



**SCHOOL OF APPLIED SCIENCES
COURSE GUIDE**

**M.Sc. Medical Biotechnology
M.Sc. Molecular Biology with Bioinformatics**

Section 1: Course Specific Information

[About this guide](#)

[Welcome](#)

[About the Course](#)

[Course Structure](#)

[Course Management](#)

[Staff Involved with the Programme](#)

[Career Opportunities and Future Study](#)

[Academic Regulations](#)

Section 2: School Specific Information

[School Charter for Students](#)

[Where to get help with your course](#)

[Accreditation of Prior Learning \(APL\)](#)

[Learning, Teaching & Assessment](#)

[Academic Misconduct](#)

Section 1: Course Specific Information

About this guide

This Course Guide will help you plan your Masters course in Medical Biotechnology or Molecular Biology with Bioinformatics. It tells you which modules you must study and pass. The Guide also offers you an overview of how the Course can be used for future career choices.

You should read this Course Guide in conjunction with the:

Postgraduate Regulations and the University's Principles and Regulations:

<http://www.wlv.ac.uk/polsregs>

Together these documents should provide you with all the basic information that we think you will need for your period of study here.

You are encouraged to read this Guide through now. It will be a considerable advantage to you to be familiar from the outset with the various aspects of your studies that are described. It may be that the relevance of some of the sections will not be immediately obvious. Keep it somewhere accessible, so that you can refer to it as needed. The answers to many of the questions that you will want to ask are contained in it.

Obviously even in a document like this we have not covered every query and problem that you might have about the course. If you find that there is something you need to know, please do not hesitate to approach the School of Applied Sciences Student Support Office, in MA104. You can also consult the University's Student Support and Guidance Services as appropriate. We are pleased to hear your views and welcome suggestions for ways of improving the operation of the Course.

Please enter the contact details for your Personal Tutor for your future reference:	Dr Michael Whitehead M.Whitehead@wlv.ac.uk MA145 01902 323420
The Student Support Office in MA104 is open 9.30am - 5pm, Monday - Friday. For general enquiries please contact:	Student Support Receptionist Tel: 01902 322129 E-mail: SASStudentsupport@wlv.ac.uk

For contacting academic staff, we operate an electronic booking system, 'SAMS', you will be fully introduced to this during Welcome Week, and it can be accessed at the following address:

<http://sams.wlv.ac.uk>

Please note that in order to develop and improve the Course, it may be necessary on occasions to amend or revise the details given in this Course Guide.

Welcome

On behalf of the Course Management Team I should like to extend to you a very warm welcome. We would like to take this opportunity to wish you every success in your studies at the University of Wolverhampton, and trust that your time at the University of Wolverhampton will prove to be enjoyable, stimulating and rewarding.

The Masters course in Medical Biotechnology or Molecular Biology with Bioinformatics is one of many run by the School of Applied Sciences, which has itself established an excellent reputation for the quality of its courses, for an innovative approach to teaching and learning, and for the friendliness of its staff.

We believe it is important that you are encouraged to make your own contribution to the effective operation and development of your chosen course. We are, therefore, keen to hear your views and would welcome any suggestions that you may have about ways of improving any aspect of your course and/or the student experience here at the University. In practice, you will have the opportunity to do this through our staff-student liaison meetings.

Remember that the outcome of your studies could affect the whole of your future career and therefore study should certainly be your first priority. In resolving to work hard however, do not forget to have time for recreation and social activities. Do take full advantage of the University facilities at your disposal.

Dr. Michael Whitehead
Course Leader

About the Courses

The Medical Biotechnology MSc provides a progressive, coherent challenging programme emphasising advanced training in research skills. It includes study on recent advances in biotechnological and bioinformatics and the opportunity to deepen academic or clinical laboratory abilities. Students will specialise in the newer, molecular approaches which offer enormous potential for new medical therapies. The award is attractive to those seeking an academic research career and/or desiring high employability as a biomedical scientist in a hospital or similar laboratory. Other employers include forensic laboratories, biotechnology (including pharmaceuticals), or research laboratories specialising in cancer studies, immunology and pharmacogenomics. Research projects will be coupled to active research within the University. This MSc can lead to careers in research and further study at PhD level.

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

1. Demonstrate a systematic knowledge of medical biotechnology at the forefront of research. Have a critical awareness of applications to biomedical science, disease and diagnosis.
2. Demonstrate a comprehensive understanding of the practical, professional and/or research skills necessary for working as a Biotechnologist with the medical sphere.
3. Demonstrate the intellectual skills of handling complex issues systematically and creatively enabling originality in problem solving. To evaluate critically current research and advanced scholarship.
4. Exhibit postgraduate generic skills of initiative and personal responsibility, enabling independent decision making. Independent learning skills allowing continuing professional development. Effective communication and numerical skills.

The MSc Molecular Biology and Bioinformatics is designed for qualified biological science undergraduates who wish to develop and enhance their skills in the rapidly developing field of modern genetics and prepares them for the post- genomics era. This course will introduce students to the latest developments in molecular biology and develop key practical skills. This course will also introduce the rapidly developing field of bioinformatics and provides you with the essential skills of data extraction and introductory computing skills. Research projects will be coupled to active research within the University. Jobs are available in international research centres, large and small pharmaceutical and biotech companies, health industries and hospitals. This MSc can lead to careers in research and further study at PhD level.

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

1. Demonstrate a systematic knowledge of molecular biology and bioinformatics at the forefront of research. Have a critical awareness of applications to inherited disease and diagnosis.
2. Demonstrate a comprehensive understanding of the practical, professional and/or research skills necessary for working as a Molecular Geneticist and Bioinformatician:
3. Demonstrate the intellectual skills of handling complex issues systematically and creatively enabling originality in problem solving. To evaluate critically current research and advanced scholarship.
4. Exhibit postgraduate generic skills of initiative and personal responsibility, enabling independent decision making. Independent learning skills allowing continuing professional development. Effective communication and numerical skills.

The programmes represent a corpus of knowledge, largely derived from observation, experiment, analysis and thought. The intention of our programme is not only to fulfil these aims and objectives for the purposes of completing the course, but to prepare you so that you too will contribute to this corpus of knowledge and engage in the resolution of problems in the biosciences. To achieve this, we undertake in partnership exercises in teaching and learning, with an emphasis on what you know and what you can do as a result of your learning. As Biosciences staff, we have attempted to make clear statements on what learning is about by defining the outcomes that we wish to see you achieve.

Our learning programmes are delivered in the form of modules, individual modules have outcomes related to their individual subject content but no one module can include the full range of practical skills and personal transferable skills required. So the programme of study of the course defines the modules to ensure that there is coherence within the subject and you achieve the complete range of learning outcomes.

A programme of study is therefore composed of modules, the content of which is shown in a module guide. The module guide will show the subject specific outcomes particular to that module, and the personal transferable skills that will be achieved in that module. This will indicate how the outcomes of the module contribute to the overall aims and objectives of your programme.

Students completing certain stages of the programme will be entitled to interim awards of PG Certificate after 60 credits of level seven study and PG Diploma following 120 credits of study at level seven.

To obtain an MSc you must pass 180 credits

The full-time programme has the following study pattern:

- 2 x 20 credit modules in block 1
- 2 x 20 credit modules in block 2
- 2 x 20 credit modules in block 3
- 60 credit research project module in block 4 (summer vacation)

The timing of study will vary for part-time students.

MSc Medical Biotechnology

Full-time course structure

Block 1	Block 2	Block 3	Block 4
7BM003 Principles of Integrated Biomedical Science	7BM001 Clinical Biochemistry or 7BM005 Medical Microbiology	7AB002 Masters Lab Techniques	7AB005 Research Project
7BC002 Molecular Genetics and Genomics	7BC003 DNA Data Mining	7AB007 Research Methods	

Part-time structure – Year 1

Block 1	Block 2	Block 3	Block 4
7BM003 Principles of Integrated Biomedical Science	7BM001 Clinical Biochemistry or 7BM005 Medical Microbiology	7AB002 Masters Lab Techniques	

Part-time structure – Year 2

Block 1	Block 2	Block 3	Block 4
7BC002 Molecular Genetics and Genomics	7BC003 DNA Data Mining	7AB007 Research Methods	7AB005 Research Project

Note: Students who fail Research Methods will not be allowed into the laboratory to begin a project.

MSc Molecular Biology with Bioinformatics

Full-time course structure

Block 1	Block 2	Block 3	Block 4
7CS001 Modern Computer Science	7CI006 Data Management	7AB002 Masters Lab Techniques	7AB005 Research Project
7BC002 Molecular Genetics and Genomics	7BC003 DNA Data Mining	7AB007 Research Methods	

Part-time structure – Year 1

Block 1	Block 2	Block 3	Block 4
7CS001 Modern Computer Science	7CI006 Data Management	7AB002 Masters Lab Techniques	

Part-time structure – Year 2

Block 1	Block 2	Block 3	Block 4
7BC002 Molecular Genetics and Genomics	7BC003 DNA Data Mining	7AB007 Research Methods	7AB005 Research Project

Note: Students who fail Research Methods will not be allowed into the laboratory to begin a project.

Course Management

Student Counselling

You will be allocated your own personal tutor in week 1 who will be available for pastoral and academic counselling as required, but will meet with you formally on at least three occasions in the year, to review progress on the course.

The personal tutor is the first person to see if you need advice or are experiencing difficulties with the academic side of your award or are experiencing personal difficulties that impinge on your studies.

Scheduled counselling sessions

Your tutor will be available for pastoral and academic counselling as required, but will meet with you:

In the Induction Week

- ♣ to become acquainted with you
- ♣ to ensure that you are settling into life at University
- ♣ to answer any questions you have about the organisation of the study programme

At the beginning of Block 2 and 3

- ♣ to review your progress
- ♣ to offer you guidance on any study difficulties you might have particularly in relation to assignments or practical work
- ♣ to register your programme of module choices for the following semester

These counselling sessions are an important component of your Award Programme and are designed to help you get the most from your time with us. **You will be expected to keep your appointment at the times indicated by your tutor. As counselling on the Award is a formal event, any non-appearance has to be recorded on file and tutors may not be in a position to offer an alternative time. To get the maximum benefit from your counselling session, you need to prepare yourself adequately, and bring with you any relevant documents.**

At other times

Clearly there may be occasions when you need advice outside of the scheduled counselling sessions. You should feel free to approach your tutor at any time. Unless you need to see your tutor urgently, you will be expected to arrange an appointment at a mutually convenient time through the **SAMS** online system. If your tutor is unable to help you directly with a particular problem she/he will advise you on alternative sources of advice. The Student Support Office in MA104 is open 9am - 5pm, Monday – Friday.

Specific Academic Problems

Remember that if you have an academic problem relating to a particular module, you should discuss it in the first instance with a member of the module team or the Module Leader.

Group Counselling Sessions

In the first week of the MSc Courses, group counselling sessions will be arranged to provide information and practical advice about specific topics. These will include:

- ♣ Learning Centre and other learning resources
- ♣ The development of study skills

The Course Tutor

The Course Tutor is responsible for the day-to-day administration of the Course and for all facets of its operation. You must make an appointment through the SAMs appointment system if you wish to see the Course Tutor.

The Dean of School

Prof. J. Darling, Dean of School and the Associate Dean Dr D. Walton are available for consultation provided sufficient notice is given and an appointment made via the Deanery Secretary. If your problem or query is extremely urgent, they will make every effort to accommodate you at their earliest convenience.

Course Committee

All members of the Course Team are also members of the Course Committee, which also includes an elected student representative of the course and representatives from the supporting subject groups and relevant service sections within the University. The Course Committee meets whenever necessary, but on at least one occasion per semester. The committee is chaired by the Course Tutor. The main function of the Committee is to discuss issues and to identify and resolve problems which affect the operation of the course. It is at the same time another line of communication between the students and the staff. The role of the student representative is a vital one. The work is interesting, not too onerous and gives you a useful insight into how things work. The role involves attendance at the Course Committee to which the representative relays the views of the students. At the end of the year a report is produced for inclusion in the Annual Report, written by the Course Tutor. In addition the same representatives attend informal meetings of the Course Team which are held monthly to ensure a smoother day to day running of the course.

Do give careful consideration to the possibility of standing for election as a student representative.

Course Team Meetings

In addition to the formal Course Committee meetings, a series of informal course team meetings will be held throughout the year, which serve to resolve issues as swiftly as possible. These meetings are attended by the student representatives and the Course Tutor and course team members. They are not intended to be lengthy sessions and should be completed in 30 - 40 minutes. As these are informal meetings no minutes are recorded and a free exchange of views is encouraged. Matters for action are referred back to the Course Tutor who will undertake to resolve issues that arise and report back to interested parties the results of any action taken.

Staff Involved with the Programme

Name	Role and interests	e-mail @wlv.ac.uk
Dr T. Athanasopoulos	Molecular Biology	T.Athanasopoulos
Dr. T. Baldwin	Plant Molecular Biology	T.Baldwin
Dr. T. Bartlett	Bioinformatics	T.J.Bartlett2
Dr. D. Fincham	Membrane Transport Physiology	D.Fincham
Dr. H. Gibson	Food Microbiology and Safety	H.Gibson
Mrs. J. Blackhurst	Academic Resource Librarian	J.Blackhurst
Dr. D. Hill	Food Microbiology, Anti – Micobial Agents and Probiotics	D.Hill
Dr. P. Hooley	Molecular Genetics, Control of Gene Expression	P.Hooley
Dr M. Morris	Molecular Biology	M.R.Morris2
Dr. R. Protheroe	Food Microbiology, Biotechnology	R.Protheroe
Dr. I. Radecka	Food Microbiology, Biotechnology	I.Radecka
Dr. C. Tobin	Ecology	C.M.Tobin
Dr. M. Whitehead	Molecular Biology Bioinformatic	M.Whitehead

Career opportunities and Future Study

Career paths vary from technical to managerial in the industrial, educational, health and research sectors in the areas of general microbiology, environmental science, medical science and biotechnology (including pharmaceuticals).

Many students progress to postgraduate research at academic or private sector institutions or embark on science teaching careers. Graduate destinations therefore consist of universities, colleges and schools as well as companies in the pharmaceutical, agricultural and bioscience industries, hospitals in the health service or government biological and medical research centres.

Further study to Ph.D. level is a frequent choice made by Bioscience Masters graduates.

Academic Regulations

This course adheres to the University's academic regulations for students undertaking a Postgraduate degree, commencing 2007-8. A full version of these regulations can be found on the University web site:

<http://www.wlv.ac.uk/polsregs>

These regulations govern your course and will be binding on you. It is, therefore, important that you read and become familiar with them.

Section 2: School Specific Information

SCHOOL OF APPLIED SCIENCES STUDENT CHARTER

The University is a community of learning; each and every member, be they staff or students, have responsibilities to that community as well as to themselves. All students of the university have the right to study in an environment that promotes success. This means that no one should be distracted by the inconsiderate behaviour of others; for example by people who arrive late, or talk in lectures or the learning centre.

In order to help you achieve your objectives with us, we will strive to provide:

- Effective impartial advice and guidance
- An effective introduction to the University, the School of Applied Sciences and your chosen course
- A welcoming environment with quiet places to study
- Appropriate resources including books and computing resources
- Qualified and professional tutors and staff
- Stimulating and well planned learning opportunities
- Well-defined and appropriate programmes of study
- Opportunities to plan and review progress with tutors and student support workers
- Access to learning support
- Access to confidential counselling and careers advice

We will aim to ensure that:

- Timely and appropriate feedback will be provided on assessments
- You have a personal tutor
- You can book an appointment with your tutor using the on-line booking system
- You will have access to the information you need to progress on your course e.g. each module you study will be accompanied by a module guide, similarly your award/pathway will have a guide or handbook

The University expects and needs you to:

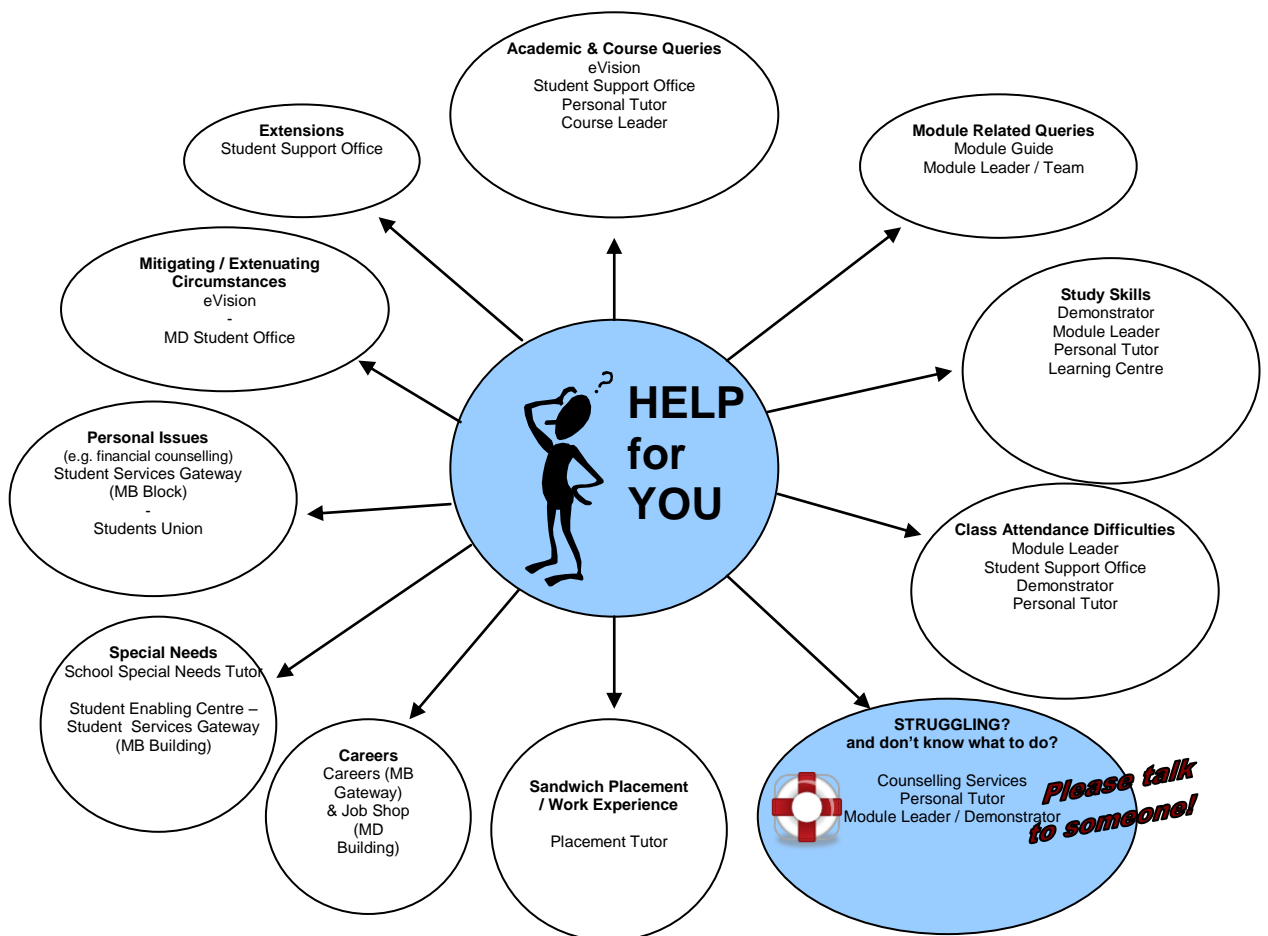
- Make regular use of the electronic systems provided for your use e.g. E-Mail, E-Vision, Wolf and the student appointments system If you do not make use of these resources you cannot perform well.
- Attend regularly and punctually, this means for example, that you should not enter a teaching room after the session has started or miss appointments you have made to see staff.
- Given in all your assessments on time (or they will not be marked)
- Show courtesy and respect to staff and other students, this means for example, that cell phones should be turned off in all teaching sessions.
- Ensure that you understand the requirements of your award/pathway
- Ensure that you are aware of the requirements of each module you are studying and are aware which sessions to attend and what the assessment procedures are
- Respect and abide by University Regulations, e.g. Equal Opportunities Policy, ID Cards, quiet areas
- Bring all the personal equipment that you require to classes/workshops
- Show consideration to others by listening attentively and participating in class activities
- Use the student support office (Room MA104) to get quick answers to your queries without hunting for a lecturer
- Keep your tutor informed if you have personal problems that affect your work; if these problems make it necessary to seek extensions, to do so before the deadline

- Identify for yourself what constitutes academic misconduct such as plagiarism and make every effort to avoid it (http://www.wlv.ac.uk/Docs/aca_acad_misc-pol.doc)
- A Wolf topic entitled 'Improving your Academic Writing using Scientific Literature' <http://wolf.wlv.ac.uk/sas/38212/> is available to support your writing skills.
- Seek approval for and confirm any change of programme within the deadlines
- Inform the University when your address or other contact details change
- Follow Health and Safety guidelines in laboratory and fieldwork settings.
- Behave appropriately as an ambassador for the University when working off campus

Where to get help with your course

Student Support

If you encounter any issues (personal or academic) the following diagram directs you to the appropriate department or staff member.



Learning, Teaching & Assessment: What Can You Expect?

Learning & Teaching Resources

There is a wide range of resources available for your learning, including on-line materials for each module (on WOLF), web-based information and, importantly, the online resources provided by the Learning Centres. Module information will direct you to specific information sources, but there is an expectation, particularly at Level 2, that you will research your own sources in order to enhance your achievement of the learning outcomes for the programme.

Assessment

Types of assessment

The tutor, as part of the introduction to the module, will outline the assessment tasks. A more detailed briefing for each assignment will be available via the WOLF topic that supports the module. There is a wide range of assessment (further details can be found in the Undergraduate Student Guide), including:

- Written assignments
- Laboratory reports
- Reports
- Time Constrained Assignments
- Examinations (open book or closed book)

Marking of Assessments

The marking and grading of your work, be it for example an assignment or an exam is a comprehensive exercise involving first-marking by tutors, moderation by the tutors in the module team and the submission of assessments to independent external examiners who monitor and advise, thereby ensuring quality and standards.

The normal return period for feedback on your marked (summative) work is three weeks after the date of submission. You will receive a grade achieved and comments on whether and how you have achieved the learning outcomes.

What Should You Avoid? What Should You Seek to Achieve?

- Remember that you are writing for another reader or readers. Do not assume that the reader will fill the gaps in your work.
- Use the introduction to establish what you are doing in your assignment.
- Use examples to support your analysis.
- Be objective and aim for reasoned argument. Phrases such as 'in my opinion' or 'in my view' are of little value because they are subjective. Do not use them. You should aim to support your points with evidence and reasoned analysis.
- Always acknowledge the use of someone else's work, using the appropriate system of referencing. Also, it is a very serious offence to use someone else's work, especially word-for-word or paraphrased contents of other's work. Please see the section below on Academic Misconduct
- Always keep copies of the sources or keep a note of each source as you use it, so that you can reference it in your bibliography at the end of your assignment.
- Plan your work in advance so as to meet the hand-in (submission) date. Writing up your research is often more time-consuming than you expect.
- Get help from tutors and mentors if you are unsure.
- Above all, do not 'suffer in silence'; the Course Leader, Student Advisor and tutors will be able to provide guidance so please use them.

Why are ethical considerations important when researching for assignments?

Research is an essential and vital part of teaching and learning. Much is literature-based, using books, journals, periodicals and web-based material. However, some research may involve interaction with organisations and people. You should ensure that you do **NOT** conduct research that could be intrusive or sensitive or could cause psychological harm or suffering to others.

For all modules that bring you into contact with organisations and people you will be required to follow appropriate ethical approval procedures. These will be explained to you by relevant module leaders. Where individuals or organisations have agreed to provide information to you, you may be required to produce evidence that permission has been given for access or contact.

What Feedback Can You Expect?

What can you expect from your tutors whilst you are preparing your work?

- Normally tutors will advise you, as a group, on the assessment at or near the start of the module.
- Thereafter, you may consult your tutors by having a quick chat after a teaching session or arranging an appointment through SAMS; <http://sams.wlv.ac.uk>

What should you not expect from your tutors?

- It is not the role of a tutor to read drafts of your work and correct them with a view to your obtaining a 'good mark'. An assignment should reflect your effort and input, and the role of the tutor is to guide and advice. It is then your responsibility to assess this advice and guidance and use it accordingly. Tutors provide this in good faith, but its use - or lack of it - by you is not an automatic route to a good or a poor grade. Other factors, particularly those pertaining to your skills and efforts, will play a vital role in your achievement.
- You will not normally receive written feedback on formal University exams. However, should you wish to discuss your performance, you can make an appointment with the relevant module leader.

After completion of the assignment

- The main feedback is through a copy (to you) of the assessment feedback sheet by email from tutors/administrative support staff.
- In some modules, additional feedback may be available through distribution of an "outline answer", highlighting key points for guidance.

How You Can Comment on Learning & Teaching And Assessment

We greatly value your feedback; students' views are collectively influential in how we deliver L&T and are gathered through staff-student meetings and via questionnaires, particularly the Course Evaluation Questionnaire that you will be asked to complete towards the end of the academic year. Such feedback is analysed for annual monitoring of modules, subjects and courses.

Accreditation of Prior Learning (APL)

If you consider that you have undertaken prior learning that could be credited towards your course, contact the Student Support Office in the first instance.

ACADEMIC MISCONDUCT

This can be defined as any of the following: -

Cheating is defined as any attempt to gain unfair advantage in an assessment by dishonest means, and includes e.g. all breaches of examination room rules, impersonating another candidate, falsifying data, and obtaining an examination paper in advance of its authorised release.

Plagiarism is the act of taking someone else's work and passing it off as your own. This includes incorporating either unattributed direct quotation(s) or substantial paraphrasing from the work of another/others. It is important to cite all sources whose work has been drawn on and reference them fully in accordance with the referencing standard used in each academic school.

Collusion is when two or more people combine to produce a piece of work for assessment that is passed off as the work of one student alone. The work may be so alike in content, wording and structure that the similarity goes beyond what might have been coincidence. For example - where one student has copied the work of another, or where a joint effort has taken place in producing what should have been an individual effort.

Penalties

Where an offence is admitted, or a panel decides that cheating, plagiarism or collusion has occurred, a penalty will be imposed. The severity of the penalty will vary according to the nature of the offence and the level of study. Penalties will range from failure of the assignment under investigation to a restriction of the award a student may ultimately achieve or a requirement to leave the University. Further information can be found on-line on the University web pages or from the Students' Union.

http://www.wlv.ac.uk/Docs/aca_acad_misc.doc