by an external examiner. The external examiner is a senior academic from another university with appropriate expertise.

Examination timetables will be available online at least 6 weeks before the examinations. It is the responsibility of each student to ensure that they are registered for, and know the time and place of, the exams that they should sit. Students should note that a provisional timetable may be published before the final one and that times and places of examinations frequently change between provisional and final versions. Missed exams should be notified to tutors or other staff as soon as possible (see **Absence from Examinations**). The examination timetable is available at <https://gateway.ncl.ac.uk/idp/Authn/UserPassword>

Coursework

Modules will normally have associated with them a series of assignments, primarily for the purpose of assessment. Each module will identify the weight allocated to written papers and to coursework. The timing of these assignments is very important and information will be provided in advance.

For each item of coursework set for assessment, a deadline for handing in will be given. Work handed in after this deadline will be penalised and non-submission of assessed work will usually result in a mark of zero for that work. (See 'If things go wrong'). Equally, where appropriate, coursework should be marked and feedback given within four weeks. If this does not occur, the degree programme director should be informed.

Collaboration

Collaboration between students on work which is not to be assessed is encouraged. However, for assessed coursework, the following must be followed:

You should not collaborate when actually writing up the assessed coursework; you should not copy another person's work - and you should not permit someone else to copy your work.

Written reports

Where required, written reports should be word-processed and bound. Details about length and content will be provided as appropriate. The work of others, where this is included, must be acknowledged. As with other forms of in-course assessment, specified deadlines must be adhered to.

Oral examinations

Oral examinations, or vivas, are used to assess the candidate's ability to discuss, recall and interpret information attained and, in addition, give the student practice at being assessed in this way.

Marks

Examination marks are considered by the Board of Examiners before being released to students; in-course assessment will be revealed to students before consideration by the Board. All marks remain provisional until they have been considered by the Board of Examiners in August/September. Students will be notified (see notice board) of the

dates when examination results are available. They should see their personal tutor, or telephone him/her by arrangement, to obtain the results. Formal notification of examination marks is sent to students following the Board of Examiners meeting in August/September.

The common scale

Marks are devised as integers on the scale on the next page to represent attainment for each activity which yields marks (examinations, practical's and certain modules assessed continuously).

Award of Masters Degree

A Masters degree shall be awarded to a candidate who has made satisfactory progress and who has satisfied the board of examiners in the assessments for the degree programme as a whole. A Masters degree may be awarded with merit or with distinction.

Diploma

Regulations concerning award of a diploma

A candidate for a master's degree, who fails to meet the criteria for the master's degree, may be considered by the board of examiners for the award of a postgraduate diploma.

- (a) Where there are associated postgraduate diploma regulations available, a postgraduate diploma may be awarded at the discretion of the board of examiners using the criteria laid down by the associated postgraduate diploma regulations available for that programme.
- (b) Where there are no associated postgraduate diploma regulations available, a postgraduate diploma may be awarded at the discretion of the board of examiners to a candidate whose average does not fall below 50, provided that the candidate has failed no more than 40 credits in the whole programme (i.e. has failed no more than 40 credits out of the 120 which are required for the diploma) and no more than 20 credits have a mark of less than 40.

Scale of Marks

The following common scale will be employed for the return of marks:

0-49	Fail
50-59	Pass
60-69	Pass with Merit
70+	Pass with Distinction

FACULTY OF SCIENCE, AGRICULTURE AND ENGINEERING

**MARKING CRITERIA AND DEGREE CLASS DESCRIPTORS FOR
POSTGRADUATE PROGRAMMES**

(Revised July 2009)

The descriptive equivalents are intended as a guideline only and criteria will not necessarily apply equally to all pieces of assessed work (for example, presentational issues are likely to be less important for an answer to an examination question than for a project dissertation). The Faculty expects that examiners will use the whole of the marking scale and to interpret these criteria in the context of the specific aims and objectives of the module or piece of assessed work, as indicated in the Module Outline Form. Where deemed appropriate, other marking criteria may be used and in such cases they should be made available to students in advance of the assignment. It is important to ensure that comments made on assessed work justify the final mark awarded based on these descriptors and clear explanations for any deviations should be given

Mark Range	Descriptive Equivalent
70% - 100%	<p>University Common Scale description: Distinction A Distinction performance is distinguished by both breadth and depth of knowledge about the subject material, showing comprehensive awareness, and detailed understanding, interpretation and evaluation. There will be substantial evidence of critical analysis and the ability to apply knowledge to unseen situations. Material will be presented within a clear logical/systematic framework throughout and will demonstrate reading beyond the course material and the ability to employ critical reflection. Assignments such as an individual project report will be well-structured and well-referenced.</p> <p>The deciles within this class may be categorised as</p> <p>Professional Standard (90% - 100%) It should be rare for a mark to be awarded within this range, but it should certainly be achievable for an individual component of assessment (e.g. a piece of coursework, or an examination question). It should be awarded for work demonstrating outstanding and comprehensive understanding, with critical analysis and evaluation. In an examination situation the student will have presented a complete answer in a fully cogent manner, with no substantive errors or omissions. In individual project work there will be material which may be publishable.</p> <p>Exceptional: significantly above normal student expectations (80% - 89%) Evidenced by clear indications of comprehensive/detailed understanding and creative thought, and although there will be no substantive errors or omissions, the presentation or arguments will fall short of perfection.</p> <p>Excellent (70% - 79%) Evidenced by a comprehensive understanding, well-structured arguments and insight.</p>
60% - 69%	<p>University Common Scale description: Pass with Merit A Pass with Merit performance is one that demonstrates a sound/thorough understanding of material presented in the course (and beyond for a mark of 65% and over), with breadth of knowledge but lacking some depth, or vice versa. Critical analysis and the ability to apply knowledge to unfamiliar situations will be present, and work presented will be relevant to the module/topic aims and objectives but not give a full treatment, relying to some extent on course material and likely to contain some errors or omissions. Individual project work will be well presented and structured but with some limitations as to insight and critical evaluation.</p>
50% - 59%	<p>University Common Scale description: Pass Acceptable pass: basic understanding A Pass performance is one that demonstrates that a student has achieved the minimum level of performance to indicate that they have broadly achieved the intended learning outcomes, but at a basic level only. It is evidenced by an understanding of material that lacks depth. There may be omission of some relevant material and/or partial use of irrelevant material. It is likely to contain errors of understanding and fact. An individual project will be adequately structured and presented but unbalanced/ with some components poorly constructed, e.g. inadequate/poor referencing.</p>

0% - 49%	<p>University Common Scale description: Fail</p> <p>A Fail performance indicates that the student has failed to achieve the intended learning outcomes. This is evidenced by a weak attempt that demonstrates lack of overall knowledge of the subject area, and inability to develop a cogent argument in any aspect. Much of the material presented will be sketchy and/or irrelevant. A failing individual project will be one in which the student has failed to apply themselves to the task in hand and has presented a superficial view of it.</p> <p>A Fail performance may be further classified as</p> <p>Borderline (compensatable) fail: limited understanding (40% - 49%)</p> <p>Evidenced by the demonstration of a threshold understanding in some, though not all, areas. There will be many factual errors and omissions. A mark in this range may be awarded where there is evidence that the intended learning outcomes have been achieved but the evidence has been poorly presented, or that there are some omissions in that evidence. A compensatable pass mark for an individual project suggests that the situation is potentially recoverable with some rewriting but little or no additional development.</p> <p>Fail: inadequate understanding (25% - 39%)</p> <p>Evidenced by some material of relevance, but generally the approach is shallow and there is a lack of understanding of the basic requirements of the subject area. There are likely to be significant factual errors and omissions. An individual project is likely to be difficult to read and contain serious errors in understanding.</p> <p>Clear fail: little or no attempt (0% - 24%)</p> <p>Evidenced by very little material presented to support evidence of having addressed the topic. What material there is, is likely to be incomplete and/or confused. An individual project is likely to have very little that is relevant.</p>
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Regulations concerning award by compensation

- (a) For the duration of a taught postgraduate programme of study (masters or postgraduate diploma) a student shall, on assessment and any reassessment, be deemed to have passed notwithstanding that marks of less than 50 on the common scale have been obtained in some of the assessments, provided that each of the following conditions for compensation are met:
- (i) the average mark over all of the assessments for the whole programme, based on simple aggregation taking into account the relative weights for assessment purposes of the modules and of any non-modular aggregated assessment, is not less than 50;
 - (ii) no single mark for any module assessed or for any piece of non-modular aggregated assessment is below 40;
 - (iii) marks less than 50 are compensated in the assessment of modules with a total credit value of no more than 40 out of the 120 credits comprising the diploma or the 180 credits comprising the masters;
 - (iv) no such compensation is permitted for core or compulsory modules or the masters dissertation module.
- (b) In any case where any form of non-modular aggregated assessment is used, the relevant degree regulations shall specify whether compensation may be applied to the non-modular aggregated assessment and, if so, the relevant degree programme examination conventions shall set out how such compensation may be applied.

Revision and Resubmission of Dissertation

In the case of a masters dissertation, resubmission should be within a defined period agreed by the board of examiners, normally within 6 months of the board of examiners decision.

Failed Modules

- (a) A student who fails not more than 20 credits of the total postgraduate programme (either diploma or masters) shall not for that reason be debarred from the award, provided compensation rules are met for this component.
- (b) A student who fails more than 20 but no more than 40 credits of the total postgraduate programme may nevertheless be awarded the degree or diploma at the discretion of the board of examiners. Where there are stages for progression within the programme, a student should not normally be permitted to proceed if they have failed 25 or more credits at that stage.
- (c) Ordinarily, no candidate will be awarded a masters qualification if they have failed more than 40 credits out of the required 180 credits.

The regulations given in the handbook were accurate at the time of printing, but the university may from time to time update and amend the regulations; a copy of the current regulations is available on the web at:

<http://www.ncl.ac.uk/regulations/docs/2010.html>

USEFUL WEB ADDRESSES FOR FURTHER INFORMATION AND ADVICE

Chemistry web site

<http://www.ncl.ac.uk/chemistry/>

University regulations

<http://www.ncl.ac.uk/regulations/docs>

Tutors and General Information

Every student is assigned to a tutor who is a member of the academic staff. The requirements to inform the tutor of changes in circumstances and to attend for interviews with the tutor are set out in regulations J45 and F20 of the Progress Regulations, the full regulations can be found at

<http://www.ncl.ac.uk/regulations/docs>

Further Information can also be obtained from the University Personal Tutoring Framework at <http://www.ncl.ac.uk/quilt/atoz/policies.htm>

General Provisions Governing Attendance and Progress

<http://www.ncl.ac.uk/students/progress/student-resources/regulations/>

Absence from the University/Sick Notes for Students

The University's procedure and associated "Self-Certification of Illness" form is available on the University's website at:

<http://www.ncl.ac.uk/students/progress/student-resources/regulations/sickness.htm>

Student Charter

<http://www.ncl.ac.uk/pre-arrival/regulations/charter.php>

International Student Handbook

<http://www.ncl.ac.uk/international/about/download.htm>

Safety

<http://www.ncl.ac.uk/chemistry/about/safety/>

<http://safety.ncl.ac.uk/>

Smoking

Smoking is prohibited in all parts of all University buildings other than in rooms or areas which are designated as smoking areas. The University's detailed No Smoking Policy statement is available from the Registrar or at

<http://www.ncl.ac.uk/estates/healthsafety/yourhealth.htm>

Assessment Irregularities

The University's procedure in full can be found at:

<http://www.ncl.ac.uk/students/progress/student-resources/regulations/assessment.htm>

Equal Opportunities

The University has a clearly defined equal opportunities policy. Copies of the policy are available from the Human Resources Section, the Student Progress Office and on the University's web site at:

<http://www.ncl.ac.uk/hr/policy/equalitydiversity>

The Equality and Diversity website can be found at: <http://www.ncl.ac.uk/diversity>

Dignity at Work and Study

The University has a Dignity at Work and Study Code of Practice. The purpose of this Code of Practice is to promote a working and learning environment and culture in which harassment or bullying are known to be unacceptable and aims to ensure that if harassment or bullying does occur adequate procedures are readily available to deal with the problem with support and sensitivity so as to prevent it recurring.

The Code of Practice covers both staff and students and provides information on sources of advice and support. The full Code of Practice can be found at: <http://www.ncl.ac.uk/hr/diversity/info/dignity/>

Other University Policies and Procedures Relating to Students

- **Disciplinary Procedures**
<http://www.ncl.ac.uk/pre-arrival/regulations/documents/DisciplinaryProc.pdf>
- **Disability Statement**
<http://www.ncl.ac.uk/diversity/info/disability/>
- **Race Equality Policy and Reporting and Recording of Racist Incidents**
<http://www.ncl.ac.uk/diversity/info/race/>
- **Complaints Procedure**
<http://www.ncl.ac.uk/students/progress/student-resources/regulations/complaints.htm>
- **Academic Appeals**
<http://www.ncl.ac.uk/students/progress/student-resources/regulations/appeals.htm>
- **Public Interest Disclosure ('Whistleblowing')**
<http://www.ncl.ac.uk/hr/policy/conduct/>
- **Withdrawing from the University**
<http://www.ncl.ac.uk/student-progress/changeirc/documents/withdrawalproc.doc>
- **Student Change of Circumstance:**
<http://www.ncl.ac.uk/students/progress/records/circumstances.htm>

Further details of many of these can also be found on the Student Progress Service's web site at: <http://www.ncl.ac.uk/students/progress/> or the Student Service's portal (S3P) at: <http://www.ncl.ac.uk/students/>

USEFUL CONTACTS

King's Gate is a new purpose built building housing many of the student services. The general telephone number is 0191 208 3333 – or go to the Student Services homepage <https://my.ncl.ac.uk/students/> where you will find links to all student services.

- **Accommodation and Hospitality Services**

Student Services
King's Gate
Telephone: 0191 208 3333
Fax: 0191 222 6313
Email: <https://my.ncl.ac.uk/students/contact>
Website: <https://my.ncl.ac.uk/students/accomm>

- **Careers Service**

Student Services, Level 1
King's Gate
Telephone: 0191 222 7748
Email: <https://my.ncl.ac.uk/students/contact> or careers@ncl.ac.uk
Website: <http://www.ncl.ac.uk/careers/>

- **Chaplaincy**

19/20 Windsor Terrace
Telephone: 0191 222 6341
Email: chaplaincy@ncl.ac.uk
Website: <http://www.ncl.ac.uk/students/chaplaincy/>

- **Childcare**

Student Services
King's Gate
Telephone: 0191 208 3333
Email: childcare@ncl.ac.uk
Child Safety Equipment
Email: uncle.union@ncl.ac.uk
Website: <http://www.ncl.ac.uk/undergraduate/life/support/childcare.htm>

- **Counselling and Mental Health Support**

King's Gate
Telephone: 0191 208 3333
Email: <https://my.ncl.ac.uk/students/contact>
Website: <http://www.ncl.ac.uk/students/wellbeing/support>

- **Disability and Dyslexia Support**

King's Gate
Telephone: 0191 208 3333
Textphone: 0191 222 5545
Email: <https://my.ncl.ac.uk/students/contact>
Website: <http://www.ncl.ac.uk/students/wellbeing/disability-support/>

- **Financial Assistance**

Student Financial Support and Welfare Administration
King's Gate
Telephone: 0191 208 3333
Email: <https://my.ncl.ac.uk/students/contact>
Website: <https://my.ncl.ac.uk/students/>
<http://www.ncl.ac.uk/students/wellbeing/finance/>

- **Finance Office** (Fees payments etc.)
King's Gate
Telephone: 0191 208 3333
Website: <http://www.ncl.ac.uk/students/wellbeing/finance/index.htm>

Graduate Schools

- **Faculty of Humanities and Social Sciences**
7th Floor Daysh Building (access via 5th Floor Claremont Tower)
Telephone: 0191 222 5855
Email: hss.gradschool@ncl.ac.uk
Website: <http://www.ncl.ac.uk/hss/postgrad/>
- **Faculty of Medical Sciences**
The Medical School
Telephone: 0191 222 7002
Email: medpg-enquiries@ncl.ac.uk
Website: <http://www.ncl.ac.uk/fms/postgrad>
- **Faculty of Science, Agriculture and Engineering**
King's Gate
Telephone: 0191 222 8713
Email: sage.gradschool@ncl.ac.uk
Website: <http://www.ncl.ac.uk/sage/postgrad>
- **International Office**
King's Gate
Telephone: 0191 222 6856
Email: international.office@ncl.ac.uk
Website: <http://www.ncl.ac.uk/international>
- **INTO Newcastle University**
6 Kensington Terrace
Telephone: 0191 222 7535
Email: into@newcastle.ac.uk
Website: <http://intohigher.com/universities/united-kingdom/newcastle-university.aspx/>
- **Information Systems & Services**
Claremont Tower
Telephone: 0191 222 5999
Email: helpline@ncl.ac.uk
Website: <http://www.ncl.ac.uk/iss/>
- **Language Resource Centre**
Level 2, Old Library Building
Telephone: 0191 222 7490
Fax: 0191 222 5239
Email: open.access@ncl.ac.uk
Website: <http://www.ncl.ac.uk/langcen/>
- **The Library**
Liaison Librarians
Robinson Library
Telephone: 0191 222 7662
Email: library@ncl.ac.uk
lib-readerservices@ncl.ac.uk
lib-law@ncl.ac.uk
lib-walton-rs@ncl.ac.uk
Website: <http://www.ncl.ac.uk/library>

Liaison Librarians:

- **Humanities and Social Sciences**
Linda Kelly, e-mail: Linda.Kelly@ncl.ac.uk, ext 7667
Schools of Education, Communication and Language Sciences and Law

Susan Millican, susan.millican@ncl.ac.uk, 0191 222 5246
Schools of Architecture, Planning and Landscape, Geography, Politics and Sociology and the Newcastle University Business School

Lucy Keating, e-mail: Lucy.Keating@ncl.ac.uk, ext. 7656
Schools of Arts and Cultures, English Literature, Language and Linguistics, Historical Studies and Modern Languages
- **Science, Agriculture and Engineering**
Maira Bent, e-mail: Maira.Bent@ncl.ac.uk, ext. 7641
Schools of Agriculture, Food and Rural Development, Biology, Computing Science, Marine Science and Technology and Chemistry

Jenny Campbell, e-mail: Jenny.Campbell@ncl.ac.uk, ext. 7640
Schools of Chemical Engineering and Advanced Materials, Mathematics and Statistics and Mechanical and Systems Engineering

Cliff Spencer, e-mail: C.Spencer@ncl.ac.uk, ext. 3425
Schools of Civil Engineering and Geosciences and Electrical, Electronic and Computer Engineering
- **Medicine, Dentistry and Biosciences**
Walton Library, Medical School
Erika Gavillet, e-mail: Erika.Gavillet@ncl.ac.uk, ext 7550
- **Special Collections and Archives**
Melanie Wood, e-mail: Melanie.Wood@ncl.ac.uk, ext 7671
- **Maths-Aid**
Robinson Library
Telephone: 0191 222 6444
Email: mathsaid@ncl.ac.uk
Website: <http://www.ncl.ac.uk/students/mathsaid/>
- **Nightline**
Telephone: 0191 261 2905 (8pm-8am)
Email: nightline@ncl.ac.uk
Website: <http://www.unionssociety.co.uk/nightline>
- **Student Advice Centre**
Union Building
King's Walk
Telephone: 0191 239 3979
Email: sac.reception@ncl.ac.uk
Website: <http://www.unionssociety.co.uk/sac>

- **Student Wellbeing**
King's Gate
Telephone: 0191 208 3333
Email: <https://my.ncl.ac.uk/students/contact>
Website: <http://www.ncl.ac.uk/students/wellbeing/>

- **Student Progress Section**
King's Gate
Telephone: 0191 208 3333
Enquiries: www.ncl.ac.uk/enquiries/
Email: <https://my.ncl.ac.uk/students/contact>
Website: <http://www.ncl.ac.uk/students/progress/>

- **Students' Union Reception**
Union Building
King's Walk
Telephone: 0191 239 3900
Email: unionsociety@ncl.ac.uk
Website: <http://www.unionsociety.co.uk/>

- **Support for Mature Students**
King's Gate
Telephone: 0191 208 3333
Email: <https://my.ncl.ac.uk/students/contact>
Website: <https://my.ncl.ac.uk/students/>
Undergraduates - <http://www.ncl.ac.uk/undergraduate/life/support/mature/>
Postgraduates - <http://www.ncl.ac.uk/postgraduate/support/mature/>

- **Writing Development Centre**
Robinson Library
Telephone: 0191 222 5650
Email: wdc@ncl.ac.uk
Website: <http://www.ncl.ac.uk/students/wdc/>

PART 2

Master of Science in Drug Chemistry Code: 5099

Notes:

- (i) These programme regulations should be read in conjunction with the University's Masters Progress Regulations and Examination Conventions.
- (ii) A core module is a module which a student must pass, and in which a fail mark may neither be carried nor compensated; such modules are designated by the board of studies as essential for progression to a further stage of the programme or for study in a further module.
- (iii) A compulsory module is a module which a student must take.

1. Programme structure

- (a) The programme is available for study in both full-time and part-time modes.
- (b) The period of study for full-time mode shall be one year starting in September. The maximum period of study for part-time mode shall normally be 5 years starting in September or January. The 60 credit project will begin once suitable training has been received and appropriate modules completed, and may extend over several semesters.
- (c) The programme comprises modules to a credit value of 180.
- (d) All candidates shall take the following compulsory modules:

Code	Descriptive title	Total Credits	Credits Sem 1	Credits Sem 2	Credits Sem 3	Level	Type
CHY8810	Research Preparation and Development	20	10	10		7	
CHY8811	Research Project and Dissertation	60			60	7	
CHY8820	Organic Synthesis for Drug Targets	20	10	10		7	
CHY8821	Modern Methods in Drug Discovery	20	20			7	
CHY8824	Methods and Techniques for Drug Chemistry	20	5	15		7	

- (e) Candidates whose native language is not English (unless exempted by the Degree Programme Director) shall take the following compulsory module:

Code	Descriptive title	Total Credits	Credits Sem 1	Credits Sem 2	Credits Sem 3	Level	Type
INU8001	Writing Dissertations in Science and Engineering	10		10		4	

- (f) Candidates shall take further optional modules to a value of 40 credits from the following list (30 credits for those candidates taking INU8001):

<i>Code</i>	<i>Descriptive title</i>	<i>Total Credits</i>	<i>Credits Sem 1</i>	<i>Credits Sem 2</i>	<i>Credits Sem 3</i>	<i>Level</i>	<i>Type</i>
CHY8822	Drug Metabolism and Toxicology	10	10			7	
CHY8823	Theory and Practice of Chemotherapy	20		20		7	
CHY8828	Bioactive Natural Products	10		10		7	
CHY8829	Chemical Biology	10		10		7	

With the approval of the Degree Programme Director and depending upon the academic background of the candidate alternative optional modules to those listed above may be selected.

2. Assessment methods

Details of the assessment pattern for each module are explained in the module outline.

3. Assessment

Candidates will be assessed on the basis of examinations, course work assignments and a dissertation in deciding on the award of the degree of MSc. For details of the university regulations regarding progression within taught postgraduate programmes and information on re-assessment and treatment of failed modules see:
<http://www.ncl.ac.uk/regulations/docs/2009.html>

MODULE LIST

Module Number	Module Title	Module Leader	Credits	Semester		
CHY8810	Research Preparation & Development	CB	20	1	2	
CHY8811	Research Project and Dissertation	MJH	60			3
CHY8820	Organic Synthesis for Drug Targets	JGK	20	1	2	
CHY8821	Modern Methods in Drug Discovery	IRH	20	1		
CHY8822	Drug Metabolism and Toxicology	CB	10	1		
CHY8823	Theory and Practice of Chemotherapy	IRH	20		2	
CHY8824	Methods and Techniques for Drug Chemistry	RAH	20	1	2	
CHY8828	Bioactive Natural Products	BTG	10		2	
CHY8829	Chemical Biology	EMT	10		2	

RESEARCH PREPARATION AND DEVELOPMENT		CHY8810 20 credits [10 ECTS credits] Semesters 1 & 2
Module leader	Dr C Bleasdale	
Lecturers	Dr U Baisch, Dr C Bleasdale, Dr IR Hardcastle and Dr JG Knight. External speakers from industry and academia	
Pre-requisites	BSc or equivalent in Chemistry or a related subject	
Aims	To prepare students for their research project; to introduce and consolidate key skills to enhance performance in the research project and enhance performance in research including writing a research project plan.	
Timetabled sessions	Lectures and seminars 30h	
Assessment	Written coursework (100%)	
Resit Information	Coursework (100%)	

Intended Learning Outcomes:

At the end of this course, students should be able to:

- understand research methods, process and tools
- search and locate sources of chemical information
- formulate strategies for finding information
- interpret primary research literature and plan future work on the basis of this interpretation
- find and abstract information from primary research sources
- communicate the essence of the information in written and oral form
- formulate a project plan effectively
- assimilate information presented in research seminars and construct abstracts
- perform a risk assessment for a practical experiment

Workshops

Workshops will cover the following areas:

- Research seminars and seminar reports
- Scientific ethics
- Searching the Scientific Literature: primary and secondary sources
- Abstracting information and writing reports; citations
- Databases
- Project plans
- Safety and risk assessments

A schedule for the delivery of the various workshops will be provided at the beginning of the course on Blackboard.

Research Seminars will be held on Tuesdays at 4.15pm in Bedson Building room 1.75 (LT3); the programme will be displayed on the notice board.

Coursework

All deadlines are 12.00 noon.

Type	Date Set	Deadline	Feedback
Reaxys Exercise	31 October 2011	24 November 2011	Within 4 weeks
CSD Exercise	7 November 2011	1 December 2011	Within 4 weeks
Project Background plan	14 November 2011	8 December 2011	Within 4 weeks
Research Seminar Report 1	3 October 2011	15 December 2011	Within 4 weeks

Safety Exercise	6 February 2011	13 February 2012	Within 4 Weeks
Project Plan	13 February 2011	3 May 2012	Within 4 weeks
Project Background	14 November 2011	3 May 2012	Within 4 weeks
Research Seminar Report 2	3 October 2011	10 May 2012	Within 4 weeks

RESEARCH PROJECT AND DISSERTATION		CHY8811 60 credits [30 ECTS credits] Semester 3
Module leader	Dr MJ Hall	
Lecturers	Various members of academic staff supervising individual research projects	
Pre-requisites	CHY8810, CHY8824	
Aims	To introduce the student to the working environment of a modern laboratory; to develop some advanced techniques of experimental and/or theoretical chemistry; to develop the necessary skills required to design an appropriate experimental protocol; to maintain an accurate and reliable laboratory notebook; to learn how to evaluate scientific data.	
Timetabled sessions	Laboratory based research in semester 3, ca. 35h per week.	
Assessment	Dissertation (40%), Presentation (15%), Project Work (25%), Oral Examination (20%)	
Resit Criteria	To be advised	

Module summary

- This module will provide the student with experience working in a modern laboratory in an active research environment on a project relevant to their area of interest. A separate handbook is available for this module.

Intended Learning Outcomes: At the end of this course students should

- understand how to plan and conduct a research project
- present research findings to a scientific audience
- be able to be experienced in working in a modern laboratory
- be proficient in the use of advanced practical techniques in experimental chemistry
- be able to search the scientific literature
- be able to tackle problems in chemistry by the rationale design of experiments
- be able to design experimental protocols to test hypotheses
- be able to evaluate scientific data and errors
- be able to describe their research both orally and in writing

Key Skills:

- be able to plan and organize laboratory work effectively
- be able to take notes, survey the literature and write reports in scientific English

Outline of Syllabus

- Students will work on a research project relevant to their area of interest and undertake practical work during semester 3. Regular meetings will take place between student and supervisor and the student will present the aims and objectives and outcomes of the project in the forms indicated in the project handbook.

Assessed Work

See the project handbook.

ORGANIC SYNTHESIS FOR DRUG TARGETS		CHY8820 20 credits [10 ECTS credits] Semesters 1 & 2
Module leader	Dr JG Knight	
Lecturers	Dr JG Knight, Dr MJ Hall, Professor M North	
Pre-requisites	BSc in Chemistry or related subject	
Aims	To familiarise students with the key strategies for the stereo-controlled synthesis of organic compounds; to provide practise in identifying and applying such strategies; to exemplify the principles in the context of the synthesis of drug targets	
Timetabled sessions	Lectures 16h, seminars 5h, workshops 3h, problem solving sessions 20h	
Assessment	Exam 2h at the end of semester 1 (50%) Assignments (50%)	
Resit Criteria	Resits will normally be by examination only; coursework marks are carried	

Intended Learning Outcomes.

At the end of this course, students should be able to:

- recognise and be able to comment on different synthetic strategies and methods for stereocontrol when faced with a synthetic scheme
- understand the different classes of 'selectivity' and 'specificity'
- understand and be able to use the Felkin-Anh model, chelation control, and 1,3-allylic strain to predict the stereoselectivity of reactions
- be able to use chair transition state models to explain the stereochemical outcome of reactions when appropriate (such as enolisations and the aldol reaction)
- understand the ideas of topicity, double stereodifferentiation, and chiral amplification
- have an awareness of typical reagents and transformations used in modern organic synthesis
- be able to identify aspects of selectivity and specificity within a given synthetic scheme
- to make a reasoned choice of theoretical model
- to apply this model in order to predict or explain the observed outcome.

Syllabus

Workshops, MJH

A series of 2h workshops to consolidate core understanding of synthetic organic chemistry, reactions and principles and to extend that knowledge to more advanced examples.

Lectures

Stereocontrol in Organic Synthesis, JGK

- 1 Introduction to synthetic strategy, selectivity and specificity
- 2 Regioselectivity
- 3-4 Stereoselectivity
- 5-6 The aldol reaction
- 7 Asymmetric synthesis. Use of the chiral pool
- 8-10 Chiral auxiliaries
- 11 Seminar covering the material in lectures 1-10

Assymmetric Catalysts, MN

- 12 Introduction to catalysis and asymmetric catalysis. Energy diagrams. Temperature dependence of asymmetric induction. Examples of commercial asymmetric catalytic procedures.
- 13 Chiral ligands. Ligand design. Ligand-symmetry. Energy diagrams for C1- and C2-symmetric processes.
- 14 Metals used in asymmetric catalysis. Role of the metal. What makes a good asymmetric catalyst?
- 15 Asymmetric catalysis of reduction reactions. Alkene hydrogenation. Ketone reduction.

- 16 Corey oxazaborolidines. Asymmetric catalysis of oxidation reactions. Sharpless epoxidation. Jacobsen epoxidation and related reactions.
 - 17 Sharpless bis-hydroxylation and aminohydroxylation. Asymmetric catalysis of carbon-carbon bond forming reactions. Cycloaddition reactions.
 - 18 Addition of diethylzinc to aldehydes. Addition of silylated nucleophiles to aldehydes. Asymmetric cyanohydrin synthesis.
 - 19 Organocatalysis. Enamine chemistry. Proline catalysed aldol reactions. Mannich reactions. Aldehyde amination and oxygenation. Michael additions.
 - 20 Use of enzymes as catalysts. Whole cell and isolated enzymes. Need for cofactors. Oxidoreductases. Lipases. Oxynitrilases including Henry reaction.
 - 21 Asymmetric catalysis on compounds which already contain stereocentres. Kinetic resolution. Dynamic kinetic resolution. Desymmetrization of meso compounds. Double stereodifferentiation.
 - 22 Non-linear effects. Autocatalytic asymmetric induction. Absolute asymmetric synthesis.
- 23-24 Seminars covering questions on the material in lectures 1-22

Coursework/Assignments

Type	Date Set	Deadline	Feedback
Assignment 1	Week 12	Week 15	Week 16
Assignment 2	Week 16	Week 18	Week 19
Assignment 3	Week 19	Week 21	Week 22

Reading References

Title of book, publisher and year	Author(s)	ISBN	Essential	Bkgnd	Recmnd
Organic Chemistry OUP 2000	J Clayden, N Greeves, S Warren, P Wothers	01985- 03466	✓		
Stereoselectivity in Organic Synthesis Oxford Chemistry Primer 1998	G Procter	01985- 59577			✓
Fundamentals of Asymmetric Catalysis	PJ Walsh & MC Kozlowski	97818- 91389- 542		✓	
Asymmetric Synthesis OUP 1996	G Procter			✓	

MODERN METHODS IN DRUG DISCOVERY		CHY8821 20 credits [10 ECTS credits] Semester 1
Module leader(s)	Dr IR Hardcastle	
Staff	Dr IR Hardcastle, Dr M Carroll, Dr R Maxwell	
Pre-requisites	BSc in Chemistry or related subject	
Aims	To provide an overview of the modern drug discovery process; to demonstrate the role of combinatorial synthesis in drug discovery; to provide student with an understanding of the historical development of combinatorial methods; to introduce the concepts of solid-phase synthesis and resin-assisted synthesis; to provide students with an understanding of the capabilities and applications of radioisotopes in medical imaging.	
Timetabled sessions	24 Lectures/Seminars	
Assessment	2h exam at the end of semester 1 (50%) and 4 assignments (50%)	
Resit Criteria	Resits will normally be by examination only; coursework marks are carried	

Intended Learning Outcomes:

At the end of the course the students should be able to:

- understand how modern techniques are applied to drug discovery
- understand the application of solid-phase methods in the synthesis of peptides, peptide libraries, and small molecule libraries
- be familiar with a range of solid-phase reactions
- know about methods for the introduction of radioisotopes into biologically active compounds
- be familiar with the synthesis and applications of isotopically labelled compounds in drug discovery
- assess the most appropriate technology to apply a given stage of the drug discovery cycle
- discuss advantages and disadvantages of specific isotopes in a given application
- recognise amino acid residues by name, structure and three letter codes
- design combinatorial routes to target molecules
- design routes to radio labelled compounds
- solve problems in synthesis
- plan and organise coursework effectively
- access given references from the library

Syllabus:

Methods in Drug Discovery (IRH)

- Introduction to Drug Discovery
- Origins of solid-phase synthesis
- Peptide libraries (1)
- Peptide libraries (2)
- Small-molecule combinatorial libraries
- Small-molecule combinatorial synthesis (synthesis strategies)
- Solid-phase synthesis (resins and linkers)Solid-phase reactions (1)
- Solid-phase reactions (2)
- Solid-phase-assisted solution-phase synthesis
- Examples from combinatorial drug discovery
- 'Magic-microwaves'
- Drug discovery technology
- Recent examples and advances
- Seminar + Assignment 4

Radioisotopes in Drug Discovery (MAC, RM)

- Imaging methods PET and MRI
- Introduction to radioactivity
- Tritium, and ^{14}C Carbon
- Compounds containing ^{11}C (1)
- Compounds containing ^{11}C (2)
- Compounds containing ^{18}F (1)
- Compounds containing ^{18}F (2)
- Other isotopes (iodine/SPECT)
- Seminar + Assignment 2

Coursework

Type	Date Set	Deadline	Feedback
Assignment 1	Week 13	Week 15	Week 17
Assignment 2	Week 16	Week 18	Week 20
Assignment 3	Week 18	Week 20	Week 22
Assignment 4	Week 20	Week 22	Week 26

Reading References

Title of book, publisher and year	Author(s)	ISBN	Essential	Bkgnd	Recmnd
Combinatorial Chemistry OUP 1998	NK Terrett	01985-02192	✓		
Solid-supported combinatorial and parallel synthesis of small-molecular-weight compound libraries Pergamon 1998	Obrecht and Vilagordo	00804-32573			✓
Medicinal Chemistry: Principles and Practice RSC 2002	FD King	08540-46313			✓
Handbook of Radiopharmaceuticals: Radiochemistry and Applications John Wiley & Sons 2003	MJ Welch and CS Redvanly	04714-95603			✓

DRUG METABOLISM AND TOXICOLOGY		CHY8822 10 credits [5 ECTS credits] Semester 1
Module leader	Dr C Bleasdale	
Staff	Dr C Bleasdale and Professor BT Golding	
Pre-requisites	BSc in Chemistry or related subject	
Aims	To introduce the principles of toxicology and drug and toxin metabolism; to equip students with a knowledge and understanding of the mechanism of toxicity of a range of chemicals encountered in the environment and workplace.	
Timetabled sessions	Lectures and seminars 20h	
Assessment	2h exam at the end of semester 1 (100%)	
Resit Criteria	Resits will normally be by examination only.	

Intended Learning Outcomes:

At the end of this course, students should:

- understand of the principles of adsorption, distribution, metabolism and excretion of chemicals
- understand basic pharmacokinetics/toxicokinetics
- know about the role of glutathione
- understand how chemicals interact with DNA and proteins
- be familiar with the mechanisms of carcinogenesis of selected chemicals
- understand radical chemistry and the relevance of radicals in toxicology
- know about oxidative stress
- know about industrial toxicants and environmental disasters
- understand the toxicology of natural marine, food and plant toxins
- know about the toxicology of substances suspected in murder cases and the analytical methods and forensic evidence used to investigate these

Lectures

1-3	Principles of Toxicology
4	Oxidative Stress
5	Workshop
6	Industrial Toxicants
7	Natural Marine Toxins
8	Molecules of Murder and Forensic Toxicology
9	Revision

Principles and Selected Topics, CB

Metabolism and Selected Topics, BTG

1, 2	Drug Metabolism: Principles
3, 4	Drug Metabolism: Case Studies
5, 6	Carcinogenesis
7	Food and Plant Toxins
8	Drugs of Abuse
9	Revision

Reading References

Principles of Toxicology, KE Stine and TM Brown, CRC/Taylor and Francis, 2006, 084932856X

Mechanistic Toxicology: the molecular basis of how chemicals disrupt biological targets, UA Boelsterli, CRC Press / Taylor & Francis, 2007, 0849372720

Medicinal Chemistry, Principles and Practice, 2nd edition, FD King ed, The Royal Society of Chemistry, 2002 ISBN: 0854046313

THEORY AND PRACTICE OF CHEMOTHERAPY		CHY8823 20 credits [10 ECTS credits] Semester 2
Module leader	Professor RJ Griffin	
Staff	Professor RJ Griffin and Dr C Cano	
Pre-requisites	BSc in Chemistry or related subject	
Aims	To provide a detailed coverage of the principles of cancer chemotherapy, with particular reference to the problems of selective toxicity and drug resistance; to introduce basic principles underlying the drug treatment of infectious disease, covering in particular strategies for the exploitation of biochemical differences between the host and pathogen	
Timetabled sessions	22h Lectures and Seminars	
Assessment	2h exam (50%), 4 assignments (50%)	
Resit Criteria	Resits will normally be by examination only, coursework marks are carried.	

Intended Learning Outcomes:

At the end of the course the students should be able to:

- understand the basic principles of chemotherapy
- have a reasonable knowledge of the various classes of anti-tumour and anti-infective agents
- understand the mechanism of action of chemotherapeutic agents at the molecular level
- be familiar with the chemical structures of the more common pharmacophores of anticancer and
- anti- infective drugs.

Lectures

Cancer Chemotherapy, CC

- 1 Introduction to cancer
- 2 DNA reactive drugs
- 3 Antimetabolites
- 4 DNA Topoisomerase inhibitors
- 5 Mitotic poisons
- 6 DNA Repair Enzymes
- 7 Antiendocrine drugs
- 8 Current approaches to cancer chemotherapy
- 9 New therapies: Targetting receptor tyrosine kinase signalling
- 10 Kinase inhibitors case studies

Chemotherapy of Infectious Diseases, RJG

- 1 Introduction and historical overview
- 2 Principles of antimicrobial chemotherapy
- 3 Antibacterial agents – Penicillin and related β -lactam
- 4 Antibacterial agents – Glycopeptides, quinolones, and oxazolidinones
- 5 Antifungal agents – Polyenes and azoles
- 6 Antifungal agents – Azoles and other antifungals
- 7 Metronidazole
- 8 Malaria and its treatment
- 9 Antiviral chemotherapy
- 10 Acyclovir and maraviroc

Coursework/Assignment

Information about the assignments will be provided during the course.

Type	Date Set	Deadline	Feedback
Assignment 1	30/01/2012	13/02/2012	Within 4 weeks
Assignment 2	20/02/2012	05/03/2012	Within 4 weeks
Assignment 3	12/03/2011	16/04/2012	Within 4 weeks
Assignment 4	16/04/2012	30/04/2012	Within 4 weeks

Reading references

The Anticancer Drugs, WB Pratt, RW Rudden, WD Ensminger and J Maybaum

The Organic Chemistry of Drug Design and Drug Action, R.B. Silverman, Academic Press, 2004

Life Saving Drugs: The Elusive Magic Bullet J.Mann

Anticancer Therapeutics, S.Missailidis, Wiley-Blackwell, 2008

Medicinal Chemistry of Anticancer Drugs, C.Avendano and J.C Mendez, Elsevier, 2008

Antimicrobial Chemotherapy, D. Greenwood, R. Finch, P. Davey, and M Wilcox, Oxford University Press, 5th edition, 2007 ISBN: 978-0198570165

Biochemistry and Molecular Biology of Antimicrobial Action, Franklin and Snow, 2005 ISBN:0387-22554-4

METHODS AND TECHNIQUES FOR DRUG DISCOVERY		CHY8824 20 credits [10 ECTS credits] Semesters 1 & 2
Module leader(s)	Dr MA Carroll	
Lecturers	Dr MA Carroll, Professor BT Golding, Professor RA Henderson, Dr JG Knight, Dr Z McMillan and Professor North	
Pre-requisites	BSc in Chemistry or related subject	
Aims	To increase understanding of key synthetic organic transformations; to develop knowledge of spectroscopic techniques for the study of organic molecules; to use spectroscopic data for structure determination of organic molecules; to recognise practical constraints in the design of synthetic procedures; to develop skills in key experimental techniques	
Timetabled sessions	24 Lectures/Seminars, Laboratory – 36h, 3 Workshops	
Assessment	Laboratory Report (40%), Spectroscopy Assignments (30%), 3 assignments covering organic chemistry (30%)	
Resit Criteria	Will take the form of a single assignment covering all aspects of the coursework.	

Intended Learning Outcomes:

At the end of the course the students should be able:

- to build on the understanding of key synthetic organic transformations introduced at BSc level
- to develop an appreciation of the link between theoretical considerations and practical options
- to expand the understanding of analytical techniques suitable for organic molecules from those introduced at BSc level
- to expand the choice of synthetic reagents through the use of polyfunctional molecules and multi-step syntheses
- to prepare students with the key theoretical and experimental knowledge necessary to undertake CHY8811
- to build on the basic experimental laboratory techniques gained at BSc level
- to develop skills in the interpretation of spectral data to determine molecular structure
- to critically evaluate alternative reagents for a synthetic transformation
- to apply knowledge of single step transformations to multi-step syntheses
- to address synthetic problems as part of a team having diverse multi-disciplinary backgrounds.

Lectures:

- Lectures on analytical techniques (1H, 13C NMR, 2D NMR, MS, IR, chiral resolutions)
- Seminars on synthetic transformations
- Laboratory course on experimental techniques and multi-step syntheses
- Structure determination using spectroscopic data

Coursework/Assignments

Type	Date Set	Deadline	Feedback
Organic Chemistry 1	14/11/2011	14/11/2011	05/12/2011
Organic Chemistry 2	12/12/2011	12/12/2011	09/01/2012
Organic Chemistry 3	07/05/2012	07/05/2012	04/06/2012
Spectroscopy 1	14/03/2012	23/04/2012	18/05/2012
Spectroscopy 2	14/03/2012	23/04/2012	18/05/2012

Reading References

Title of book, publisher and year	Author(s)	ISBN	Essential	Bkgrnd	Recmnd
Organic Chemistry OUP 2001	J Clayden, N Greeves, S Warren and P Wothers	01985- 03466	✓		
Spectroscopic Methods in Organic Chemistry McGraw Hill1995	D Williams and I Fleming	00770- 91477	✓		

BIOACTIVE NATURAL PRODUCTS		CHY8828 10 credits [5 ECTS credits] semester 2
Module Leader	Professor B T Golding	
Lecturer	Professor BT Golding	
Pre-requisites	BSc in Chemistry or related subject	
Aims	To equip students with a knowledge of natural products obtained from a range of sources including plants and marine organisms with the emphasis on substances medicinal properties; to describe extraction techniques and how these influence the chemical composition of the extract; to define compound classes of active constituents; to delineate the biosynthesis of selected compound classes; to show how selected compounds can be synthesised including a description of some industrial synthesis; to equip students with a basic understanding of how bioactive natural products are believed to work; to place natural products in the wider context of bioactive compounds	
Timetabled sessions	Lectures and seminars 20h	
Assessment	2h exam (75%) Assignment report (25%)	
Resit Information	Resits will normally be by examination only; coursework marks are carried. For resits taken at the next normal occasion, coursework components will be included and may be retaken by internal candidates	

Intended Learning Outcomes

At the end of this course, students should possess:

- familiarity of a range of natural products and their medical uses
- an understanding of different types of plant extract
- an appreciation of how the extraction technique influences chemical composition
- ability to recognise key compound classes on the basis of molecular structure
- an understanding of the biosynthesis of key compound classes
- a knowledge of how synthesis contributes to making medically useful natural products and their analogues available for clinical use
- an appreciation of the mode of action of selected natural products

Lectures

- 1-2 Introduction – Historical Aspects; Classes of Natural Products.
- 3-4 Isolation and Structure Determination of Natural Products.
- 5-6 The Alkaloids Morphine and Quinine.
- 7-8 Synthetic Antimalarials; Artemisinin; Cocaine, Galanthamine, Colchicine.
- 9-10 Fatty Acid Biosynthesis; Aromatic Natural Products; Polyketides; Shikimate-derived Compounds; Anthocyanodins.
- 11 Special Topic on Muscone.
- 12-13 Vitamin A and β -Carotene; Vitamins C, D and K.
- 14 Special Topic on Marine Natural Products.
- 15 Terpenes.
- 16 Steroids

Seminars

- 1 Covering lectures 1-5
- 2 Covering lectures 6-10
- 3 Covering lectures 11-16
- 4 Overview of course

Assignment

Given the name of a naturally derived drug, each student will investigate what is known about its discovery, synthesis, mode of action and medical applications. She/he will prepare a 2 pages report, which should be word processed and include diagrams and/or pictures, charts etc. The

focus should be on synthesis and/or biological activity. The deadline for submission of the assignment, to the School Office, is 12 noon on the Friday of week 42.

Coursework

Type	Date set	Deadline	Feedback
Assignment	Week 35	Week 42	Within 4 weeks

Reading References

The Organic Chemistry of Biological Pathways. John McMurray and Tadgh Begley, 2005, Roberts & Company Publishers. ISBN: 0-9747077-1-6

CHEMICAL BIOLOGY		CHY8829 10 credits [5 ECTS credits] semester 2
Module Leader	Dr EM Tuite	
Lecturers	Professor BT Golding, Professor RA Henderson, and Dr EM Tuite	
Pre-requisites	BSc in Chemistry or related subject	
Aims	The module aims to provide students with an overview of aspects of chemical biology in a manner that is cross-disciplinary and provides a thorough understanding of: catalysis in the context of biological reactions; the roles of cofactors and metal ions in biomolecule structure and function; the biological chemistry of selected proteins; the application of biomimetic chemistry to elucidate the details of the biological reactions; biophysical techniques particularly in the context of nucleic acids	
Timetabled sessions	Lectures and seminars 24 h	
Assessment	1.5h exam (50%) Literature assignment (50%)	
Resit Information	Resits will normally be by examination only. For resits taken at the next normal occasion, coursework components will be included and may be retaken by internal candidates	

Intended Learning Outcomes

At the end of this course, students should understand:

- the modes of enzymatic catalysis and the roles of amino acid functional groups, metal ions and coenzymes
- detailed mechanistic pathways for specific coenzymes
- protein structures and the modes of metal ion binding to these macromolecules
- the interactions and functions of metal sites in proteins
- the roles of metal ions in small molecule transport and activation
- the structure, dynamics, and function of nucleic acids.

Lectures

Basic Principles of Chemical Biology, BTG

- 1 Overview of the role of amino acid side-chains, metal ions and coenzymes in catalysis
- 2 Characteristics of enzymes: stability, substrate specificity, stereospecificity, catalytic groups, factors affecting catalysis, enzyme kinetics
- 3 Model systems for enzymes (probing proximity effects, solvation, strain), acid-base and nucleophilic catalysis
- 4 Overview of selected enzyme mechanisms including those with no cofactor/metal (e.g. glutathione transferases)

Action of Selected Cofactors, BTG

- 5 Redox cofactors
- 6 Small molecule activation by non-metallic cofactors
- 7 Radical enzymes

Metalloproteins Exemplified by Nitrogenase, RAH

- 8 The functions of metal sites in proteins. Metal centres and metal transport/storage sites. Substrate activation by the entire active site.
- 9-10 Nitrogen fixation

Chemical Biology of Dioxygen, RAH

- 11 How biology uses metal centres in proteins to control the reactivity of dioxygen
- 12 Metabolism and O₂: removing toxic O₂⁻ (superoxide dismutase) and O₂²⁻ (peroxidases and catalases)
- 13 Activation of saturated hydrocarbons by cytochrome P₄₅₀
- 14 Methane monooxygenase

Biophysical Chemistry and Nucleic Acids, EMT

- 15 Weak forces in biochemistry
- 16 Structure of DNA
- 17 Biological role of DNA
- 18 Binding to DNA
- 19-20 Recombinant DNA and cloning
- 21 Sequencing and electrophoresis

Revision Seminars, BTG, RAH and EMT

- 22 BTG topics
- 23 RAH topics
- 24 EMT topics

Reading References

An Introduction to Enzyme and Coenzyme Chemistry. T Bugg, Blackwell Science, 2nd edition, 2004
ISBN: 0865427933

Bio-inorganic Chemistry: Inorganic Elements in the Chemistry of Life. W Kaim and B Schwederski,
Wiley, 1994 ISBN: 047194369X

Principles of Bioinorganic Chemistry. SJ Lippard and JM Berg, University Science Books, 1994
ISBN: 0935702733

Nucleic Acids: Structure, Properties and Functions, VA Bloomfield, DM Crothers and I Tinoco, Jr,
University Science Books, 2000 ISBN: 0935702490

WRITING DISSERTATIONS IN SCIENCE AND ENGINEERING		INU8001 10 credits [5 ECTS credits] Semester 2
Module leader(s)	Mr R Gilmour	
Lecturers	Mr NJ Bailey, Mr IC Carey, Ms RE Kilburn	
Pre-requisites	Either a writing score of 60+ in the UELA (or from exit assessments on other INTO programmes), or, successful completion of a credit-bearing or non credit-bearing In-Sessional writing course in Semester 1 at any level.	
Aims	This course introduces students to the genre of the MSc dissertation, and familiarises them with the conventions of this genre, both in terms of structure/organisation and use of language. It provides students with the linguistic tools to describe, analyse and critically evaluate research, and contributes to the development of research skills. The course will raise awareness of issues relating to academic practice and the avoidance of plagiarism and enable students to meet the expectations of readers within their own academic community. The course will develop the students self awareness and reflection.	
Timetabled sessions	Workshops – 20h, 10 x 2hr sessions Tutorials – 4h, 2 x 2hr	
Assessment	Written Examination (70%) Portfolio of Self-Study Tasks (30%)	

This module aims to prepare students who are engaging in research for an MSc to write up their findings in the form of a dissertation. We will explore the process of writing a dissertation and examine its overall structure. We will then look at each of the sections in some detail, focusing on text organisation and the use of appropriate language. You will familiarise yourself with grammatical structures, words and phrases that occur frequently in the different sections. You will learn how to indicate your position in relation to your own findings and the work of other researchers. We will also consider how sources are used in academic writing and develop strategies and techniques to avoid plagiarism. Training in proposal writing will also be given. You will also complete a portfolio of self-study tasks which forms part of the assessment.

The composing process/Structure of the dissertation

- The composing process/Structure of the dissertation
- Writing the proposal
- Writing the introduction and review of the literature
- Writing the methods section
- Writing the results section
- Writing the discussion and conclusion sections
- Using sources in academic writing; strategies and techniques to avoid plagiarism
- Writing a list of references; further practice in summarising and paraphrasing skills
- Writing the abstract
- Practice test
- Tutorial and Feedback
- Test

Intended Learning Outcomes:

At the end of this course, students should be able

- Select research methods that are appropriate to their treatment of the topic
- Justify their choice of methodology
- Take a position in relation to both subject matter and sources

Intended Study Outcomes:

At the end of this course, students should be able

- Write an effective proposal for their dissertation
- Plan, structure, draft and revise their dissertation
- Use language effectively in the analysis and interpretation of primary and secondary sources
- Use an appropriate academic register
- Summarise, paraphrase and quote sources according to established conventions

- Present the results of their research in a clear and logical manner
- Engage in activities that enable the student to recognise their own knowledge, values, qualities and skills in order to inform and guide personal and professional development

Reading References

Title of book, publisher and year	Author(s)	ISBN	Essential	Bkgrnd	Recmnd
Surviving your Dissertation Newbury Park: Sage 1992	Rudestam & Newton	08039-45639		✓	
Academic Writing for Graduate Students University of Michigan Press 1994	Swales & Feak	04720-82639			✓
Writing Up Research Englewood Cliffs: Prentice Hall 1990	Weissberg & Buker	01397-08316			✓
Doing a Literature Review London Sage 1998	Hart C	07619-59750		✓	

DPD Request Form

Request for Degree Programme Director approval of adjustment to pattern or mode of study.

To be completed by Undergraduate or Taught Postgraduate Students in consultation with their tutor or DPD.



*In cases resulting from personal extenuating circumstances, a student should seek advice as to whether the completion of a **PEC form** would be more appropriate.*

*Subject to the approval of the Degree Programme Director, a student may exceptionally be granted a non-standard adjustment to their studies as listed on the form below. Advice can be sought from the School Office or from Student Progress Service. DPD request forms should always be submitted to a student's **current** DPD/school.*

STUDENT DETAILS:

Name of Student:	University email address: @ncl.ac.uk
Name of Tutor:	Student Number:
Programme:	Stage:

WHAT ARE YOU REQUESTING? (tick all that apply)

For the reasons explained below, I wish to;

Register late for the programme detailed above	<input type="checkbox"/>
Study a non-standard weighting of modules (more than 70 or less than 50 in one semester)	<input type="checkbox"/>
Study a selection of modules not normally permitted in the programme regulations	<input type="checkbox"/>
Amend my previously approved module selection	<input type="checkbox"/>
Transfer from full time to part time study	<input type="checkbox"/>
Transfer from part time to full time study	<input type="checkbox"/>
Transfer to another, similar degree programme (normally within the same School)	<input type="checkbox"/>
Transfer to a different degree programme within the University	<input type="checkbox"/>
Repeat tuition in failed modules 'in residence'	<input type="checkbox"/>
Take a formal interruption of studies	<input type="checkbox"/>
Study at a different University as part of my existing degree programme	<input type="checkbox"/>
Graduate under the title my degree had at the time I first registered	<input type="checkbox"/>

REASONS;

Medical /Personal <input type="checkbox"/>	Academic <input type="checkbox"/>	Other <input type="checkbox"/>
Brief summary:		
Detail: (e.g. module and/ or programmes affected - preferably code and title)		

For interruptions or external studies <u>only</u> ; With effect : From.....(Date) To.....(Date)
For programme transfers <u>only</u> , student's should seek approval from their future DPD; As Degree Programme Director for
I agree to accept this student on to Stage.....with effect from
Signature (accepting Degree Programme Director): Date:

Signature (student):	Signature (Current DPD):
Date:	Date:
Approved: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Notes: (if only partial approval, or request not approved, please specify)	

For office use only		
<p><i>Notes:</i> A copy of the form with the DPD's signature should be retained by the School.</p> <p>Where approval leads to an amendment of the student record in SLcM, the owning School should make the necessary adjustments where possible (e.g. module bookings, repeat tuition) and forward a copy of the form to Student Progress Service for amendments that cannot be made at a School level.</p> <p>Specifically, in the following cases, Student Progress Service (i-team or graduate schools) MUST be informed, so that the student record can be amended and other internal and external services notified:</p> <ul style="list-style-type: none"> - Transfer from full time to part time study (or vice-versa) - Transfer to another, similar degree programme (normally within the same School) - Transfer to a different degree programme within the University - Take a formal interruption of studies <p>Student Progress Service (examinations and congregations) must also be informed when a student wishes to</p> <ul style="list-style-type: none"> - Graduate under the title the degree had at the time the student first registered 		
Action Taken:	Signature (School Office staff):	Date:
Adjustment made to SLcM <input type="checkbox"/>		
Copy of form forwarded to i-team (UG only) <input type="checkbox"/>		
Copy of form forwarded to Graduate School (PG only) <input type="checkbox"/>		
Copy of form forwarded to another service (please specify)..... <input type="checkbox"/>		

Appendix 2: UNDERSTANDING YOUR UNIVERSITY TIMETABLE

Understanding your University timetable - www.ncl.ac.uk/timetable

H607/1 Elec & Electronic Eng BEng Hons Stage 1

Timetable

PLEASE NOTE TIMETABLES OFTEN CHANGE

Please check the website regularly and notify your School Office of any errors.

Note: Semester One begins 02 Oct 2006 (wk 11). Semester Two begins 29 Jan 2007 (wk 28)

	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00
Mon	EEE1002.L01/01 Electronics I MERZ.L01 11-21, 28		EEE1001.L01/01 Fields, Materials and Devices MERZ.L02 11-21, 28		ENG1001.L01/02 Engineering Mathematics I HERB.LT1 11-21, 28		EEE1AAA.T01/01 Small Group Tutorial					EEE1LAB.P01/01 Stage 1 Lab MERZ.EBCE Lab A	
Tue	EEE1002.L02/01 Electronics I MERZ.L01 11-21, 28		EEE1004.T01/01 Project MERZ.M14 11-21, 28		ENG1001.L02/02 Engineering Mathematics I HERB.LT1 11-21, 28				EEE1005.C01/01 Signals and Communications I MERZ.EBCE Computing Lab 11-21, 28			EEE1LAB.P02/01 Stage 1 Lab MERZ.EBCE Lab A	
Wed	EEE1001.L02/01 Fields, Materials and Devices MERZ.L02 11-21, 28		EEE1003.L01/01 Circuit Theory STB.T12 11-21, 28		EEE1005.L01/01 Signals and Communications I STB.T13 11-21, 28								

During induction week your School may provide you with a paper copy of your timetable. The most up to date version can be viewed and printed from the University timetabling website at www.ncl.ac.uk/timetable

Timetables may be subject to change both at the start and during the semester so you are advised to check the website regularly.

Generally at the start of semester two you will be expected to print your own timetable.

Class Type: After the module number there is further important information:

- This letter represents the type of class the activity will be e.g. ENG1001/L01/02 here L represents a Lecture, other codes you may see are Practical class, Computer class, Tutorial, Seminar and Field class. In this example the number following the letter indicates that it is lecture number one of the module, it may have further lectures, seminars or practical's, e.g. lecture two ENG1001/L02/02 or the third seminar in the series ENG1001/S03/01. You will be expected to attend each of these activities.
- The final number in the activity ENG101/L01/02 indicates that this class is repeated a number of times e.g. ENG101/L01/01, ENG101/L01/02, ENG101/L01/03 are the first, second and third repeats of lecture ENG101/L01. You will be expected to attend only one of the repeats, unless informed otherwise. Your School and module leader will advise which you should attend.

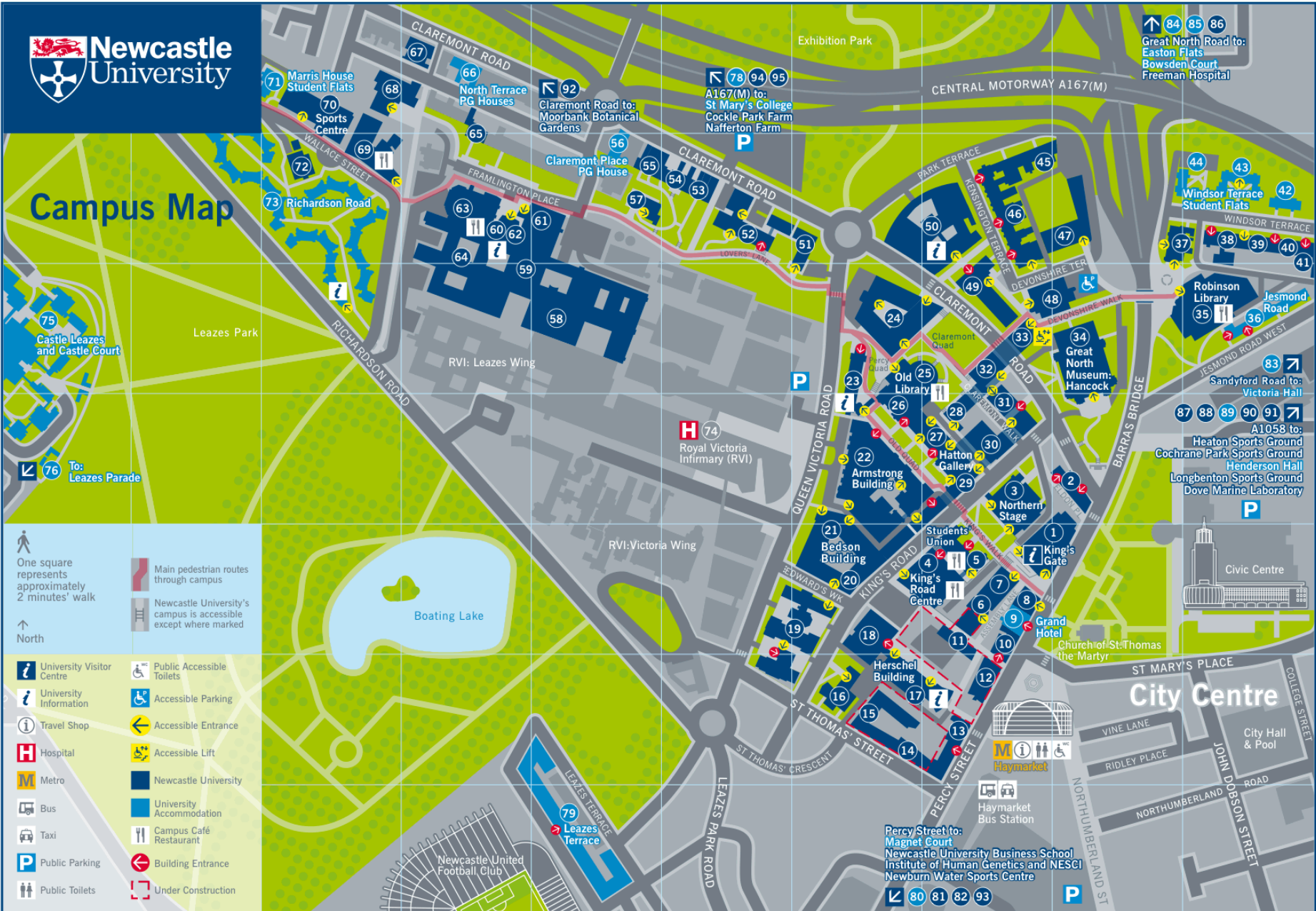
Module Code: In this example **ENG1001** is a module offered by the School of Mechanical Engineering. **BIO** would be Biology, **GEO** Geography etc. A module title will appear below the module code.

Location Code: The location where your class will be held is indicated by a abbreviation, in this example the lecture will be held in **HERB.LT1** the Herschel Building, Lecture Theatre 1. A full list of locations and abbreviations is provided with this guide.

Week Numbers: These numbers indicate the timetable weeks or week ranges during which the activity will take place (see the key in this guide to convert the timetable week to the teaching week (date)).

11:00	11:30
ENG1001.L01/02 Engineering Mathematics I HERB.LT1 11-21, 28	ENG1001.L02/02 Engineering Mathematics I HERB.LT1 11-21, 28

Campus Map



One square represents approximately 2 minutes' walk

↑ North

 University Visitor Centre
 University Information
 Travel Shop
 Hospital
 Metro
 Bus
 Taxi
 Public Parking
 Public Toilets

 Public Accessible Toilets
 Accessible Parking
 Accessible Entrance
 Accessible Lift
 Newcastle University
 University Accommodation
 Campus Café Restaurant
 Building Entrance
 Under Construction

 Main pedestrian routes through campus
 Newcastle University's campus is accessible except where marked

Numerical Key of Buildings and Services

1 King's Gate	21 Bedson Teaching Centre	45 Park Terrace	71 Marris House Student Flats
1 Student Services: Accommodation Service; Careers Service; Development and Alumni Relations Office; Finance Office; Health and Wellbeing; International Office	22 Armstrong Building	46 Estate Support Service	72 Squash Courts
2 Barras/Claremont/Eldon Buildings	22 King's Hall	46 INTO Centre	73 Richardson Road
3 Northern Stage	22 Robert Boyle Lecture Theatre	46 Kensington Terrace	74 Royal Victoria Infirmary (RVI)
4 King's Road Centre and Bistro	22 Security Control Centre	47 Drummond Building	75 Castle Leazes and Castle Court
5 Students' Union	23 Percy Building	48 Devonshire Building	76 Leazes Parade
6 Music Studios	24 Merz Court	49 Cassie Building	77 Campus for Ageing and Vitality
7 Culture Lab	25 Beehive, Research	50 Stephenson Building	78 St Mary's College
8 Campus Coffee	25 Courtyard Restaurant	51 Ridley Building 1	79 Leazes Terrace
9 Grand Hotel	25, 26 Old Library Building	52 Ridley Building 2	80 Magnet Court
10 Line Building (East)	26 Open Access Language Facilities	53 – 55 Claremont Place	81 Newcastle University Business School
11 INTO Construction Site	27 Architecture Building	56 Claremont Place PG House	82 Institute for Human Genetics and NESCI
12 INTO Construction Site	28 Building Science	57 Wolfson Unit	83 Victoria Hall
13 Bruce Building	29 Hatton Gallery: Great North Museum	58 William Leech Building	84 Easton Flats
14 INTO Construction Site	29, 30 Fine Art Building	59 Catherine Cookson Building	85 Bowsden Court
15 INTO Construction Site	31 Daysh Building	60 Medical School	86 Freeman Hospital
16 Agriculture Building	32 Claremont Tower	60 Walton Library	87 Heaton Sports Ground
17 Curtis Auditorium	32 ISS Reception	61 Henry Wellcome Building	88 Cochrane Park Sports Ground
17, 18 Herschel Building	33 Claremont Bridge	62 David Shaw Lecture Theatre	89 Henderson Hall
19 King George VI Building	34 Great North Museum: Hancock	63 School of Dental Sciences	90 Longbenton Sports Ground
19 Staff Development Unit	35 Robinson Library	64 Dental Hospital	91 Dove Marine Laboratory
20 Centre for Lifelong Learning (Office)	36 Jesmond Road	65 Framlington Place (16 – 17)	92 Moorbank Botanical Gardens
20, 21 Bedson Building	37 Politics Building	66 North Terrace PG Houses	93 Newburn Water Sports Centre
	38 Newcastle Law School	67 Claremont Terrace (1 – 4)	94 Cockle Park Farm
	38 – 41 Windsor Terrace	68 Paul O' Gorman Building	95 Nafferton Farm
	39 Chaplaincy	69 Baddiley-Clark Building	
	42 – 44 Windsor Terrace Student Flats	70 Sports Centre	

Syllabus Plus Week numbers 2011/12

Syll+		Date	Comments
1		18 Jul	
2		25 Jul	
3		01 Aug	
4		08 Aug	
5		15 Aug	Reassessment Period
6		22 Aug	Reassessment Period
7		29 Aug	
8		05 Sep	
9		12 Sep	
10		19 Sep	
11		26 Sept	Registration Week
12	1	03 Oct	Semester 1 Teaching (Start)
13	2	10 Oct	
14	3	17 Oct	
15	4	24 Oct	
16	5	31 Oct	
17	6	07 Nov	
18	7	14 Nov	
19	8	21 Nov	
20	9	28 Nov	
21	10	05 Dec	
22	11	12 Dec	
23	Vacation	19 Dec	Vacation
24	Vacation	26 Dec	Vacation
25	Vacation	02 Jan	Vacation
26	12	09 Jan	Semester 1 Teaching (End)
27	13	16 Jan	Assessment Period
28	14	23 Jan	Assessment Period
29	1	30 Jan	Semester 2 Teaching (Start)
30	2	06 Feb	
31	3	13 Feb	
32	4	20 Feb	
33	5	27 Feb	
34	6	05 Mar	
35	7	12 Mar	
36	Vacation	19 Mar	Vacation
37	Vacation	26 Mar	Vacation
38	Vacation	02 Apr	Vacation
39	Vacation	09 Apr	Vacation
40	8	16 Apr	
41	9	23 Apr	
42	10	30 Apr	
43	11	7 May	
44	12	14 May	Semester 2 Teaching (End)
45	13	21 May	Assessment Period
46	14	28 May	Assessment Period
47	15	04 June	Assessment Period
48	16	11 June	Assessment Period
49		18 Jun	Summer Vacation
50		25 Jun	Summer Vacation
51		02 Jul	Summer Vacation
52		09 Jul	Congregations

IMPORTANT INFORMATION

Are you registered for the correct modules and exams?

Your course and module options must be correctly registered with the University to ensure your timetable is accurate, that you receive important information regarding your studies and that you are correctly registered for all of your examinations.

To check which modules you are registered for, please log onto the

Student Self Service Portal (S3P)

<https://s3p.ncl.ac.uk/login/index.aspx>)

and select the modules tab. If any of the modules listed for the current academic year are incorrect please report this to your **School Office** in person or by sending a message using the query option within the portal.

Timetables are available as printable graphical grids or lists from the University timetable website.

All changes to your teaching timetable are viewable immediately on the timetables website so should be checked regularly. Please also check your school notice boards and University email account for other important information.

www.ncl.ac.uk/timetable

Timetable

	9	10	11	12	1	2	3	4	5
Monday									
Tuesday									
Wednesday									
Thursday									
Friday									

Timetable

	9	10	11	12	1	2	3	4	5
Monday									
Tuesday									
Wednesday									
Thursday									
Friday									

